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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
1	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(A) demonstrate safe practicesduring laboratory and field investigations	(i) demonstrate safe practices during laboratory investigations	TX2_US200101CD	Laboratory Safety (TX2_US200101CD)	The Activity Object demonstrates safe practices during laboratory investigations.	Q1 and Q10 of the Assessment section assesses students' understanding about demonstrating safe practices during laboratory investigations.
2	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(A) demonstrate safe practicesduring laboratory and field investigations	(ii) demonstrate safe practices during field investigations	TX2_US2001A01	The Safety of Outdoor Investigations (TX2_US2001A01)	The Animation demonstrates safe practices during field investigations.	
3	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(A) demonstrate safe practicesduring laboratory and field investigations	(ii) demonstrate safe practices during field investigations	TX2_US200101CD	Laboratory Safety (TX2_US200101CD)	The Activity Object demonstrates safe practices during field investigations.	Q1 and Q5 of the Assessment section ask students about demonstrating safe practices during field investigations.
4	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(A) demonstrate safe practicesduring laboratory and field investigations	(ii) demonstrate safe practices during field investigations	TX2_US200101CD	Laboratory Safety (TX2_US200101CD)	The Enrichment Sheet describes how students can demonstrate safe practices during field investigations.	Questions in the Enrichment Sheet ask students how to demonstrate safe practices during field investigations.
5	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(i) demonstrate an understanding of the use of resources	TX2_US200101CD	Laboratory Safety (TX2_US200101CD)	The Enrichment Sheet describes how students can demonstrate an understanding of the use of resources.	Questions in the Enrichment Sheet ask students to demonstrate an understanding of the use of resources.
6	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(i) demonstrate an understanding of the use of resources	TX2_US4101A10	Substances that Cause Environmental Pollution (TX2_US4101A10)	The Animation demonstrates an understanding of the use of resources.	Q1-Q2-Q3-Q4 of the "After the Animation" section of the Question-Answer Sheet assess students on their understanding of use of resources.
7	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(i) demonstrate an understanding of the use of resources	TX2_US2103A16	The Impact of Energy Resources: Part I (TX2_US2103A16)	The Animation demonstrates an understanding of the use of energy resources.	Q1-Q2-Q3-Q4 of the "After the Animation" section of the Question-Answer Sheet assess students on their understanding of use of energy resources.
8	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(i) demonstrate an understanding of the use of resources	TX2_US2103A16	The Impact of Energy Resources: Part I (TX2_US2103A16)		Q1-Q3-Q4 of the Enrichment Sheet assess students on their understanding of use of energy resources.
9	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(i) demonstrate an understanding of the use of resources	TX2_US2103A17	The Impact of Energy Resources: Part II (TX2_US2103A17)	The Animation demonstrates an understanding of the use of energy resources.	Q1-Q2-Q3-Q4 of the "After the Animation" section of the Question-Answer Sheet assess students on their understanding of use of energy resources.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
10	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(i) demonstrate an understanding of the use of resources	TX2_US2103A17	The Impact of Energy Resources: Part II (TX2_US2103A17)		Q1-Q2-Q3-Q4 of the Enrichment Sheet assess students on their understanding of use of energy resources.
11	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(ii) demonstrate an understanding of the conservation of resources	TX2_US200101CD	Laboratory Safety (TX2_US200101CD)	The Enrichment Sheet describes how students can demonstrate an understanding of the conservation of resources.	Questions in the Enrichment Sheet ask students to demonstrate an understanding of the conservation of resources.
12	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(ii) demonstrate an understanding of the conservation of resources	TX2_US4101A10	Substances that Cause Environmental Pollution (TX2_US4101A10)	The Animation demonstrates an understanding of the conservation of resources.	
13	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(ii) demonstrate an understanding of the conservation of resources	TX2_US2103A16	The Impact of Energy Resources: Part I (TX2_US2103A16)	The Animation demonstrates an understanding of the conservation of resources.	Q3-Q4 of the "After the Animation section of the Question-Answer Sheet ask students about the use of wind as a renewable energy source, which demonstrates an understanding of the conservation of energy sources.
14	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(ii) demonstrate an understanding of the conservation of resources	TX2_US2103A16	The Impact of Energy Resources: Part I (TX2_US2103A16)		Q4 of the Enrichment Sheet asks students about the use of wind as a renewable energy source, which demonstrates an understanding of the conservation of energy sources.
15	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(ii) demonstrate an understanding of the conservation of resources	TX2_US2103A17	The Impact of Energy Resources: Part II (TX2_US2103A17)	The Animation demonstrates an understanding of the conservation of resources.	Q1-Q2-Q3-Q4 of the "After the Animation" section of the Question-Answer Sheet ask students about the use of biomass geothermal energy and solar energy as renewable energy sources, which demonstrates an understanding of the conservation of energy sources.
16	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(ii) demonstrate an understanding of the conservation of resources	TX2_US2103A17	The Impact of Energy Resources: Part II (TX2_US2103A17)		Q1-Q2-Q3-Q4 of the Enrichment Sheet ask students about the use of biomass geothermal energy and solar energy as renewable energy sources, which demonstrates an understanding of the conservation of energy sources.
17	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(iii) demonstrate the proper disposal or recycling of materials	TX2_US200101CD	Laboratory Safety (TX2_US200101CD)	In Part 3, when the student clicks on the waste disposal bin, an animation that demonstrates the proper disposal or recycling of materials is seen.	Q3 of the Activity Sheet asks students about the proper disposal of chemicals used in laboratories.
18	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(iii) demonstrate the proper disposal or recycling of materials	TX2_US200101CD	Laboratory Safety (TX2_US200101CD)	The Enrichment Sheet describes how students can demonstrate the proper disposal or recycling of materials.	Questions in the Enrichment Sheet ask students to demonstrate the proper disposal or recycling of materials.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
19	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(iii) demonstrate the proper disposal or recycling of materials	TX2_US4101A10	Substances that Cause Environmental Pollution (TX2_US4101A10)	The Animation demonstrates the proper disposal or recycling of materials.	
20	(1) Scientific processes. Thestudent, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding ofthe use and conservation of resources and the proper disposal or recycling of materials	(iii) demonstrate the proper disposal or recycling of materials	TX2_US2103A16	The Impact of Energy Resources: Part I (TX2_US2103A16)	The Animation demonstrates the proper disposal or recycling of materials.	Q2 of the Enrichment Sheet asks students about the proper disposal of nuclear waste.
21	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(A) know the definition of scienceand understand that it has limitations, as specified in subsection (b)(2) of this section	(i) know the definition of science, as specified in subsection (b)(2) [above]	TX2_US2801A12	What Is Science? (TX2_US2801A12)	The Animation explains the definition of science as encompassing the components specified in subsection (b)(2).	Q1-Q2-Q3 of the Question-Answer Sheet ask students about the definition and nature of science.
22	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(A) know the definition of scienceand understand that it has limitations, as specified in subsection (b)(2) of this section	(i) know the definition of science, as specified in subsection (b)(2) [above]	TX2_US2801A12	What Is Science? (TX2_US2801A12)	The Animation explains the definition of science as encompassing the components specified in subsection (b)(2).	Q1 of the Enrichment Sheet asks students about the definition and nature of science.
23	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(A) know the definition of scienceand understand that it has limitations, as specified in subsection (b)(2) of this section	(i) know the definition of science, as specified in subsection (b)(2) [above]	TX2_US2801A12	What Is Science? (TX2_US2801A12)	After completing the Enrichment Sheet, students know the definition of science, as specified in subsection (b)(2).	
24	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(A) know the definition of scienceand understand that it has limitations, as specified in subsection (b)(2) of this section	(i) know the definition of science, as specified in subsection (b)(2) [above]	TX2_US4101A01	From Alchemy to Chemistry (TX2_US4101A01)	The Animation explains alchemy and how alchemy differs from the modern science of chemistry.	
25	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(A) know the definition of scienceand understand that it has limitations, as specified in subsection (b)(2) of this section	(ii) understand that [science] has limitations, as specified in subsection (b)(2) [above]	TX2_US2801A12	What Is Science? (TX2_US2801A12)	After watching the Animation, students understand that [science] has limitations, as specified in subsection (b)(2).	Q3 of the Question-Answer Sheet asks students about the limitations of science.
26	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(A) know the definition of scienceand understand that it has limitations, as specified in subsection (b)(2) of this section	(ii) understand that [science] has limitations, as specified in subsection (b)(2) [above]	TX2_US2801A12	What Is Science? (TX2_US2801A12)	After watching the Animation, students understand that [science] has limitations, as specified in subsection (b)(2).	Q2 of the Enrichment Sheet assesses students on their understanding that science has limitations
27	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(A) know the definition of scienceand understand that it has limitations, as specified in subsection (b)(2) of this section	(ii) understand that [science] has limitations, as specified in subsection (b)(2) [above]	TX2_US2801A12	What Is Science? (TX2_US2801A12)	After completing the Enrichment Sheet, students understand that [science] has limitations, as specified in subsection (b)(2).	
28	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(A) know the definition of scienceand understand that it has limitations, as specified in subsection (b)(2) of this section	(ii) understand that [science] has limitations, as specified in subsection (b)(2) [above]	TX2_US420105CD	History of the Atomic Model: From Rutherford to Bohr (TX2_US420105CD)	In the Activity Object, students understand that [science] has limitations, as specified in subsection (b)(2), by viewing the evolution of a scientific model through research.	
29	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(A) know the definition of scienceand understand that it has limitations, as specified in subsection (b)(2) of this section	(ii) understand that [science] has limitations, as specified in subsection (b)(2) [above]	TX2_US420104CD	History of the Atomic Model: From Ancient Greece to Thomson (TX2_US420104CD)	In the Activity Object, students understand that [science] has limitations, as specified in subsection (b)(2), by viewing the evolution of a scientific model through research.	
30	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(i) plan investigative procedures, including asking questions	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In Part 2 of the Activity Object, students plan an investigation on the conservation of mass. Students start their investigation by asking well-defined questions.	Q1 of the "Plan the Investigation" section of the Lab Sheet asks students what questions they will ask while planning their investigation.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
31	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(i) plan investigative procedures, including asking questions	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In the "Plan the Investigation" section of the Lab Sheet, students plan their investigation.	
32	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(i) plan investigative procedures, including asking questions	TX2_US210202CD	Period of a Pendulum (TX2_US210202CD)	At the end of Part 1 and in Part 2 of the Activity Object, students observe the effect of manipulating the mass, length, gravitational acceleration, and release angle of a pendulum on the period of a pendulum's motion and must answer well-defined questions.	
33	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(i) plan investigative procedures, including asking questions	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 2 of the Activity Object, students must design a series of experiments by selecting the appropriate equipment to examine research questions derived from Newton's law of universal gravitation.	
34	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(ii) plan investigative procedures, including formulating testable hypotheses	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In the "Plan the Investigation" section of the Lab Sheet, students formulate a hypothesis.	Q2 of the "Plan the Investigation" section of the Lab Sheet asks students about the hypothesis they pursued while planning the investigation.
35	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(ii) plan investigative procedures, including formulating testable hypotheses	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In Part 2 of the Activity Object, students plan an investigation on the conservation of mass. Students are given a hypothesis and are asked to check if it is correct.	
36	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(ii) plan investigative procedures, including formulating testable hypotheses	TX2_US210217CD	Projectiles Launched Horizontally (TX2_US210217CD)	In the second half of Part 1 of the Activity Object, students formulate a prediction (i.e., a hypothesis) and plan an investigation to test whether or not the prediction is supported.	
37	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(ii) plan investigative procedures, including formulating testable hypotheses	TX2_US210215CD	Projectiles Launched Vertically (TX2_US210215CD)	In the second half of Part 1 and Part 2 of the Activity Object, students formulate a prediction (i.e., a hypothesis) and plan an investigation to test whether or not the prediction is supported.	
38	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(iii) plan investigative procedures, including selecting equipment	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In Part 1 of the Activity Object, students are introduced to the equipment they are going to use in an investigation. In Part 2 of the Activity Object, students select the chemicals they will use in the investigation.	Q4 of the "Plan the Investigation" section of the Lab Sheet asks students about the equipment they are going to use in the investigation.
39	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(iii) plan investigative procedures, including selecting equipment	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In the "Plan the Investigation" section of the Lab Sheet, students select appropriate equipment for their investigation.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
40	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(iii) plan investigative procedures, including selecting equipment	TX2_US210224XP	Free Fall (TX2_US210224XP)	In Part 2 and Part 3 of the Activity Object, students select spheres of different mass and observe how they will manipulate the gravitational force and height used when dropping the spheres By designing various conditions, students will investigate the different aspects of free fall (e.g., duration of fall).	
41	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(iii) plan investigative procedures, including selecting equipment	TX2_US420103DM	Photoelectric Effect (TX2_US420103DM)	In Part 2 of the Activity Object, students plan an examination of the photoelectric effect in which they will manipulate various variables, including the metal used in the cathode.	
42	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(iv) plan investigative procedures, including selecting technology	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In Part 1 of the Activity Object, students are introduced to the technology they are going to use in an investigation. In Part 2 of the Activity Object, students select the chemicals they will use in the investigation.	Q4-Q6-Q8 of the "Plan the Investigation" section of the Lab Sheet ask students about the technologies they are going to use in the investigation.
43	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(iv) plan investigative procedures, including selecting technology	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In the "Plan the Investigation" section of the Lab Sheet, students select appropriate technology for their investigation.	
44	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(iv) plan investigative procedures, including selecting technology	TX2_US420103DM	Photoelectric Effect (TX2_US420103DM)	In Part 2 of the Activity Object, students plan an examination of the photoelectric effect in which they will manipulate various variables using different types of technology.	
45	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(iv) plan investigative procedures, including selecting technology	TX2_US230302CD	Designing an Electric Motor (TX2_US230302CD)	In Part 1 of the Activity Object, students purchase a battery, coil, and magnet to construct a toy race car and compare their selections to a computer-designed race car. The summary of the Activity Object examines the properties of batteries, coils, and magnets.	
46	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(v) implement investigative procedures, including asking questions	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In Part 2 of the Activity Object, students implement an investigation on the conservation of mass. Students start their investigation by asking well-defined questions.	Q1 of the "Implement the Investigation" section of the Lab Sheet asks students about the questions they asked while implementing the investigation.
47	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(v) implement investigative procedures, including asking questions	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In the the "Implement the Investigation" section of the Lab Sheet, students implement their investigation.	
48	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(v) implement investigative procedures, including asking questions	TX2_US210224XP	Free Fall (TX2_US210224XP)	In Part 3 of the Activity Object, students design different conditions in their investigations of the effect of mass, gravitational force, and height on the free-fall of objects in order to answer well-defined questions.	

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49	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(v) implement investigative procedures, including asking questions	TX2_US210202CD	Period of a Pendulum (TX2_US210202CD)	At the end of Part 1 and in Part 2 of the Activity Object, students observe the effect of manipulating the mass, length, gravitational acceleration, and release angle of a pendulum on the period of a pendulum's motion and must answer well-defined questions.	
50	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(v) implement investigative procedures, including asking questions	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 2 of the Activity Object, students carry out a series of experiments by selecting the appropriate equipment to examine research questions derived from Newton's law of universal gravitation	
51	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(vi) implement investigative procedures, including formulating testable hypotheses	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In the "Implement the Investigation" section of the Lab Sheet, students state and then test their hypothesis.	Q2 of the "Implement the Investigation" section of the Lab Sheet asks students about the hypothesis they pursued while implementing the investigation.
52	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(vi) implement investigative procedures, including formulating testable hypotheses	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In Part 2 of the Activity Object, students implement an investigation on the conservation of mass. Students are given a hypothesis and are asked to check if it is correct.	
53	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(vi) implement investigative procedures, including formulating testable hypotheses	TX2_US210217CD	Projectiles Launched Horizontally (TX2_US210217CD)	In the second half of Part 1 of the Activity Object, students formulate a prediction (i.e., a hypothesis) and implement an investigation to test whether or not the prediction is supported.	
54	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(vi) implement investigative procedures, including formulating testable hypotheses	TX2_US210215CD	Projectiles Launched Vertically (TX2_US210215CD)	In the second half of Part 1 and Part 2 of the Activity Object, students formulate a prediction (i.e., a hypothesis) and implement an investigation to test whether or not the prediction is supported.	
55	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(vii) implement investigative procedures, including selecting equipment	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	Part 1 of the Activity Object explains the the equipment students are going to use for the investigation. In Part 2 of the Activity Object, students select the chemicals to use and then implement the investigation.	Q3 of the "Implement the Investigation" section of the Lab Sheet asks students about the equipment they used while implementing the investigation.
56	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(vii) implement investigative procedures, including selecting equipment	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In the "Implement the Investigation" section of the Lab Sheet, students select appropriate equipment for their investigation and then implement the investigation.	
57	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(vii) implement investigative procedures, including selecting equipment	TX2_US230302CD	Designing an Electric Motor (TX2_US230302CD)	In Part 1 of the Activity Object, students select different pieces of equipment for an electric car and investigate how the differences affect the performance of the car.	

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
58	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(vii) implement investigative procedures, including selecting equipment	TX2_US210224XP	Free Fall (TX2_US210224XP)	In Part 2 and Part 3 of the Activity Object, students select spheres of different mass and manipulate gravitational force and height used when dropping them. By designing various conditions, students investigate the different aspects of free fall (e.g., duration of fall).	
59	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(vii) implement investigative procedures, including selecting equipment	TX2_US420103DM	Photoelectric Effect (TX2_US420103DM)	In Part 2 of the Activity Object, students carry out an examination of the photoelectric effect by manipulating various variables using different types of technology.	
60	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(viii) implement investigative procedures, including selecting technology	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	Part 1 of the Activity Object explains the the technology students are going to use for the investigation. In Part 2 of the Activity Object, students select the chemicals to use and implement the investigation.	Q4 of the "Implement the Investigation" section of the Lab Sheet asks students about the technology they used while implementing the investigation.
61	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(viii) implement investigative procedures, including selecting technology	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In the "Implement the Investigation" section of the Lab Sheet, students select appropriate technology for their investigation and then implement the investigation.	
62	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(viii) implement investigative procedures, including selecting technology	TX2_US420103DM	Photoelectric Effect (TX2_US420103DM)	In Part 2 of the Activity Object, students manipulate various variables using different types of technology in an examination of the photoelectric effect.	
63	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(B) plan and implement investigativeprocedures, including asking questions, formulating testable hypotheses, and selecting equipment and technology	(viii) implement investigative procedures, including selecting technology	TX2_US230302CD	Designing an Electric Motor (TX2_US230302CD)	In Part 1 of the Activity Object, students purchase a battery, coil, and magnet to construct a toy race car and compare their selections to a computer-designed race car. In Part 2 of the Activity Object, students build motors and make changes to the batteries, coils, and magnets of their motors to observe how these changes affect the rotational speed.	
64	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(C) collect data and makemeasurements with precision	(i) collect data	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In Part 2 of the Activity Object, students investigate conservation of mass by collecting data on the mass of the products and the reactants of a chemical reaction and then comparing them.	Q5 of the "Implement the Investigation" section of the Lab Sheet asks students to collect data.
65	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(C) collect data and makemeasurements with precision	(ii) make measurements with precision	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In Part 2 of the Activity Object, students investigate conservation of mass by making precise measurements of the mass of the products and the reactants of a chemical reaction and then comparing them.	Q5 of the "Implement the Investigation" section of the Lab Sheet asks students to make measurements with precision.
66	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(D) organize, analyze, evaluate,make inferences, and predict trends from data	(i) organize data	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In the "Implement the Investigation" section of the Lab Sheet, students are directed to organize data.	Q7 of the "Implement the Investigation" section of the Lab Sheet asks students to arrange the order of columns of information in order to organize the data.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
67	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(D) organize, analyze, evaluate,make inferences, and predict trends from data	(ii) analyze data	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In Part 2 of the Activity Object, students analyze the data they obtained in their experiment in order to reach conclusions about conservation of mass.	Q10 of the "Implement the Investigation" section of the Lab Sheet asks students to analyze the data and reach a conclusion.
68	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(D) organize, analyze, evaluate,make inferences, and predict trends from data	(ii) analyze data	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In the "Implement the Investigation" section of the Lab Sheet, students are directed to analyze data.	
69	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(D) organize, analyze, evaluate,make inferences, and predict trends from data	(iii) evaluate data	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In the "Implement the Investigation" section of the Lab Sheet, students are directed to evaluate data.	Q8 of the "Implement the Investigation" section of the Lab Sheet asks students to evaluate the reliability of their data.
70	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(D) organize, analyze, evaluate,make inferences, and predict trends from data	(iv) make inferences from data	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In Part 2 of the Activity Object, students make inferences from the data they obtained through the experiment to reach conclusions about conservation of mass.	A question in the "Implement the Investigation" section of the Lab Sheet asks students to make inferences from their data.
71	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(D) organize, analyze, evaluate,make inferences, and predict trends from data	(iv) make inferences from data	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	In the "Implement the Investigation" section of the Lab Sheet, students are directed to make inferences from data.	
72	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(D) organize, analyze, evaluate,make inferences, and predict trends from data	(v) predict trends from data	TX2_US420401CD	Atomic Radius in the Periodic Table (TX2_US420401CD)	In Part 2 of the Activity Object, students observe how atomic radius changes across or down the Periodic Table and must predict how the atomic radius will change for a group or period they have not yet observed.	Q2-Q3 of the "Learner Journal" section of the Activity Sheet ask students to predict trends in atomic radius from data.
73	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(D) organize, analyze, evaluate,make inferences, and predict trends from data	(v) predict trends from data	TX2_US420403CD	Electronegativity on the Periodic Table (TX2_US420403CD)	In Part 2 of the Activity Object, students observe how electronegativity changes across or down the Periodic Table and must predict how electronegativity will change for a group or period they have not yet observed.	
74	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(E) communicate valid conclusions		TX2_US4101A19	Applying and Communicating Scientific Information (TX2_US4101A19)	In the Animation, students learn how to communicate valid conclusions supported by the data using various methods.	Q3-Q4 of the Question-Answer Sheet ask students to convey valid conclusions supported by the data using various methods.
75	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(E) communicate valid conclusions		TX2_US4101A19	Applying and Communicating Scientific Information (TX2_US4101A19)	In the Animation, students learn how to communicate valid conclusions supported by the data using various methods.	Q1-Q2-Q3 of the Enrichment Sheet ask students to convey valid conclusions supported by the data using various methods.
76	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(E) communicate valid conclusions		TX2_US410202CD	Using Solubility to Identify Substances (TX2_US410202CD)	Part 2 of the Activity Object uses labeled visual representations, graphs, and an oral report of the experiment to communicate a valid conclusion for identifying substances using solubility.	Q1 of the "Reflections" section of the Activity Sheet asks students to convey valid conclusions supported by the data.
77	(2) Scientific processes. Thestudent uses scientific methods during laboratory and field investigations. The student is expected to:	(E) communicate valid conclusions		TX2_US2801A05	Scientific Hypotheses and Theories (TX2_US2801A05)	The Animation describes the importance of communicating valid conclusions in the scientific process.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
78	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(i) in all fields of science, analyze scientific explanations by using empirical evidence	TX2_US440403CD	Specific Heat (TX2_US440403CD)	Part 3 of the Activity Object analyzes empirical evidence collected from Part 2 to explain the scientific process for specific heat.	Q1-Q2-Q3-Q4 of the "Learner Journal" section of the Activity Sheet ask students to use empirical data to explain the concept of specific heat.
79	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(i) in all fields of science, analyze scientific explanations by using empirical evidence	TX2_US210231XP	Newton's Second Law of Motion (TX2_US210231XP)	In the Activity Object, students collect empirical evidence to analyze how the force applied to objects of different masses in a frictionless environment affect the relation between mass, magnitude of applied force, and motion.	
80	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(i) in all fields of science, analyze scientific explanations by using empirical evidence	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 2 of the Activity Object, students analyze Newton's second law of motion by collecting empirical evidence in an investigation.	
81	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(i) in all fields of science, analyze scientific explanations by using empirical evidence	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	Part 3 of the Activity Object analyzes Newton's second law of motion by reviewing the empirical evidence collected in Part 2 of the Activity Object.	
82	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(ii) in all fields of science, analyze scientific explanations by using logical reasoning	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 4 of the Activity Object, students must analyze aspects of Newton's law of universal gravitation to answer a logical reasoning question related to the law.	Q1-Q3-Q4 of the "Learner Journal" section of the Activity Sheet ask students to use logical reasoning to provide answers related to gravitation.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
83	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(ii) in all fields of science, analyze scientific explanations by using logical reasoning	TX2_US210231XP	Newton's Second Law of Motion (TX2_US210231XP)	In the Activity Object, students must analyze the results from investigations about the force applied to objects of different masses in a frictionless environment and use deductive reasoning (a form of logical reasoning) to respond to questions posed in the Activity Object.	
84	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(iii) in all fields of science, analyze scientific explanations by using experimental testing	TX2_US210231XP	Newton's Second Law of Motion (TX2_US210231XP)	In the Activity Object, students conduct empirical tests to analyze the results from investigations about the force applied to objects of different masses in a frictionless environment and respond to questions posed in the Activity Object.	Q1-Q2-Q3 of the "Learner Journal" section of the Activity Sheet ask students to perform experiments with force, mass, and acceleration to understand Newton's second law.
85	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(iii) in all fields of science, analyze scientific explanations by using experimental testing	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 2 of the Activity Object, students conduct a series of experiments to test aspects of Newton's second law of motion.	
86	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(iv) in all fields of science, analyze scientific explanations by using observational testing	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	Part 1 of the Activity Object shows how Newton's observation of a falling apple leads him to apply his second law of motion to develop the law of universal gravitation.	Q2 of the "Learner Journal" section and Q2 of the "Reflections" section of the Activity Sheet ask students about gravitation, which can be answered by observational testing.
87	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(iv) in all fields of science, analyze scientific explanations by using observational testing	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 2 of the Activity Object, students observe the gravitational attraction between two sets of objects to investigate Newton's law of universal gravitation.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
88	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(iv) in all fields of science, analyze scientific explanations by using observational testing	TX2_US230204CD	Applications of Ohm's Law on Closed Circuits (TX2_US230204CD)	In Part 2 of the Activity Object, students test the layout of a circuit and the inclusion of resistors and observe the effect on current and voltage.	
89	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(v) in all fields of science, analyze scientific explanations, including examining all sides of scientific evidence of those scientific explanations	TX2_US210218CD	Concept of Inertia (TX2_US210218CD)	In Part 1 of the Activity Object, students are shown an object in motion that stops on its own, and are given the explanations from various scientists as to why this happens. In Part 2 of the Activity Object, students analyze how objects in motion behave when released from different heights and are on different surfaces.	Q1-Q2-Q3 of the "Learner Journal" section of the Activity Sheet ask students questions that can be answered by examining different sides of scientific evidence.
90	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(vi) in all fields of science, evaluate scientific explanations by using empirical evidence	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 2 of the Activity Object, students evaluate Newton's law of universal gravitation by collecting empirical evidence. Students also collect empirical evidence to evaluate the validity of Newton's second law of motion.	A question in the Enrichment Sheet asks students to evaluate Newton's law of universal gravitation using empirical evidence.
91	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(vi) in all fields of science, evaluate scientific explanations by using empirical evidence	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 3 of the Activity Object, the empirical evidence collected in Part 2 is used to evaluate the validity of Newton's second law of motion.	
92	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(vii) in all fields of science, evaluate scientific explanations by using logical reasoning	TX2_US210218CD	Concept of Inertia (TX2_US210218CD)	In Part 2 of the Activity Object, students are asked logical reasoning questions while conducting a series of experiments to evaluate the concepts of motion and inertia.	A question in the Enrichment Sheet 2 asks students to evalutate the concept of inertia using logical reasoning.

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
93	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(vii) in all fields of science, evaluate scientific explanations by using logical reasoning	TX2_US420103DM	Photoelectric Effect (TX2_US420103DM)	In Part 2 of the Activity Object, students conduct a series of experiments to evaluate the photoelectric effect.	
94	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(viii) in all fields of science, evaluate scientific explanations by using experimental testing	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 2 of the Activity Object, conduct a series of experiments to evaluate the validity of Newton's second law of motion.	Q2 of the "Reflections" section of the Activity Sheet asks students to verify Newton's law of universal gravitation by performing experimental testing.
95	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(viii) in all fields of science, evaluate scientific explanations by using experimental testing	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 3 of the Activity Object, the series of experiments conducted in Part 2 are used to evaluate the validity of Newton's second law of motion.	
96	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(viii) in all fields of science, evaluate scientific explanations by using experimental testing	TX2_US240101XP	Light Intensity and Distance from the Source (TX2_US240101XP)	In Part 2 and Part 3 of the Activity Object, students conduct investigations in which they manipulate the distance of a lamp and observe the effect on the temperature change of the objects upon which the light shines.	
97	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(ix) in all fields of science, evaluate scientific explanations by using observational testing	TX2_US4201A20	The Wave Nature of Light (TX2_US4201A20)	In Part 2 of the Activity Object, students test the layout of a circuit and the inclusion of resistors and observe the effect on current and voltage to evaluate applications of Ohm's law in terms of the concepts of current, potential difference, and resistance.	Questions in the Lab Sheet ask students to evaluate explanations about the structure of atoms using the observations made with a spectroscope.

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
98	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(ix) in all fields of science, evaluate scientific explanations by using observational testing	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 2 of the Activity Object, students conduct several observational tests to evaluate Newton's law of universal gravitation.	
99	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(ix) in all fields of science, evaluate scientific explanations by using observational testing	TX2_US230204CD	Applications of Ohm's Law on Closed Circuits (TX2_US230204CD)	In Part 2 of the Activity Object, students test the layout of a circuit and the inclusion of resistors and observe the effect on current and voltage.	
100	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(x) in all fields of science, evaluate scientific explanations, including examining all sides of scientific evidence of those scientific explanations	TX2_US210218CD	Concept of Inertia (TX2_US210218CD)	In Part 1 of the Activity Object, students are shown an object in motion that stops on its own and are given the explanations from various scientists as to why this happens. In Part 2 of the Activity Object, students evaluate how objects in motion behave when released from different heights and are on different surfaces.	A question in Enrichment Sheet 2 asks students to examine all sides of the issue to evaluate why Galileo's explanation is correct and Aristotle's is wrong.
101	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(x) in all fields of science, evaluate scientific explanations, including examining all sides of scientific evidence of those scientific explanations	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 2 of the Activity Object, students examine objects with a larger mass, objects with a smaller mass, and the distance between the objects to evaluate the influence of such changes on Newton's law of universal gravitation	
102	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(x) in all fields of science, evaluate scientific explanations, including examining all sides of scientific evidence of those scientific explanations	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	Part 3 of the Activity Object evaluates multiple sides of Newton's law of universal gravitation, including the effects of stationary masses, movable masses, and the distances between these masses.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
103	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xi) in all fields of science, critique scientific explanations by using empirical evidence	TX2_US210218CD	Concept of Inertia (TX2_US210218CD)	Part 1 of the Activity Object provides an introduction to several researchers' concepts of motion. In Part 2 of the Activity Object, students conduct an experiment by changing several variables to examine inertia.	A question in Enrichment Sheet 2 asks students to critique explanations of the law of inertia using empirical evidence.
104	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xi) in all fields of science, critique scientific explanations by using empirical evidence	TX2_US210218CD	Concept of Inertia (TX2_US210218CD)		Questions in the Activity Sheet ask students to critique previous concepts of motion based on the empirical evidence gathered in the Activity Object.
105	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xi) in all fields of science, critique scientific explanations by using empirical evidence	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 2 of the Activity Object, students conduct several experimental tests to critique Newton's law of universal gravitation.	Questions in the Activity Sheet ask students to critique Newton's law of universal gravitation based on empirical evidence gathered in the Activity Object.
106	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xii) in all fields of science, critique scientific explanations by using logical reasoning	TX2_US210231XP	Newton’s Second Law of Motion (TX2_US210231XP)	The Investigation Sheet directs students to collect data from an experiment and then use this data to critique Newton's second law and decide if it is logical.	Q3-Q4 of the Investigation Sheet ask students to critique scientific explanations by using logical reasoning.
107	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xii) in all fields of science, critique scientific explanations by using logical reasoning	TX2_US210231XP	Newton’s Second Law of Motion (TX2_US210231XP)	In the Activity Object, students conduct empirical tests to critique the results from investigations about the force applied to objects of different masses in a frictionless environment and respond to questions posed in the Activity Object.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
108	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xii) in all fields of science, critique scientific explanations by using logical reasoning	TX2_US420105CD	History of the Atomic Model: From Rutherford to Bohr (TX2_US420105CD)	Parts 2 through 6 of the Activity Object discuss the progression of the atomic model and critique the older models using logical reasoning.	
109	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xii) in all fields of science, critique scientific explanations by using logical reasoning	TX2_US4201A04	Bohr's Atomic Model (TX2_US4201A04)	In the Animation, students are presented with the flaws scientists found in previous models of atoms based on their deductions (i.e. a form of logical reasoning) about the theories of atom structure and behavior and their observations of various aspects of atoms.	
110	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xii) in all fields of science, critique scientific explanations by using logical reasoning	TX2_US4201A19	Particle Nature of Light (TX2_US4201A19)	The Animation critiques the wave theory as a way to describe the nature of light, based on the following logical reasoning: Wave theory requires a medium for light to travel, yet light can travel through a vacuum; thus, this aspect of the wave theory is not tenable.	
111	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xiii) in all fields of science, critique scientific explanations by using experimental testing	TX2_US210231XP	Newton’s Second Law of Motion (TX2_US210231XP)	The Investigation Sheet directs students to collect data from an experiment and then use this data to critique Newton's second law and decide if it is logical.	Q3-Q4 of the Investigation Sheet ask students to critique Newton's second law by using experimental testing.
112	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xiii) in all fields of science, critique scientific explanations by using experimental testing	TX2_US210231XP	Newton’s Second Law of Motion (TX2_US210231XP)	In the Activity Object, students conduct empirical tests to critique the results from investigations about the force applied to objects of different masses in a frictionless environment and respond to questions posed in the Activity Object.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
113	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xiii) in all fields of science, critique scientific explanations by using experimental testing	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 2 of the Activity Object, students conduct a series of experiments to test aspects of Newton's second law of motion.	
114	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xiii) in all fields of science, critique scientific explanations by using experimental testing	TX2_US240101XP	Light Intensity and Distance from the Source (TX2_US240101XP)	In Part 2 and Part 3 of the Activity Object, students conduct investigations in which they manipulate the distance of a lamp and observe the effect on the temperature change of the objects upon which the light shines.	
115	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xiv) in all fields of science, critique scientific explanations by using observational testing	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 2 of the Activity Object, students conduct several observational tests to critique Newton's law of universal gravitation.	Questions in the Enrichment Sheet ask students to critique explanations of the law of gravitation by using observational testing.
116	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xiv) in all fields of science, critique scientific explanations by using observational testing	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)		A question in the Activity Sheet asks students to critique Newton's law of universal gravitation based on the observational testing conducted in the Activity Object.
117	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xiv) in all fields of science, critique scientific explanations by using observational testing	TX2_US210218CD	Concept of Inertia (TX2_US210218CD)	In Part 2 of the Activity Object, students conduct several observational tests to critique previous concepts of motion and Newton's concept, which is now known as inertia.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
118	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xiv) in all fields of science, critique scientific explanations by using observational testing	TX2_US210218CD	Concept of Inertia (TX2_US210218CD)		A question in the Activity Sheet, asks students to critique previous concepts of motion based on the observational testing conducted in the Activity Object.
119	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xv) in all fields of science, critique scientific explanations, including examining all sides of scientific evidence of those scientific explanations	TX2_US4201A19	Particle Nature of Light (TX2_US4201A19)	The Animation discusses various critiques of wave theory as a way to describe the nature of light.	Q3 of the Enrichment Sheet asks students to critique the wave and particle theories of light.
120	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xv) in all fields of science, critique scientific explanations, including examining all sides of scientific evidence of those scientific explanations	TX2_US4201A04	Bohr's Atomic Model (TX2_US4201A04)	In the Animation, students are presented with the flaws scientists found in previous models of atoms based on their deductions (i.e. a form of logical reasoning) about the theories of atom structure and behavior and their observations of various aspects of atoms.	
121	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xv) in all fields of science, critique scientific explanations, including examining all sides of scientific evidence of those scientific explanations	TX2_US420105CD	History of the Atomic Model: From Rutherford to Bohr (TX2_US420105CD)	Parts 2 through 6 of the Activity Object discuss the progression of the atomic model and critique the older models by examining different sides of evidence for previous models.	
122	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(A) in all fields of science, analyze,evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	(xv) in all fields of science, critique scientific explanations, including examining all sides of scientific evidence of those scientific explanations	TX2_US420105CD	History of the Atomic Model: From Rutherford to Bohr (TX2_US420105CD)		A question in the Activity Sheet asks students to critique scientific explanations and to examine various sides of the scientific evidence of the scientific explanations.
123	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(B) communicate and apply scientificinformation extracted from various sources such as current events, news reports, published journal articles,and marketing materials	(i) communicate scientific information extracted from various sources	TX2_US4101A19	Applying and Communicating Scientific Information (TX2_US4101A19)	In the Animation, students learn how to communicate scientific information extracted from various sources.	Q1-Q2 of the Enrichment Sheet ask students to communicate scientific information extracted from various sources.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
124	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(B) communicate and apply scientificinformation extracted from various sources such as current events, news reports, published journal articles,and marketing materials	(i) communicate scientific information extracted from various sources	TX2_US4101A19	Applying and Communicating Scientific Information (TX2_US4101A19)		Questions in the Question-Answer Sheet ask students how to communicate scientific information extracted from various sources.
125	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(B) communicate and apply scientificinformation extracted from various sources such as current events, news reports, published journal articles,and marketing materials	(i) communicate scientific information extracted from various sources	TX2_US4101A19	Applying and Communicating Scientific Information (TX2_US4101A19)		Questions in the Enrichment Sheet ask students how to communicate scientific information extracted from various sources.
126	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(B) communicate and apply scientificinformation extracted from various sources such as current events, news reports, published journal articles,and marketing materials	(ii) apply scientific information extracted from various sources	TX2_US4101A19	Applying and Communicating Scientific Information (TX2_US4101A19)	The Animation applies scientific information extracted from various sources.	Q3 of the Enrichment Sheet asks students to apply scientific information extracted from various sources.
127	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(B) communicate and apply scientificinformation extracted from various sources such as current events, news reports, published journal articles,and marketing materials	(ii) apply scientific information extracted from various sources	TX2_US4101A19	Applying and Communicating Scientific Information (TX2_US4101A19)		Questions in the Question-Answer Sheet ask students to reference the application of scientific information extracted from various sources.
128	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(B) communicate and apply scientificinformation extracted from various sources such as current events, news reports, published journal articles,and marketing materials	(ii) apply scientific information extracted from various sources	TX2_US4101A19	Applying and Communicating Scientific Information (TX2_US4101A19)		Questions in the Enrichment Sheet ask students to apply scientific information extracted from various sources.
129	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(C) draw inferences based on datarelated to promotional materials for products and services	(i) draw inferences based on data related to promotional materials for products	TX2_US4803A02	Evaluating Products and Services (TX2_US4803A02)	The Animation draws inferences based on data related to promotional materials for products.	Q1-Q2 of the Enrichment Sheet 1 ask students to draw inferences based on data related to promotional materials for products.
130	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(C) draw inferences based on datarelated to promotional materials for products and services	(i) draw inferences based on data related to promotional materials for products	TX2_US4803A02	Evaluating Products and Services (TX2_US4803A02)		Q1 of the Enrichment Sheet 2 asks students to draw inferences based on data related to promotional materials for products.
131	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(C) draw inferences based on datarelated to promotional materials for products and services	(i) draw inferences based on data related to promotional materials for products	TX2_US4803A02	Evaluating Products and Services (TX2_US4803A02)		Questions in the Question-Answer Sheet ask students to draw inferences based on data related to promotional materials for products.
132	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(C) draw inferences based on datarelated to promotional materials for products and services	(ii) draw inferences based on data related to promotional materials for services	TX2_US4803A02	Evaluating Products and Services (TX2_US4803A02)	The Animation draws inferences based on data related to promotional materials for services.	Q3-Q4 of the Enrichment Sheet 1 ask students to draw inferences based on data related to promotional materials for services.
133	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(C) draw inferences based on datarelated to promotional materials for products and services	(ii) draw inferences based on data related to promotional materials for services	TX2_US4803A02	Evaluating Products and Services (TX2_US4803A02)		Q2 of the Enrichment Sheet 2 asks students to draw inferences based on data related to promotional materials for services.
134	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(C) draw inferences based on datarelated to promotional materials for products and services	(ii) draw inferences based on data related to promotional materials for services	TX2_US4803A02	Evaluating Products and Services (TX2_US4803A02)		Questions in the Question-Answer Sheet ask students to draw inferences based on data related to promotional materials for services.
135	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(D) evaluate the impact of researchon scientific thought, society, and the environment	(i) evaluate the impact of research on scientific thought	TX2_US2801A09	The Impact of Scientific Advances on Science and Society (TX2_US2801A09)	The Animation describes and evaluates the impact of scientific research on scientific thought.	A question in the Question-Answer Sheet asks students to evaluate the impact of research on scientific thought.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
136	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(D) evaluate the impact of researchon scientific thought, society, and the environment	(i) evaluate the impact of research on scientific thought	TX2_US420103DM	Photoelectric Effect (TX2_US420103DM)	In the Activity Object, students evaluate the impact of scientific research on society.	Questions in the Activity Sheet ask students to evaluate how exploring the photoelectric effect helped us understand wave-particle duality, which demonstrates the impact of research on scientific thought.
137	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(D) evaluate the impact of researchon scientific thought, society, and the environment	(i) evaluate the impact of research on scientific thought	TX2_US4101A17	Important Chemists (TX2_US4101A17)	The Animation describes and evaluates the impact of the research of some important chemists on scientific thought.	Questions in the Activity Sheet ask students to evaluate the impact of research on scientific thought.
138	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(D) evaluate the impact of researchon scientific thought, society, and the environment	(i) evaluate the impact of research on scientific thought	TX2_US2305A03	Historical Development of Electromagnetic Forces (TX2_US2305A03)	Part 1 of the Activity Object describes and evaluates the impacts of William Gilbert, Benjamin Franklin, Charles-Augustin de Coulomb, Hans Christian Oersted, and others, on the discovery and historical development of electromagnetic forces.	Questions in the Question-Answer Sheet ask students to name the contributions of several historical scientists.
139	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(D) evaluate the impact of researchon scientific thought, society, and the environment	(i) evaluate the impact of research on scientific thought	TX2_US260202CD	Radioactive Decay (TX2_US260202CD)	Part 1 describes and evaluates the impacts of Wilhelm Rontgen, Henri Becquerel, and the Curies on the discoveries of radioactive decay.	Questions in the Activity Sheet ask students about the contributions of historical scientists in the field of radioactivity.
140	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(D) evaluate the impact of researchon scientific thought, society, and the environment	(i) evaluate the impact of research on scientific thought	TX2_US230402CD	Magnetic Field of a Current-Carrying Infinite Wire (TX2_US230402CD)	Part 1 of the Activity Object describes and evaluates the contributions of several scientists to the field of electromagnetism.	Questions in the Activity Sheet ask students about the contributions of historical scientists in the field of electromagnetism.
141	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(D) evaluate the impact of researchon scientific thought, society, and the environment	(i) evaluate the impact of research on scientific thought	TX2_US210218CD	Concept of Inertia (TX2_US210218CD)	Part 1 of the Activity Object describes and evaluates the contributions of Aristotle, Al Haytham, and Galileo in developing the concept of inertia.	Questions in the Activity Sheet ask students about the contributions of historical scientists in the field of motion and mechanics.
142	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(D) evaluate the impact of researchon scientific thought, society, and the environment	(i) evaluate the impact of research on scientific thought	TX2_US420105CD	History of the Atomic Model: From Rutherford to Bohr (TX2_US420105CD)	The Activity Object details the contributions of several historical scientists to our understanding of the atom.	Questions in the Activity Sheet ask students about the contributions of historical scientists in the field of motion and mechanics.
143	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(D) evaluate the impact of researchon scientific thought, society, and the environment	(ii) evaluate the impact of research on society	TX2_US2801A09	The Impact of Scientific Advances on Science and Society (TX2_US2801A09)	The Animation describes and evaluates the impact of scientific research on society.	Q2 of the "After the Animation" section of the Question-Answer Sheet asks students to evaluate the impact of research on society.
144	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(D) evaluate the impact of researchon scientific thought, society, and the environment	(iii) evaluate the impact of research on the environment	TX2_US2801A09	The Impact of Scientific Advances on Science and Society (TX2_US2801A09)	The Animation describes and evaluates the impact of scientific research on the environment.	Q3 of the "After the Animation" section of the Question-Answer Sheet asks students to evaluate the impact of research on the environment.
145	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(E) describe connections betweenphysics and chemistry and future careers	(i) describe connections between physics and future careers	TX2_US2801A13	Physics and Future Careers (TX2_US2801A13)	The Animation describes the connections between physics and future careers.	Q2 of the "After the Animation" section of the Question-Answer Sheet asks students to make connections between physics and future careers.
146	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(E) describe connections betweenphysics and chemistry and future careers	(ii) describe connections between chemistry and future careers	TX2_US4101A20	Chemistry and Future Careers (TX2_US4101A20)	In the Animation, students learn about the connections between chemistry and future careers.	Questions in the Question-Answer Sheet assess students on their knowledge of the connections between chemistry and future careers.
147	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(F) research and describe the historyof physics and chemistry and contributions of scientists	(i) research the history of physics	TX2_US2101A17	History of Physics (TX2_US2101A17)	Students research the history of physics by watching the Animation.	Questions in the Question-Answer Sheet ask students to describe various aspects of the history of physics.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
148	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(F) research and describe the historyof physics and chemistry and contributions of scientists	(i) research the history of physics	TX2_US2101A17	History of Physics (TX2_US2101A17)	In the Enrichment Sheet, students are required to research the history of physics.	Questions in the Enrichment Sheet require that students do research on the history of physics and write short essays based on the topics they researched.
149	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(F) research and describe the historyof physics and chemistry and contributions of scientists	(ii) research the history of chemistry	TX2_US4101A16	History of Chemistry (TX2_US4101A16)	Students research the history of chemistry by watching the Animation.	Questions in the Question-Answer Sheet ask students to describe various aspects of the history of chemistry
150	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(F) research and describe the historyof physics and chemistry and contributions of scientists	(ii) research the history of chemistry	TX2_US4101A16	History of Chemistry (TX2_US4101A16)	In the Enrichment Sheet, students are required to research the history of chemistry.	Questions in the Enrichment Sheet require that students do research on the history of chemistry and write short essays based on the topics they researched.
151	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(F) research and describe the historyof physics and chemistry and contributions of scientists	(iii) research contributions of scientists	TX2_US4101A16	History of Chemistry (TX2_US4101A16)	Students research various contributions of chemists (scientists) by watching the Animation.	Questions in the Question-Answer Sheet ask students to provide answers based on their research of the contributions of chemists (scientists).
152	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(F) research and describe the historyof physics and chemistry and contributions of scientists	(iii) research contributions of scientists	TX2_US4101A16	History of Chemistry (TX2_US4101A16)	In the Enrichment Sheet, students are required to research the contributions of chemists, a type of scientist.	Questions in the Enrichment Sheet require that students do research on the contributions of scientists and write short essays based on the topics they researched.
153	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(F) research and describe the historyof physics and chemistry and contributions of scientists	(iii) research contributions of scientists	TX2_US2101A17	History of Physics (TX2_US2101A17)	Students research various contributions of physicists (scientists) by watching the Animation.	Questions in the Question-Answer Sheet ask students to provide answers based on their research of the contributions of chemists (physicists).
154	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(F) research and describe the historyof physics and chemistry and contributions of scientists	(iv) describe the history of physics	TX2_US2101A17	History of Physics (TX2_US2101A17)	The Animation describes the history of physics.	Questions in the Question-Answer Sheet ask students to describe various aspects of the history of physics.
155	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(F) research and describe the historyof physics and chemistry and contributions of scientists	(v) describe the history of chemistry	TX2_US4101A16	History of Chemistry (TX2_US4101A16)	The Animation describes the history of chemistry	Questions in the Question-Answer Sheet ask students to describe various aspects of the history of chemistry.
156	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(F) research and describe the historyof physics and chemistry and contributions of scientists	(vi) describe the contributions of scientists	TX2_US4101A16	History of Chemistry (TX2_US4101A16)	The Animation describes the contributions of various chemists (scientists).	Questions in the Question-Answer Sheet ask students to describe the contributions of various chemists (scientists).
157	(3) Scientific processes. Thestudent uses critical thinking, scientific reasoning, and problem solving to make informed decisions. The student is expected to:	(F) research and describe the historyof physics and chemistry and contributions of scientists	(vi) describe the contributions of scientists	TX2_US2101A17	History of Physics (TX2_US2101A17)	The Animation describes the contributions of various physicists (scientists).	Questions in the Question-Answer Sheet ask students to describe the contributions of various physicists (scientists).
158	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(i) describe an object's motion in terms of position	TX2_US2102A01	Position, Displacement, and Average Velocity (TX2_US2102A01)	The Animation describes motion in terms of an object's position and other variables.	Q1-Q3 of the "After the Animation" section of the Question-Answer Sheet ask students to describe motion in terms of position.
159	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(i) describe an object's motion in terms of position	TX2_US2102A02	Position-Time Graph of Uniform One-Dimensional Motion (TX2_US2102A02)	The Animation describes motion in terms of an object's position and other variables.	Q2 of the "After the Animation" section of the Question-Answer Sheet asks students to describe an object's motion in terms of position.
160	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(i) describe an object's motion in terms of position	TX2_US2102A08	Uniform Circular Motion I: An Overview (TX2_US2102A08)	The Animation describes motion in terms of an object's position and other variables.	
161	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(i) describe an object's motion in terms of position	TX2_US210230CD	Uniform Linear Motion (TX2_US210230CD)	Part 1 of the Activity Object describes motion in terms of an object's position and other variables.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
162	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(i) describe an object's motion in terms of position	TX2_US210229CD	Motion with Constant Acceleration (TX2_US210229CD)	In Part 2 of the Activity Object, students complete an activity in which an object's motion is described in terms of position and other variables.	
163	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(ii) describe an object's motion in terms of displacement	TX2_US2102A01	Position, Displacement, and Average Velocity (TX2_US2102A01)	The Animation describes motion in terms of an object's displacement and other variables.	Q2-Q3 of the "After the Animation" section of the Question-Answer Sheet ask students to describe motion in terms of displacement.
164	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(ii) describe an object's motion in terms of displacement	TX2_US2102A03	Velocity-Time Graph of One Dimensional Motion and Displacement (TX2_US2102A03)	The Animation describes motion in terms of an object's displacement and other variables.	Q3 of the "After the Animation" section of the Question-Answer Sheet asks students to describe motion in terms of displacement.
165	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(ii) describe an object's motion in terms of displacement	TX2_US210229CD	Motion with Constant Acceleration (TX2_US210229CD)	Part 1 of the Activity Object describes motion in one dimension using an equation described in Part 4. It also covers the concept of displacement.	A question in the Activity Sheet asks students to describe an object's motion in one dimension using an equation and the concept of displacement.
166	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(iii) describe an object's motion in terms of speed	TX2_US2102A01	Position, Displacement, and Average Velocity (TX2_US2102A01)	The Animation presents an analysis of motion in one dimension using equations along with the concept of speed.	Q3 of the "After the Animation" section of the Question-Answer Sheet asks students to describe motion in terms of speed (velocity).
167	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(iii) describe an object's motion in terms of speed	TX2_US210230CD	Uniform Linear Motion (TX2_US210230CD)	Part 1 of the Activity Object describes motion in terms of an object's speed and other variables.	
168	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(iii) describe an object's motion in terms of speed	TX2_US2102A03	Velocity-Time Graph of One Dimensional Motion and Displacement (TX2_US2102A03)	The Animation presents an analysis of motion in one dimension using equations along with the concept of speed.	A question in the Question-Answer Sheet requires that students analyze motion in one dimension using equations and the concept of speed.
169	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(iv) describe an object's motion in terms of acceleration	TX2_US210229CD	Motion with Constant Acceleration (TX2_US210229CD)	Part 1 of the Activity Object analyzes motion in one dimension using an equation described in Part 4. It also covers the concept of acceleration.	Q2-Q3-Q4 in the Assessment section ask students to describe motion in terms of acceleration.
170	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(iv) describe an object's motion in terms of acceleration	TX2_US210229CD	Motion with Constant Acceleration (TX2_US210229CD)	In Part 2 of the Activity Object, students analyze motion in one dimension using an equation described in Part 4, which covers the concept of acceleration.	
171	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(iv) describe an object's motion in terms of acceleration	TX2_US210220CD	Graphs of Projectile Motion (TX2_US210220CD)	In Part 2 of the Activity Object, students analyze motion using equations and the concept of acceleration to examine aspects of projectile motion.	
172	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(iv) describe an object's motion in terms of acceleration	TX2_US210220CD	Graphs of Projectile Motion (TX2_US210220CD)	In Part 3 of the Activity Object, students analyze motion using equations and the concept of acceleration to examine aspects of projectile motion.	
173	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(iv) describe an object's motion in terms of acceleration	TX2_US210230CD	Uniform Linear Motion (TX2_US210230CD)	Part 1 of the Activity Object describes motion in terms of an object's acceleration and other variables.	
174	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(v) calculate an object's motion in terms of position	TX2_US210230CD	Uniform Linear Motion (TX2_US210230CD)	In Part 2 and Part 3 of the Activity Object, students must calculate an object's motion in terms of position to construct a chart.	Q2-Q4-Q6-Q8 in the Assessment section ask students to calculate an object's motion in terms of position.
175	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(v) calculate an object's motion in terms of position	TX2_US2102A02	Position-Time Graph of Uniform One-Dimensional Motion (TX2_US2102A02)	The Animation demonstrates how to calculate an object's motion in terms of position and other variables.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
176	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(v) calculate an object's motion in terms of position	TX2_US2102A03	Velocity-Time Graph of One Dimensional Motion and Displacement (TX2_US2102A03)	The Animation demonstrates how to calculate an object's motion in terms of position.	
177	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(v) calculate an object's motion in terms of position	TX2_US210229CD	Motion with Constant Acceleration (TX2_US210229CD)	An interactive exercise in Part 2 of the Activity Object demonstrates how to calculate an object's motion in terms of position.	
178	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(vi) calculate an object's motion in terms of displacement	TX2_US210230CD	Uniform Linear Motion (TX2_US210230CD)	Part 1 of the Activity Object discusses the calculation of an object's motion in terms of displacement.	Q5-Q10 in the Assessment section ask students to calculate an object's motion in terms of displacement.
179	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(vi) calculate an object's motion in terms of displacement	TX2_US2102A03	Velocity-Time Graph of One Dimensional Motion and Displacement (TX2_US2102A03)	The Animation demonstrates how to calculate an object's motion in terms of displacement.	
180	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(vi) calculate an object's motion in terms of displacement	TX2_US210229CD	Motion with Constant Acceleration (TX2_US210229CD)	An interactive exercise in Part 2 of the Activity Object demonstrates how to calculate an object's motion in terms of displacement.	
181	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(vii) calculate an object's motion in terms of speed	TX2_US210230CD	Uniform Linear Motion (TX2_US210230CD)	In Parts 2 and 3 of the Activity Object, students must calculate an object's motion in terms of speed to complete and construct a chart.	Q3-Q7-Q9 in the Assessment section ask students to calculate an object's motion in terms of speed/velocity.
182	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(vii) calculate an object's motion in terms of speed	TX2_US210230CD	Uniform Linear Motion (TX2_US210230CD)		Q2-Q3-Q4 of the "Learner Journal" section of the Activity Sheet ask students to calculate an object's motion in terms of speed/velocity.
183	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(vii) calculate an object's motion in terms of speed	TX2_US210229CD	Motion with Constant Acceleration (TX2_US210229CD)	An interactive exercise in Part 2 of the Activity Object demonstrates how to calculate an object's motion in terms of speed with constant acceleration.	
184	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(vii) calculate an object's motion in terms of speed	TX2_US2102A03	Velocity-Time Graph of One Dimensional Motion and Displacement (TX2_US2102A03)	The Animation demonstrates how to calculate an object's motion in terms of speed.	
185	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(viii) calculate an object's motion in terms of acceleration	TX2_US210229CD	Motion with Constant Acceleration (TX2_US210229CD)	An interactive exercise in Part 2 of the Activity Object demonstrates how to calculate an object's motion in terms of acceleration.	Q8-Q9-Q10 in the Assessment section ask students to calculate an object's motion in terms of acceleration.
186	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(A) describe and calculate anobject's motion in terms of position, displacement, speed, and acceleration	(viii) calculate an object's motion in terms of acceleration	TX2_US2102A03	Velocity-Time Graph of One Dimensional Motion and Displacement (TX2_US2102A03)	The Animation demonstrates how to calculate an object's motion in terms of acceleration.	
187	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(B) measure and graph distance andspeed as a function of time using moving toys	(i) measure distance and speed as a function of time using moving toys	TX2_US210229CD	Motion with Constant Acceleration (TX2_US210229CD)	In Part 2 of the Activity Object, students measure distance and speed as a function of time.	Q2 of the "Learner Journal" section of the Activity Sheet asks students to measure the distance between dots that represent distance and speed as a function of time using a moving toy car.
188	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(B) measure and graph distance andspeed as a function of time using moving toys	(i) measure distance and speed as a function of time using moving toys	TX2_US210229CD	Motion with Constant Acceleration (TX2_US210229CD)	Part 3 of the Activity Object measures and graphs distance and speed as a function of time.	
189	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(B) measure and graph distance andspeed as a function of time using moving toys	(i) measure distance and speed as a function of time using moving toys	TX2_US210229CD	Motion with Constant Acceleration (TX2_US210229CD)	Part 4 of the Activity Object describes motion with constant acceleration in terms of distance, speed, and time.	
190	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(B) measure and graph distance andspeed as a function of time using moving toys	(i) measure distance and speed as a function of time using moving toys	TX2_US2102A03	Velocity-Time Graph of One Dimensional Motion and Displacement (TX2_US2102A03)	The Animation demonstrates how to measure distance and speed as a function of time.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
191	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(B) measure and graph distance andspeed as a function of time using moving toys	(i) measure distance and speed as a function of time using moving toys	TX2_US210230CD	Uniform Linear Motion (TX2_US210230CD)	An interactive activity in Part 2 of the Activity Object demonstrates how to measure distance and speed as a function of time.	
192	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(B) measure and graph distance andspeed as a function of time using moving toys	(ii) graph distance and speed as a function of time using moving toys	TX2_US210229CD	Motion with Constant Acceleration (TX2_US210229CD)	In Part 2 of the Activity Object, students graph distance and speed as a function of time.	Q2 of the "Learner Journal" section of the Activity Sheet asks students to graph distance and speed as a function of time using moving toys.
193	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(B) measure and graph distance andspeed as a function of time using moving toys	(ii) graph distance and speed as a function of time using moving toys	TX2_US210229CD	Motion with Constant Acceleration (TX2_US210229CD)	Part 3 of the Activity Object graphs distance and speed as a function of time.	
194	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(B) measure and graph distance andspeed as a function of time using moving toys	(ii) graph distance and speed as a function of time using moving toys	TX2_US210229CD	Motion with Constant Acceleration (TX2_US210229CD)	Part 4 of the Activity Object graphs distance and speed as a function of time.	
195	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(B) measure and graph distance andspeed as a function of time using moving toys	(ii) graph distance and speed as a function of time using moving toys	TX2_US210230CD	Uniform Linear Motion (TX2_US210230CD)	An interactive activity in Part 2 of the Activity Object demonstrates how to graph distance and speed as a function of time.	
196	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(B) measure and graph distance andspeed as a function of time using moving toys	(ii) graph distance and speed as a function of time using moving toys	TX2_US210230CD	Uniform Linear Motion (TX2_US210230CD)	An interactive activity in Part 3 of the Activity Object demonstrates how to graph distance and speed as a function of time.	
197	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(C) investigate how an object'smotion changes only when a net force is applied, including activities and equipment such as toy cars, vehicle restraints, sports activities, and classroom objects	(i) investigate how an object's motion changes only when a net force is applied, including [various] activities	TX2_US210105XP	Balanced and Unbalanced Forces (TX2_US210105XP)	In Parts 1, 2, and 3 of the Activity Object, students conduct experiments to investigate how an object's motion changes after net force is applied.	Q1-Q2 of the "Learner Journal" section of the Activity Sheet ask students how an object's motion changes under various conditions.
198	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(C) investigate how an object'smotion changes only when a net force is applied, including activities and equipment such as toy cars, vehicle restraints, sports activities, and classroom objects	(i) investigate how an object's motion changes only when a net force is applied, including [various] activities	TX2_US210105XP	Balanced and Unbalanced Forces (TX2_US210105XP)	Part 4 of the Activity Object describes the concept of net force.	
199	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(C) investigate how an object'smotion changes only when a net force is applied, including activities and equipment such as toy cars, vehicle restraints, sports activities, and classroom objects	(i) investigate how an object's motion changes only when a net force is applied, including [various] activities	TX2_US210209MS	Solving Problems with Newton's Second Law (TX2_US210209MS)	In Part 3 of the Activity Object, students investigate how varying net force influences various objects' motions under a variety of conditions.	
200	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(C) investigate how an object'smotion changes only when a net force is applied, including activities and equipment such as toy cars, vehicle restraints, sports activities, and classroom objects	(ii) investigate how an object's motion changes only when a net force is applied, including [various] equipment	TX2_US210209MS	Solving Problems with Newton's Second Law (TX2_US210209MS)	In Part 3 of the Activity Object, students investigate how varying net force influences various objects' motions using examples of various types of equipment.	Q1-Q2-Q4-Q5-Q6-Q7-Q8-Q9-Q10 in the Assessment section ask students how an object's motion changes when a net force is applied. The questions contain examples of many different types of equipment.
201	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(C) investigate how an object'smotion changes only when a net force is applied, including activities and equipment such as toy cars, vehicle restraints, sports activities, and classroom objects	(ii) investigate how an object's motion changes only when a net force is applied, including [various] equipment	TX2_US210105XP	Balanced and Unbalanced Forces (TX2_US210105XP)	In Parts 1, 2, and 3 of the Activity Object, students conduct experiments to investigate how an object's motion changes based on the net force using examples of various types of equipment.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
202	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(D) assess the relationship betweenforce, mass, and acceleration, noting the relationship is independent of the nature of the force, using equipment such as dynamic carts, moving toys, vehicles, and falling objects	(i) assess the relationship between force, mass, and acceleration, noting the relationship is independent of the nature of the force, using [various] equipment	TX2_US210209MS	Solving Problems with Newton's Second Law (TX2_US210209MS)	Part 1 of the Activity Object describes the relationship between force, mass, and acceleration using a sled and a grocery cart.	Q1-Q4-Q5-Q6 of the Enrichment Sheet ask students to assess the relationship between force, mass, and acceleration, noting the relationship is independent of the nature of the force.
203	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(D) assess the relationship betweenforce, mass, and acceleration, noting the relationship is independent of the nature of the force, using equipment such as dynamic carts, moving toys, vehicles, and falling objects	(i) assess the relationship between force, mass, and acceleration, noting the relationship is independent of the nature of the force, using [various] equipment	TX2_US210209MS	Solving Problems with Newton's Second Law (TX2_US210209MS)	In the Enrichment Sheet, students are presented with a description of, and answer a question about, the relationship between force, mass, and acceleration by using a formula derived from Newton's second law of motion with emphasis that the relation is independent of the nature of the force.	
204	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(D) assess the relationship betweenforce, mass, and acceleration, noting the relationship is independent of the nature of the force, using equipment such as dynamic carts, moving toys, vehicles, and falling objects	(i) assess the relationship between force, mass, and acceleration, noting the relationship is independent of the nature of the force, using [various] equipment	TX2_US210209MS	Solving Problems with Newton's Second Law (TX2_US210209MS)	Part 2 of the Activity Object describes how to assess the relationship between force, mass, and acceleration by using a formula derived from Newton's second law of motion and a rocket as an example.	
205	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(D) assess the relationship betweenforce, mass, and acceleration, noting the relationship is independent of the nature of the force, using equipment such as dynamic carts, moving toys, vehicles, and falling objects	(i) assess the relationship between force, mass, and acceleration, noting the relationship is independent of the nature of the force, using [various] equipment	TX2_US210209MS	Solving Problems with Newton's Second Law (TX2_US210209MS)	In Part 3 of the Activity Object, students assess the relationship between force, mass, and acceleration by using a formula derived from Newton's second law of motion and solve problems associated with cars, dump trucks, and boxes.	
206	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(E) apply the concept ofconservation of momentum using action and reaction forces such as students on skateboards	(i) apply the concept of conservation of momentum using action and reaction forces	TX2_US210308CD	Conservation of Momentum in One Dimension (TX2_US210308CD)	Part 1 of the Activity Object presents an application of the concept of conservation of momentum using action and reaction forces.	Q1-Q2-Q3 of the "Learner Journal" section of the Activity Sheet ask students about conservation of momentum and action-reaction forces.
207	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(E) apply the concept ofconservation of momentum using action and reaction forces such as students on skateboards	(i) apply the concept of conservation of momentum using action and reaction forces	TX2_US210308CD	Conservation of Momentum in One Dimension (TX2_US210308CD)	In Part 2 of the Activity Object, students complete an activity to observe and record data based on applying the concept of conservation of momentum using action and reaction forces.	The Activity Sheet includes an activity on the application of the concept of conservation of momentum using action and reaction forces.
208	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(E) apply the concept ofconservation of momentum using action and reaction forces such as students on skateboards	(i) apply the concept of conservation of momentum using action and reaction forces	TX2_US210308CD	Conservation of Momentum in One Dimension (TX2_US210308CD)	Part 3 of the Activity Object presents additional information regarding the application of the concept of conservation of momentum using action and reaction forces.	
209	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(E) apply the concept ofconservation of momentum using action and reaction forces such as students on skateboards	(i) apply the concept of conservation of momentum using action and reaction forces	TX2_US210308CD	Conservation of Momentum in One Dimension (TX2_US210308CD)	Part 4 of the Activity Object summarizes the application of the concept of conservation of momentum using action and reaction forces.	
210	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(F) describe the gravitationalattraction between objects of different masses at different distances, including satellites		TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	Part 1 of the Activity Object describes the gravitational attraction between objects of different masses including an apple and the Earth.	Q4-Q5-Q7 in the Assessment section ask students about the gravitational attraction between objects of different masses at different distances, including satellites.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
211	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(F) describe the gravitationalattraction between objects of different masses at different distances, including satellites		TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	In Part 2 of the Activity Object, students conduct an experiment that examines the attraction between objects of different masses at different distances.	Q2 of the "Reflections" section of the Activity Sheet asks students about the gravitational attraction between objects of different masses at different distances, including satellites.
212	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(F) describe the gravitationalattraction between objects of different masses at different distances, including satellites		TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	Part 3 of the Activity Object describes the gravitational attraction between objects of different masses at different distances.	Questions in the Activity Sheet ask students about the gravitational attraction between objects of different masses.
213	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(F) describe the gravitationalattraction between objects of different masses at different distances, including satellites		TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	Part 4 of the Activity Object describes the gravitational attraction between objects of different masses including the attraction between the Earth and the moon (a satellite).	
214	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(G) examine electrical force as auniversal force between any two charged objects and compare the relative strength of the electrical force and gravitational force	(i) examine electrical force as a universal force between any two charged objects	TX2_US230101CD	Coulomb's Law (TX2_US230101CD)	Part 1 of the Activity Object describes electrostatic force as a universal force between any two charged objects. In Part 2 of the Activity Object, students examine the magnitude of the electrostatic force between two charged spheres, varying the sign of the charge and the distance.	Q1-Q10 in the Assessment section ask student about electrical force as a universal force between any two charged objects.
215	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(G) examine electrical force as auniversal force between any two charged objects and compare the relative strength of the electrical force and gravitational force	(i) examine electrical force as a universal force between any two charged objects	TX2_US230101CD	Coulomb's Law (TX2_US230101CD)	Part 3 of the Activity Object summarizes the examination of the magnitude of the electrostatic force between two charged spheres completed in Part 2. Part 4 uses Coulomb's law to describe electrostatic force and provides several examples of applications.	Questions in the Activity Sheet ask students about electrostatic force as a universal force between two charged objects.
216	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(G) examine electrical force as auniversal force between any two charged objects and compare the relative strength of the electrical force and gravitational force	(i) examine electrical force as a universal force between any two charged objects	TX2_US2301A11	Calculation of Coulomb's Law (TX2_US2301A11)	The Animation examines the electrical force between charged particles in the context of making calculations based on Coulomb's law.	
217	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(G) examine electrical force as auniversal force between any two charged objects and compare the relative strength of the electrical force and gravitational force	(i) examine electrical force as a universal force between any two charged objects	TX2_US2301A02	Forces Between Charges: Coulomb's Law (TX2_US2301A02)	The Animation examines the electrical force between charged particles in the context of Coulomb's law.	
218	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(G) examine electrical force as auniversal force between any two charged objects and compare the relative strength of the electrical force and gravitational force	(ii) compare the relative strength of the electrical force and gravitational force	TX2_US230101CD	Coulomb's Law (TX2_US230101CD)	The Enrichment Sheet compares the relative strength of an electrical force and a gravitational force.	Q1-Q2-Q3 of the Enrichment Sheet 2 ask students to compare the relative strength of the electrical force and gravitational force.
219	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(G) examine electrical force as auniversal force between any two charged objects and compare the relative strength of the electrical force and gravitational force	(ii) compare the relative strength of the electrical force and gravitational force	TX2_US230101CD	Coulomb's Law (TX2_US230101CD)	The Enrichment Sheet compares the relative strength of an electrical force and a gravitational force.	Q1 of the Enrichment Sheet 1 asks students to compare the relative strength of the electrical force and gravitational force.
220	(4) Science concepts. Thestudent knows concepts of force and motion evident in everyday life. The student is expected to:	(G) examine electrical force as auniversal force between any two charged objects and compare the relative strength of the electrical force and gravitational force	(ii) compare the relative strength of the electrical force and gravitational force	TX2_US210405CD	Newton's Law of Universal Gravitation (TX2_US210405CD)	The Enrichment Sheet compares the relative strength of an electrical force and a gravitational force.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
221	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(i) recognize that objects in motion have kinetic energy	TX2_US210311CD	Roller Coaster Design: Gravitational Potential and Kinetic Energy (TX2_US210311CD)	Part 3 of the Activity Object describes and requires students to recognize kinetic energy by using a cart on a roller coaster as an example of an object with varying kinetic energy.	Q2-Q3-Q4-Q5-Q7-Q8-Q9-Q10 in the Assessment section require that students recognize that objects in motion have kinetic energy.
222	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(i) recognize that objects in motion have kinetic energy	TX2_US210311CD	Roller Coaster Design: Gravitational Potential and Kinetic Energy (TX2_US210311CD)	In Part 4 of the Activity Object, students must recognize and identify where on a roller coaster a cart has the greatest level of kinetic energy.	
223	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(i) recognize that objects in motion have kinetic energy	TX2_US210311CD	Roller Coaster Design: Gravitational Potential and Kinetic Energy (TX2_US210311CD)	Part 5 of the Activity Object describes kinetic energy and uses a cart on a roller coaster to demonstrate how an object can have varying kinetic energy.	
224	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(i) recognize that objects in motion have kinetic energy	TX2_US210307CD	Conservation of Mechanical Energy (TX2_US210307CD)	In Part 3 of the Activity Object, students must recognize and identify the point at which kinetic energy is at a minimum and maximum.	
225	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(i) recognize that objects in motion have kinetic energy	TX2_US210307CD	Conservation of Mechanical Energy (TX2_US210307CD)	Part 4 of the Activity Object discusses that objects in motion have kinetic energy.	
226	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(ii) recognize that substances in motion have kinetic energy	TX2_US2103A14	Thermal and Kinetic Energy (TX2_US2103A14)	The Animation describes how kinetic energy is related to the motion of particles in a substance.	Q2-Q3-Q4 of the "After the Animation" section of the Question-Answer Sheet require that students recognize that substances in motion have kinetic energy.
227	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(ii) recognize that substances in motion have kinetic energy	TX2_US2103A14	Thermal and Kinetic Energy (TX2_US2103A14)		A question in the Question-Answer Sheet asks students to recognize that kinetic energy is related to the motion of particles in a substance.
228	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(ii) recognize that substances in motion have kinetic energy	TX2_US2103A13	Sound Energy (TX2_US2103A13)	The end of the Animation discusses how sound energy can be converted into kinetic energy and cause substances to move.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
229	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(ii) recognize that substances in motion have kinetic energy	TX2_US2501A05	Temperature Measurements (TX2_US2501A05)	The Animation shows students how to recognize that, in the context of temperature, substances in motion have kinetic energy.	
230	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(ii) recognize that substances in motion have kinetic energy	TX2_US2501A01	Macroscopic Properties of Thermodynamic Systems (TX2_US2501A01)	The Animation shows students how to recognize that, in the context of temperature, substances in motion have kinetic energy.	
231	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(iii) demonstrate that objects in motion have kinetic energy	TX2_US210311CD	Roller Coaster Design: Gravitational Potential and Kinetic Energy (TX2_US210311CD)	Part 3 of the Activity Object describes and requires that students demonstrate that objects in motion have kinetic energy by using a cart on a roller coaster as an example of an object with varying kinetic energy.	Q3 of the "Reflections" section of the Activity Sheet asks students a question about demonstrating that objects in motion have kinetic energy.
232	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(iii) demonstrate that objects in motion have kinetic energy	TX2_US210311CD	Roller Coaster Design: Gravitational Potential and Kinetic Energy (TX2_US210311CD)	In Part 4 of the Activity Object, students must demonstrate where on a roller coaster a cart has the greatest level of kinetic energy and gravitational potential.	
233	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(iii) demonstrate that objects in motion have kinetic energy	TX2_US210311CD	Roller Coaster Design: Gravitational Potential and Kinetic Energy (TX2_US210311CD)	Part 5 of the Activity Object describes kinetic energy and uses a cart on a roller coaster to demonstrate how an object can have varying kinetic energy.	
234	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(iii) demonstrate that objects in motion have kinetic energy	TX2_US210307CD	Conservation of Mechanical Energy (TX2_US210307CD)	Part 2 of the Activity Object demonstrates that objects in motion have kinetic energy.	
235	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(iii) demonstrate that objects in motion have kinetic energy	TX2_US210307CD	Conservation of Mechanical Energy (TX2_US210307CD)	Part 4 of the Activity Object discusses the fact that objects in motion have kinetic energy.	
236	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(iv) demonstrate that substances in motion have kinetic energy	TX2_US2103A14	Thermal and Kinetic Energy (TX2_US2103A14)	The Animation demonstrates how kinetic energy is related to the motion of particles in a substance.	Q5 of the "After the Animation" section of the Question-Answer Sheet asks students a question about demonstrating that substances in motion have kinetic energy.

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
237	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(iv) demonstrate that substances in motion have kinetic energy	TX2_US2103A14	Thermal and Kinetic Energy (TX2_US2103A14)		A question in the Question-Answer Sheet asks students how to demonstrate that substances in motion have kinetic energy.
238	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(iv) demonstrate that substances in motion have kinetic energy	TX2_US2103A13	Sound Energy (TX2_US2103A13)	The end of the Animation demonstrates how sound energy can be converted into kinetic energy and cause substances to move.	
239	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(iv) demonstrate that substances in motion have kinetic energy	TX2_US2501A05	Temperature Measurements (TX2_US2501A05)	The Animation demonstrates, in the context of temperature, that substances in motion have kinetic energy.	
240	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(A) recognize and demonstrate thatobjects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins	(iv) demonstrate that substances in motion have kinetic energy	TX2_US2501A01	Macroscopic Properties of Thermodynamic Systems (TX2_US2501A01)	The Animation demonstrates, in the context of temperature, that substances in motion have kinetic energy.	
241	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(B) demonstrate common forms ofpotential energy, including gravitational, elastic, and chemical, such as a ball on an inclined plane, springs, and batteries	(i) demonstrate common forms of potential energy, including gravitational	TX2_US210310XP	Gravitational Potential Energy: Seeing the Impact in the Sand (TX2_US210310XP)	Part 1 of the Activity Object demonstrates objects with gravitational potential energy.	Q2 of the "Reflections" section of the Activity Sheet asks students a question about demonstrating common forms of potential energy, including gravitational.
242	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(B) demonstrate common forms ofpotential energy, including gravitational, elastic, and chemical, such as a ball on an inclined plane, springs, and batteries	(i) demonstrate common forms of potential energy, including gravitational	TX2_US210310XP	Gravitational Potential Energy: Seeing the Impact in the Sand (TX2_US210310XP)	Part 3 of the Activity Object demonstrates objects with gravitational potential energy.	
243	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(B) demonstrate common forms ofpotential energy, including gravitational, elastic, and chemical, such as a ball on an inclined plane, springs, and batteries	(i) demonstrate common forms of potential energy, including gravitational	TX2_US210311CD	Roller Coaster Design: Gravitational Potential and Kinetic Energy (TX2_US210311CD)	Part 5 of the Activity Object describes kinetic energy and uses a cart on a roller coaster to demonstrate an object with varying gravitational potential (i.e., potential energy).	
244	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(B) demonstrate common forms ofpotential energy, including gravitational, elastic, and chemical, such as a ball on an inclined plane, springs, and batteries	(i) demonstrate common forms of potential energy, including gravitational	TX2_US210307CD	Conservation of Mechanical Energy (TX2_US210307CD)	Part 3 of the Activity Object demonstrates gravitational potential energy.	
245	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(B) demonstrate common forms ofpotential energy, including gravitational, elastic, and chemical, such as a ball on an inclined plane, springs, and batteries	(i) demonstrate common forms of potential energy, including gravitational	TX2_US210307CD	Conservation of Mechanical Energy (TX2_US210307CD)	Part 4 of the Activity Object discusses gravitational potential energy.	
246	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(B) demonstrate common forms ofpotential energy, including gravitational, elastic, and chemical, such as a ball on an inclined plane, springs, and batteries	(ii) demonstrate common forms of potential energy, including elastic	TX2_US2103A12	Elastic Potential Energy (TX2_US2103A12)	The Animation demonstrates elastic potential energy.	Q2 of the Enrichment Sheet asks students a question about demonstrating common forms of potential energy, including elastic.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
247	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(B) demonstrate common forms ofpotential energy, including gravitational, elastic, and chemical, such as a ball on an inclined plane, springs, and batteries	(ii) demonstrate common forms of potential energy, including elastic	TX2_US2103A12	Elastic Potential Energy (TX2_US2103A12)		A question in the Question-Answer Sheet asks students about elastic potential energy.
248	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(B) demonstrate common forms ofpotential energy, including gravitational, elastic, and chemical, such as a ball on an inclined plane, springs, and batteries	(ii) demonstrate common forms of potential energy, including elastic	TX2_US2103A12	Elastic Potential Energy (TX2_US2103A12)	The Enrichment Sheet discusses elastic potential energy.	
249	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(B) demonstrate common forms ofpotential energy, including gravitational, elastic, and chemical, such as a ball on an inclined plane, springs, and batteries	(iii) demonstrate common forms of potential energy, including chemical	TX2_US4301A16	Concept of Bonding (TX2_US4301A16)	The Animation demonstrates chemical potential energy.	A question in the Question-Answer Sheet asks about chemical potential energy.
250	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(B) demonstrate common forms ofpotential energy, including gravitational, elastic, and chemical, such as a ball on an inclined plane, springs, and batteries	(iii) demonstrate common forms of potential energy, including chemical	TX2_US4301A16	Concept of Bonding (TX2_US4301A16)	The Enrichment Sheet describes chemical potential energy.	
251	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(B) demonstrate common forms ofpotential energy, including gravitational, elastic, and chemical, such as a ball on an inclined plane, springs, and batteries	(iii) demonstrate common forms of potential energy, including chemical	TX2_US480502XP	Batteries, Chemicals, and Potential Difference (TX2_US480502XP)	The Lab Sheet involves an activity in which chemical potential energy is demonstrated.	A question in the Lab Sheet asks students about the activity in which chemical potential energy is demonstrated.
252	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(B) demonstrate common forms ofpotential energy, including gravitational, elastic, and chemical, such as a ball on an inclined plane, springs, and batteries	(iii) demonstrate common forms of potential energy, including chemical	TX2_US4802A01	Energy in Chemical Systems (TX2_US4802A01)	The Animation demonstrates chemical potential energy.	
253	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(B) demonstrate common forms ofpotential energy, including gravitational, elastic, and chemical, such as a ball on an inclined plane, springs, and batteries	(iii) demonstrate common forms of potential energy, including chemical	TX2_US4802A01	Energy in Chemical Systems (TX2_US4802A01)		A question in the Question-Answer Sheet asks about chemical potential energy.
254	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(C) demonstrate that moving electriccharges produce magnetic forces and moving magnets produce electric forces	(i) demonstrate that moving electric charges produce magnetic forces	TX2_US230403CD	Magnetic Force on a Current-Carrying Wire (TX2_US230403CD)	Part 1 of the Activity Object demonstrates that moving electric charges produce magnetic forces.	A question in the Activity Sheet asks students to explain how their investigations demonstrate that moving electric charges produce magnetic forces.
255	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(C) demonstrate that moving electriccharges produce magnetic forces and moving magnets produce electric forces	(i) demonstrate that moving electric charges produce magnetic forces	TX2_US230402CD	Magnetic Field of a Current-Carrying Infinite Wire (TX2_US230402CD)	Part 1 of the Activity Object demonstrates that moving electric charges produce magnetic forces.	
256	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(C) demonstrate that moving electriccharges produce magnetic forces and moving magnets produce electric forces	(i) demonstrate that moving electric charges produce magnetic forces	TX2_US230302CD	Designing an Electric Motor (TX2_US230302CD)	Part 1 of the Activity Object demonstrates, using an electric car, that moving electric charges produce magnetic forces.	
257	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(C) demonstrate that moving electriccharges produce magnetic forces and moving magnets produce electric forces	(i) demonstrate that moving electric charges produce magnetic forces	TX2_US230303XP	Electric Motor (TX2_US230303XP)	Part 1 of the Activity Object demonstrates, by constructing an electric motor, that moving electric charges produce magnetic forces.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
258	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(C) demonstrate that moving electriccharges produce magnetic forces and moving magnets produce electric forces	(ii) demonstrate that moving magnets produce electric forces	TX2_US2304A02	Induced Current (TX2_US2304A02)	The Animation demonstrates that moving magnets produce electric forces.	A question in the Question-Answer Sheet asks students to demonstrate how moving magnets produce electric forces in the context of induced currents.
259	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(D) investigate the law ofconservation of energy		TX2_US210307CD	Conservation of Mechanical Energy (TX2_US210307CD)	Part 1 of the Activity Object describes conservation of energy.	Q1-Q10 in the Assessment section ask students about conservation of energy.
260	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(D) investigate the law ofconservation of energy		TX2_US210307CD	Conservation of Mechanical Energy (TX2_US210307CD)	In an interactive activity in Part 2 of the Activity Object, students investigate conservation of energy.	
261	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(i) investigate the movement of thermal energy through solids by convection	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation describes and investigates the movement of thermal energy through solids by convection, as well as by conduction and radiation.	Q2 of the "Analyze" section of the Lab Sheet asks students to investigate the movement of thermal energy through solids by convection (and conduction and radiation) by completing a grid, providing examples to support their findings, and discussing whether convection can occur in solids.
262	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(ii) investigate the movement of thermal energy through solids by conduction	TX2_US250102XP	Heat Conduction (TX2_US250102XP)	In Part 1 of the Activity Object, students investigate the movement of thermal energy through solids by conduction.	Q1-Q2 of the "Reflections" section of the Activity Sheet ask students about the movement of thermal energy through solids by conduction.
263	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(ii) investigate the movement of thermal energy through solids by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation describes and investigates the movement of thermal energy through solids by conduction, as well as by convection and radiation.	Q1 of the "After the Animation" section of the Question-Answer Sheet asks students about the movement of thermal energy through solids by conduction.
264	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(iii) investigate the movement of thermal energy through solids by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation describes and investigates the movement of thermal energy through solids and heat transfer via radiation.	A question in the Question-Answer Sheet asks about the movement of thermal energy though solids by radiation.
265	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(iii) investigate the movement of thermal energy through solids by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes and investigates the movement of thermal energy through solids by radiation.	
266	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(iii) investigate the movement of thermal energy through solids by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)		A question in the Lab Sheet asks students to investigate the movement of thermal energy through solids by radiation.

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
267	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(iii) investigate the movement of thermal energy through solids by radiation	TX2_US2501A04	Radiation (TX2_US2501A04)	The Animation describes and investigates the movement of thermal energy through solids by radiation.	
268	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(iii) investigate the movement of thermal energy through solids by radiation	TX2_US4201A10	Black-Body Radiation and Light Quantas (TX2_US4201A10)	The Animation describes and investigates electromagnetic radiation.	
269	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(iv) investigate the movement of thermal energy through liquids by convection	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation describes and investigates the movement of thermal energy through liquids by convection.	A question in the Question-Answer sheet asks students about the movement of thermal energy through liquids by convection.
270	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(iv) investigate the movement of thermal energy through liquids by convection	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes and investigates the movement of thermal energy through liquids by convection.	Q1-Q2 in the Enrichment Sheet ask students to investigate the movement of thermal energy through liquids by convection.
271	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(v) investigate the movement of thermal energy through liquids by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation describes and investigates the movement of thermal energy through liquids by conduction, as well as by convection and radiation.	A question in the Question-Answer sheet asks students about the movement of thermal energy through liquids by conduction.
272	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(v) investigate the movement of thermal energy through liquids by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes and investigates the movement of thermal energy through liquids by conduction.	
273	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(v) investigate the movement of thermal energy through liquids by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)		A question in the Lab Sheet asks students to investigate the movement of thermal energy through liquids by conduction.
274	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(vi) investigate the movement of thermal energy through liquids by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation describes and investigates the movement of thermal energy through liquids and heat transfer via radiation.	A question in the Question-Answer Sheet asks about the movement of thermal energy through liquids by radiation.

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
275	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(vi) investigate the movement of thermal energy through liquids by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes and investigates the movement of thermal energy through liquids by radiation.	
276	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(vi) investigate the movement of thermal energy through liquids by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)		A question in the Lab Sheet asks students to investigate the movement of thermal energy through liquids by radiation.
277	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(vii) investigate the movement of thermal energy through gases by convection	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation describes and investigates the movement of thermal energy through gases by convection.	Q1-Q2 of the "After the Animation" section of the Question-Answer Sheet ask students to investigate the movement of thermal energy through gases by convection.
278	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(vii) investigate the movement of thermal energy through gases by convection	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes and investigates the movement of thermal energy through gases by convection.	Q1-Q2 in the Enrichment Sheet ask students to investigate the movement of thermal energy through gases by convection.
279	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(viii) investigate the movement of thermal energy through gases by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation describes and investigates the movement of thermal energy through gases by conduction, as well as by convection and radiation.	A question in the Question-Answer sheet asks students about the movement of thermal energy through gases by conduction.
280	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(viii) investigate the movement of thermal energy through gases by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes and investigates the movement of thermal energy through gases by conduction.	
281	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(viii) investigate the movement of thermal energy through gases by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)		A question in the Lab Sheet asks students to investigate the movement of thermal energy through gases by conduction.
282	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(viii) investigate the movement of thermal energy through gases by conduction	TX2_US2501A04	Radiation (TX2_US2501A04)	The Animation describes and investigates the movement of thermal energy through gases by conduction.	

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
283	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(viii) investigate the movement of thermal energy through gases by conduction	TX2_US240101XP	Light Intensity and Distance from the Source (TX2_US240101XP)	In Parts 2 and 3 of the Activity Object, students conduct investigations manipulating the distance of a lamp and observing the effect on temperature change.	
284	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(ix) investigate the movement of thermal energy through gases by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation describes and investigates the movement of thermal energy through gases and heat transfer via radiation.	A question in the Question-Answer Sheet asks about the movement of thermal energy through gases by radiation.
285	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(ix) investigate the movement of thermal energy through gases by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes and investigates the movement of thermal energy through gases by radiation.	
286	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(ix) investigate the movement of thermal energy through gases by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)		A question in the Lab Sheet asks students to investigate the movement of thermal energy through gases by radiation.
287	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(ix) investigate the movement of thermal energy through gases by radiation	TX2_US2501A04	Radiation (TX2_US2501A04)	The Animation describes and investigates the movement of thermal energy through gases by radiation.	
288	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(ix) investigate the movement of thermal energy through gases by radiation	TX2_US240101XP	Light Intensity and Distance from the Source (TX2_US240101XP)	In Parts 2 and 3 of the Activity Object, students conduct investigations manipulating the distance of a lamp and observing the effect on temperature change.	
289	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(x) demonstrate the movement of thermal energy through solids by convection	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation uses examples to demonstrate the movement of thermal energy through solids by convection, as well as by conduction and radiation.	A question in the Lab Sheet asks students to give examples that demonstrate the movement of thermal energy through solids by convection.
290	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xi) demonstrate the movement of thermal energy through solids by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation uses examples to demonstrate the movement of thermal energy through solids by conduction, as well as by convection and radiation.	A question in the Question-Answer Sheet asks students to demonstrate the movement of thermal energy through solids by conduction.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
291	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xi) demonstrate the movement of thermal energy through solids by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes the movement of thermal energy through solids by conduction and asks students a question about demonstrating such movement.	
292	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xi) demonstrate the movement of thermal energy through solids by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)		A question in the Lab Sheet asks students to give examples that demonstrate the movement of thermal energy through solids by conduction.
293	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xii) demonstrate the movement of thermal energy through solids by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation uses examples to demonstrate the movement of thermal energy through solids and heat transfer via radiation.	A question in the Question-Answer Sheet asks students to demonstrate the movement of thermal energy through solids by radiation.
294	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xii) demonstrate the movement of thermal energy through solids by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes the movement of thermal energy through solids and heat transfer via radiation and asks students a question about demonstrating such movement.	
295	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xii) demonstrate the movement of thermal energy through solids by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)		A question in the Lab Sheet asks students to give examples that demonstrate the movement of thermal energy through solids and heat transfer by radiation.
296	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xii) demonstrate the movement of thermal energy through solids by radiation	TX2_US2501A04	Radiation (TX2_US2501A04)	The Animation uses examples to demonstrate the movement of thermal energy through solids by radiation.	
297	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xii) demonstrate the movement of thermal energy through solids by radiation	TX2_US240101XP	Light Intensity and Distance from the Source (TX2_US240101XP)	In Parts 2 and 3 of the Activity Object, students conduct investigations manipulating the distance of a lamp and observing the effect on temperature change.	
298	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xiii) demonstrate the movement of thermal energy through liquids by convection	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation uses examples to demonstrate the movement of thermal energy through liquids by convection, as well as by conduction and radiation.	A question in the Question-Answer Sheet asks students to demonstrate the movement of thermal energy through liquids by convection.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
299	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xiii) demonstrate the movement of thermal energy through liquids by convection	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes the movement of thermal energy through liquids by convection and asks students a question about demonstrating such movement.	
300	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xiii) demonstrate the movement of thermal energy through liquids by convection	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)		A question in the Lab Sheet asks students to give examples that demonstrate the movement of thermal energy through liquids by convection.
301	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xiv) demonstrate the movement of thermal energy through liquids by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation uses examples to demonstrate the movement of thermal energy through liquids by conduction, as well as by convection and radiation.	A question in the Question-Answer Sheet asks students to demonstrate the movement of thermal energy through liquids by conduction.
302	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xiv) demonstrate the movement of thermal energy through liquids by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes the movement of thermal energy through liquids by conduction and asks students a question about demonstrating such movement.	
303	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xiv) demonstrate the movement of thermal energy through liquids by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)		A question in the Lab Sheet asks students to give examples that demonstrate the movement of thermal energy through liquids by conduction.
304	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xv) demonstrate the movement of thermal energy through liquids by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation uses examples to demonstrate the movement of thermal energy through liquids and heat transfer via radiation.	A question in the Question-Answer Sheet asks students to demonstrate the movement of thermal energy through liquids by radiation.
305	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xv) demonstrate the movement of thermal energy through liquids by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes the movement of thermal energy through liquids and heat transfer via radiation and asks students a question about demonstrating such movement.	
306	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xv) demonstrate the movement of thermal energy through liquids by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)		A question in the Lab Sheet asks students to give examples that demonstrate the movement of thermal energy through liquids and heat transfer by radiation.

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
307	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xvi) demonstrate the movement of thermal energy through gases by convection	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation uses examples to demonstrate the movement of thermal energy through gases by convection, as well as by conduction and radiation.	A question in the Question-Answer Sheet asks students to demonstrate the movement of thermal energy through gases by convection.
308	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xvi) demonstrate the movement of thermal energy through gases by convection	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes the movement of thermal energy through gases by convection and asks students a question about demonstrating such movement.	
309	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xvi) demonstrate the movement of thermal energy through gases by convection	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)		A question in the Lab Sheet asks students to give examples that demonstrate the movement of thermal energy through gases by convection.
310	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xvii) demonstrate the movement of thermal energy through gases by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation uses examples to demonstrate the movement of thermal energy through gases by conduction, as well as by convection and radiation.	A question in the Question-Answer Sheet asks students to demonstrate the movement of thermal energy through gases by conduction.
311	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xvii) demonstrate the movement of thermal energy through gases by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes the movement of thermal energy through gases by conduction and asks students a question about demonstrating such movement.	
312	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xvii) demonstrate the movement of thermal energy through gases by conduction	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)		A question in the Lab Sheet asks students to give examples that demonstrate the movement of thermal energy through gases by conduction.
313	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xviii) demonstrate the movement of thermal energy through gases by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Animation uses examples to demonstrate the movement of thermal energy through gases and heat transfer via radiation.	A question in the Question-Answer Sheet asks students to demonstrate the movement of thermal energy through gases by radiation.
314	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xviii) demonstrate the movement of thermal energy through gases by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)	The Enrichment Sheet describes the movement of thermal energy through gases and heat transfer via radiation and asks students a question about demonstrating such movement.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
315	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xviii) demonstrate the movement of thermal energy through gases by radiation	TX2_US2501A03	Conduction, Convection and Radiation (TX2_US2501A03)		A question in the Lab Sheet asks students to give examples that demonstrate the movement of thermal energy through gases and heat transfer by radiation.
316	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xviii) demonstrate the movement of thermal energy through gases by radiation	TX2_US2501A04	Radiation (TX2_US2501A04)	The Animation uses examples to demonstrate the movement of thermal energy through gases by radiation.	
317	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(E) investigate and demonstrate themovement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems	(xviii) demonstrate the movement of thermal energy through gases by radiation	TX2_US240101XP	Light Intensity and Distance from the Source (TX2_US240101XP)	Part 4 of the Activity Object demonstrates solar radiation and the similarities with the light emitted from a lamp.	
318	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(F) evaluate the transfer of electricalenergy in series and parallel circuits and conductive materials	(i) evaluate the transfer of electrical energy in series circuits	TX2_US2301A07	Brightness and Resistance (TX2_US2301A07)	The Animation describes the transfer of electrical energy in series circuits.	Q1 of the "After the Animation" section of the Question-Answer Sheet asks students to evaluate the transfer of electrical energy in series circuits.
319	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(F) evaluate the transfer of electricalenergy in series and parallel circuits and conductive materials	(i) evaluate the transfer of electrical energy in series circuits	TX2_US230204CD	Applications of Ohm's Law on Closed Circuits (TX2_US230204CD)	Part 3 of the Activity Object describes how to evaluate the transfer of electrical energy in series circuits.	
320	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(F) evaluate the transfer of electricalenergy in series and parallel circuits and conductive materials	(i) evaluate the transfer of electrical energy in series circuits	TX2_US230204CD	Applications of Ohm's Law on Closed Circuits (TX2_US230204CD)	In Part 2 of the Activity Object, students evaluate the transfer of electrical energy in series circuits.	
321	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(F) evaluate the transfer of electricalenergy in series and parallel circuits and conductive materials	(i) evaluate the transfer of electrical energy in series circuits	TX2_US230207CD	Building Circuits: Light Bulbs in Series (TX2_US230207CD)	In the Activity Object, students determine how to connect circuit components for series circuits.	
322	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(F) evaluate the transfer of electricalenergy in series and parallel circuits and conductive materials	(ii) evaluate the transfer of electrical energy in parallel circuits	TX2_US2301A07	Brightness and Resistance (TX2_US2301A07)	The Animation describes the transfer of electrical energy in parallel circuits.	Q2 of the "After the Animation" section of the Question-Answer Sheet asks students to evaluate the transfer of electrical energy in parallel circuits.
323	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(F) evaluate the transfer of electricalenergy in series and parallel circuits and conductive materials	(ii) evaluate the transfer of electrical energy in parallel circuits	TX2_US230204CD	Applications of Ohm's Law on Closed Circuits (TX2_US230204CD)	Part 3 of the Activity Object describes how to evaluate the transfer of electrical energy in parallel circuits.	
324	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(F) evaluate the transfer of electricalenergy in series and parallel circuits and conductive materials	(ii) evaluate the transfer of electrical energy in parallel circuits	TX2_US230204CD	Applications of Ohm's Law on Closed Circuits (TX2_US230204CD)	In Part 2 of the Activity Object, students evaluate the transfer of electrical energy in parallel circuits.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
325	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(F) evaluate the transfer of electricalenergy in series and parallel circuits and conductive materials	(ii) evaluate the transfer of electrical energy in parallel circuits	TX2_US230208CD	Building Circuits: Light Bulbs in Parallel (TX2_US230208CD)	In the Activity Object, students determine how to connect circuit components for parallel circuits.	
326	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(F) evaluate the transfer of electricalenergy in series and parallel circuits and conductive materials	(iii) evaluate the transfer of electrical energy in conductive materials	TX2_US2301A06	The Purpose of the Utilization of Conduction and Insulation (TX2_US2301A06)	The Animation describes and evaluates the transfer of electrical energy in conductive materials.	Q1-Q2-Q3 of the "After the Animation" section of the Question-Answer Sheet ask students to evaluate the transfer of electrical energy in conductive materials.
327	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(F) evaluate the transfer of electricalenergy in series and parallel circuits and conductive materials	(iii) evaluate the transfer of electrical energy in conductive materials	TX2_US2301A10	Conductivity and Insulation (TX2_US2301A10)	The Animation describes and evaluates the transfer of electrical energy through conductive materials.	A question in the Question-Answer Sheet asks students about the transfer of electrical energy through conductive materials.
328	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(i) explore the characteristics of energy transferred by waves, including acoustic, as they superpose on one another	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Enrichment Sheet describes the characteristics of acoustic waves as they superpose on one another.	A question in the Enrichment Sheet asks students about the characteristics of acoustic waves as they superpose on one another.
329	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(i) explore the characteristics of energy transferred by waves, including acoustic, as they superpose on one another	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Animation explores the characteristics of energy transferred by acoustic waves as they superpose on one another.	A queston in the Question-Answer Sheet asks students about acoustic waves as they superpose on one another.
330	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(i) explore the characteristics of energy transferred by waves, including acoustic, as they superpose on one another	TX2_US2203A02	Sound Reflection (TX2_US2203A02)	The Animation describes how sounds may superpose on one another with a funnel-shaped object.	
331	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(ii) explore the characteristics of energy transferred by waves, including acoustic, as they bend around corners	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Enrichment Sheet describes the characteristics of acoustic waves as they bend around corners.	A question in the Enrichment Sheet asks students about the characteristics of acoustic waves as they bend around corners.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
332	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(ii) explore the characteristics of energy transferred by waves, including acoustic, as they bend around corners	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Animation explores the characteristics of acoustic waves as they propagate in various environments and bend around corners.	A queston in the Question-Answer Sheet asks students about acoustic waves as they bend around corners.
333	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(iii) explore the characteristics of energy transferred by waves, including acoustic, as they reflect off surfaces	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Enrichment Sheet describes the characteristics of acoustic waves as they reflect off surfaces.	A question in the Enrichment Sheet asks students about the characteristics of acoustic waves as they reflect off surfaces.
334	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(iii) explore the characteristics of energy transferred by waves, including acoustic, as they reflect off surfaces	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Animation explores the characteristics of acoustic waves as they propagate in various environments and reflect off surfaces.	
335	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(iii) explore the characteristics of energy transferred by waves, including acoustic, as they reflect off surfaces	TX2_US2103A13	Sound Energy (TX2_US2103A13)	The Animation describes the characteristics of acoustic waves as they propagate in various environments and reflect off objects and surfaces.	
336	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(iii) explore the characteristics of energy transferred by waves, including acoustic, as they reflect off surfaces	TX2_US2203A02	Sound Reflection (TX2_US2203A02)	The Animation discusses how acoustic wave energy reflects off surfaces.	
337	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(iii) explore the characteristics of energy transferred by waves, including acoustic, as they reflect off surfaces	TX2_US2203A03	The Formation of Echoes (TX2_US2203A03)	The Animation discusses how acoustic wave energy reflects off surfaces and forms echoes.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
338	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(iii) explore the characteristics of energy transferred by waves, including acoustic, as they reflect off surfaces	TX2_US2203A07	The Interaction of Sound with Objects (TX2_US2203A07)	The Animation discusses how acoustic wave energy reflects off objects and surfaces.	
339	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(iv) explore the characteristics of energy transferred by waves, including acoustic, as they are absorbed by materials	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Enrichment Sheet describes the characteristics of acoustic waves as they are absorbed by materials.	A question in the Enrichment Sheet asks students about the characteristics of acoustic waves as they are absorbed by materials.
340	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(iv) explore the characteristics of energy transferred by waves, including acoustic, as they are absorbed by materials	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Animation explores the characteristics of acoustic waves as they propagate in various environments and are absorbed by materials.	
341	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(iv) explore the characteristics of energy transferred by waves, including acoustic, as they are absorbed by materials	TX2_US2103A13	Sound Energy (TX2_US2103A13)	The Animation describes the characteristics of acoustic waves as they propogate in various environments and may be absorbed by materials and objects.	
342	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(iv) explore the characteristics of energy transferred by waves, including acoustic, as they are absorbed by materials	TX2_US2203A05	Sound Absorption (TX2_US2203A05)	The Animation discusses the absorption of acoustic wave energy by materials.	
343	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(iv) explore the characteristics of energy transferred by waves, including acoustic, as they are absorbed by materials	TX2_US2203A06	Different Objects Absorb Sound in a Different Manner (TX2_US2203A06)	The Animation discusses differences in the absorption of sound wave energy based on the material absorbing the sound.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
344	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(iv) explore the characteristics of energy transferred by waves, including acoustic, as they are absorbed by materials	TX2_US2203A07	The Interaction of Sound with Objects (TX2_US2203A07)	The Animation discusses the absorption of acoustic wave energy by materials.	
345	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(v) explore the characteristics of energy transferred by waves, including acoustic, as they change direction when entering new materials	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Enrichment Sheet describes the characteristics of acoustic waves as they change direction when entering new materials.	A question in the Enrichment Sheet asks students about the characteristics of acoustic waves as they change direction when entering new materials.
346	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(v) explore the characteristics of energy transferred by waves, including acoustic, as they change direction when entering new materials	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Animation explores how acoustic wave energy may change direction when entering new materials.	
347	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(v) explore the characteristics of energy transferred by waves, including acoustic, as they change direction when entering new materials	TX2_US2203A07	The Interaction of Sound with Objects (TX2_US2203A07)	The Animation discusses the absorption of acoustic wave energy by materials, including how they may change direction when entering new materials.	
348	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(v) explore the characteristics of energy transferred by waves, including acoustic, as they change direction when entering new materials	TX2_US2203A02	Sound Reflection (TX2_US2203A02)	The Animation discusses how acoustic wave energy may change direction when entering new materials, such as a solid.	
349	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(v) explore the characteristics of energy transferred by waves, including acoustic, as they change direction when entering new materials	TX2_US2203A06	Different Objects Absorb Sound in a Different Manner (TX2_US2203A06)	The Animation discusses how sound energy may change direction when entering a new material, such as a wall.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
350	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(vi) explore the characteristics of energy transferred by waves, including seismic, as they superpose on one another	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 1 describes the characteristics of seismic waves as they superpose on one another.	Questions in the Enrichment Sheet 1 assess students on their understanding of the characteristics of seismic waves as they superpose on one another.
351	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(vi) explore the characteristics of energy transferred by waves, including seismic, as they superpose on one another	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 2 describes the characteristics of seismic waves as they superpose on one another.	Questions in the Enrichment Sheet 2 assess students on their understanding of the characteristics of seismic waves as they superpose on one another.
352	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(vi) explore the characteristics of energy transferred by waves, including seismic, as they superpose on one another	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	The Animation explores the characteristics of seismic waves as they superpose on one another.	Q4 of the "After the Animation" section of the Question-Answer Sheet asks students about the characteristics of seismic waves as they superpose on one another.
353	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(vii) explore the characteristics of energy transferred by waves, including seismic, as they bend around corners	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 1 describes the characteristics of seismic waves as they propagate and bend.	Questions in the Enrichment Sheet 1 assess students on their understanding of the characteristics of seismic waves as they propagate and bend .
354	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(vii) explore the characteristics of energy transferred by waves, including seismic, as they bend around corners	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 2 describes the characteristics of seismic waves as they propagate and bend.	Questions in the Enrichment Sheet 2 assess students on their understanding of the characteristics of seismic waves as they propagate and bend .
355	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(vii) explore the characteristics of energy transferred by waves, including seismic, as they bend around corners	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	The Animation explores the characteristics of seismic waves as they propagate and bend.	Q4 of the "After the Animation" section of the Question-Answer Sheet asks students about the characteristics of seismic waves as they propagate and bend.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
356	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(viii) explore the characteristics of energy transferred by waves, including seismic, as they reflect off surfaces	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 1 describes the characteristics of seismic waves as they reflect off surfaces.	Questions in the Enrichment Sheet 1 assess students on their understanding of the characteristics of seismic waves as they reflect off surfaces.
357	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(viii) explore the characteristics of energy transferred by waves, including seismic, as they reflect off surfaces	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 2 describes the characteristics of seismic waves as they reflect off surfaces.	Questions in the Enrichment Sheet 2 assess students on their understanding of the characteristics of seismic waves as they reflect off surfaces.
358	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(viii) explore the characteristics of energy transferred by waves, including seismic, as they reflect off surfaces	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	The Animation explores the characteristics of seismic waves as they reflect off surfaces.	Q4 of the "After the Animation" section of the Question-Answer Sheet asks students about the characteristics of seismic waves as they reflect off surfaces.
359	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(ix) explore the characteristics of energy transferred by waves, including seismic, as they are absorbed by materials	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 1 describes the characteristics of seismic waves as they are absorbed by materials.	Questions in the Enrichment Sheet 1 assess students on their understanding of the characteristics of seismic waves as they are absorbed by materials.
360	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(ix) explore the characteristics of energy transferred by waves, including seismic, as they are absorbed by materials	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 2 describes the characteristics of seismic waves as they are absorbed by materials.	Questions in the Enrichment Sheet 2 assess students on their understanding of the characteristics of seismic waves as they are absorbed by materials.
361	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(ix) explore the characteristics of energy transferred by waves, including seismic, as they are absorbed by materials	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	The Animation explores the characteristics of seismic waves as they are absorbed by materials.	Q4 of the "After the Animation" section of the Question-Answer Sheet asks students about the characteristics of seismic waves as they are absorbed by materials.

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
362	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(x) explore the characteristics of energy transferred by waves, including seismic, as they change direction when entering new materials	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 1 describes the characteristics of seismic waves as they change directions when entering new materials.	Questions in the Enrichment Sheet 1 assess students on their understanding of the characteristics of seismic waves as they change directions when entering new materials.
363	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(x) explore the characteristics of energy transferred by waves, including seismic, as they change direction when entering new materials	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 2 describes the characteristics of seismic waves as they change directions when entering new materials.	Questions in the Enrichment Sheet 2 assess students on their understanding of the characteristics of seismic waves as they change directions when entering new materials.
364	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(x) explore the characteristics of energy transferred by waves, including seismic, as they change direction when entering new materials	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	The Animation explores the characteristics of seismic waves as they change directions when entering new materials.	Q4 of the "After the Animation" section of the Question-Answer Sheet asks students about the characteristics of seismic waves as they change directions when entering new materials.
365	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xi) explore the characteristics of energy transferred by waves, including light, as they superpose on one another	TX2_US2203A11	Light Interference (TX2_US2203A11)	The Animation explores the characteristics of light waves as they superpose on one another.	Questions in the Enrichment Sheet assess students on their understanding of the characteristics of light waves as they superpose on one another.
366	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xi) explore the characteristics of energy transferred by waves, including light, as they superpose on one another	TX2_US2203A11	Light Interference (TX2_US2203A11)		A question in the Question-Answer Sheet asks students about the characteristics of light waves as they superpose on one another.
367	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xii) explore the characteristics of energy transferred by waves, including light, as they bend around corners	TX2_US2203A11	Light Interference (TX2_US2203A11)	The Animation explores the characteristics of light waves as they propagate and bend around corners.	Questions in the Enrichment Sheet assess students on their understanding of the characteristics of light waves as they propagate and bend around corners.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
368	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xii) explore the characteristics of energy transferred by waves, including light, as they bend around corners	TX2_US240306CD	Reflection of Light from Plane Mirrors (TX2_US240306XP)	Part 1 of the Activity Object describes the characteristics of light wave energy and how light waves may be reflected by objects and can travel around corners.	
369	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xii) explore the characteristics of energy transferred by waves, including light, as they bend around corners	TX2_US240306CD	Reflection of Light from Plane Mirrors (TX2_US240306XP)	In Part 2 of the Activity Object, students explore the characteristics of light wave energy and how light waves may be reflected by objects and can travel around corners.	
370	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xii) explore the characteristics of energy transferred by waves, including light, as they bend around corners	TX2_US240307CD	Light Reflection Puzzle (TX2_US240307CD)	In Part 1 of the Activity Object, students must use mirrors to redirect light to shine around corners and through a doorway in order to unlock a treasure box.	
371	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xiii) explore the characteristics of energy transferred by waves, including light, as they reflect off surfaces	TX2_US2203A11	Light Interference (TX2_US2203A11)	The Animation explores the characteristics of light waves as they reflect off surfaces.	Questions in the Enrichment Sheet assess students on their understanding of the characteristics of light waves as they reflect off surfaces.
372	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xiii) explore the characteristics of energy transferred by waves, including light, as they reflect off surfaces	TX2_US240306CD	Reflection of Light from Plane Mirrors (TX2_US240306XP)	Part 1 of the Activity Object describes the characteristics of light wave energy and how light waves may be reflected by objects.	
373	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xiii) explore the characteristics of energy transferred by waves, including light, as they reflect off surfaces	TX2_US240306CD	Reflection of Light from Plane Mirrors (TX2_US240306XP)	In Part 2 of the Activity Object, students explore the characteristics of light wave energy and how light waves may be reflected by objects.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
374	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xiii) explore the characteristics of energy transferred by waves, including light, as they reflect off surfaces	TX2_US240307CD	Light Reflection Puzzle (TX2_US240307CD)	In Part 1 of the Activity Object, students must use mirrors to reflect light to shine through a doorway in order to unlock a treasure box.	
375	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xiii) explore the characteristics of energy transferred by waves, including light, as they reflect off surfaces	TX2_US240307CD	Light Reflection Puzzle (TX2_US240307CD)	Part 2 of the Activity Object discusses the reflection of light waves.	
376	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xiii) explore the characteristics of energy transferred by waves, including light, as they reflect off surfaces	TX2_US2403A01	Laws of Reflection (TX2_US2403A01)	The Animation discusses the reflection of waves and uses light waves as the primary example.	
377	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xiv) explore the characteristics of energy transferred by waves, including light, as they are absorbed by materials	TX2_US2203A11	Light Interference (TX2_US2203A11)	The Animation explores the characteristics of light waves as they are absorbed by materials.	Questions in the Enrichment Sheet assess students on their understanding of the characteristics of light waves as they are absorbed by materials.
378	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xiv) explore the characteristics of energy transferred by waves, including light, as they are absorbed by materials	TX2_US240101XP	Light Intensity and Distance from the Source (TX2_US240101XP)	Part 2 of the Activity Object presents an investigation in which students explore the characteristics of light waves as they are absorbed by a photovoltaic cell.	
379	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xiv) explore the characteristics of energy transferred by waves, including light, as they are absorbed by materials	TX2_US240101XP	Light Intensity and Distance from the Source (TX2_US240101XP)	Part 3 of the Activity Object presents an investigation in which students explore the characteristics of light waves as they are absorbed by a statue.	

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
380	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xiv) explore the characteristics of energy transferred by waves, including light, as they are absorbed by materials	TX2_US240101XP	Light Intensity and Distance from the Source (TX2_US240101XP)	Part 4 describes the investigations conducted in Parts 2 and 3, which presented investigations of the characteristics of light wave absorption by two materials, and concludes the background story introduced in Part 1.	
381	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xiv) explore the characteristics of energy transferred by waves, including light, as they are absorbed by materials	TX2_US240101XP	Light Intensity and Distance from the Source (TX2_US240101XP)		A question in the Question-Answer Sheet asks students about the characteristics of light waves as they are absorbed by materials.
382	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xv) explore the characteristics of energy transferred by waves, including light, as they change direction when entering new materials	TX2_US2203A11	Light Interference (TX2_US2203A11)	The Animation explores the characteristics of light waves as they change direction when entering new materials.	Questions in the Enrichment Sheet assess students on their understanding of the characteristics of light waves as they change direction when entering new materials.
383	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xv) explore the characteristics of energy transferred by waves, including light, as they change direction when entering new materials	TX2_US240201CD	Refraction of Light and Snell's Law (TX2_US240201CD)	Part 1 of the Activity Object describes the change of direction of light waves when entering new materials, in terms of refraction, and provides an example.	
384	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xv) explore the characteristics of energy transferred by waves, including light, as they change direction when entering new materials	TX2_US240201CD	Refraction of Light and Snell's Law (TX2_US240201CD)	Part 2 of the Activity Object provides further description of the change of direction of light waves when entering new materials, in terms of refraction.	
385	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xv) explore the characteristics of energy transferred by waves, including light, as they change direction when entering new materials	TX2_US240201CD	Refraction of Light and Snell's Law (TX2_US240201CD)	In Part 3 of the Activity Object, students explore how light waves change direction when entering a new material.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
386	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xv) explore the characteristics of energy transferred by waves, including light, as they change direction when entering new materials	TX2_US240201CD	Refraction of Light and Snell's Law (TX2_US240201CD)	Part 4 of the Activity Object summarizes the change of direction of light waves when entering new materials, in terms of refraction.	
387	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xv) explore the characteristics of energy transferred by waves, including light, as they change direction when entering new materials	TX2_US240308CD	Refraction of Light (TX2_US240308CD)	In Part 1 of the Activity Object, students explore the change in direction of light waves when they enter a new material.	
388	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xvi) explore the characteristics of energy transferred by waves, including waves on water, as they superpose on one another	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	Part 1 of the Activity Object describes the characteristics of water waves as they superpose on one another.	Questions in the Enrichment Sheet assess students on their understanding of the characteristics of water waves as they superpose on one another.
389	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xvi) explore the characteristics of energy transferred by waves, including waves on water, as they superpose on one another	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	Part 2 of the Activity Object describes the characteristics of water waves as they superpose on one another in the context of interference.	
390	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xvi) explore the characteristics of energy transferred by waves, including waves on water, as they superpose on one another	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	In Part 3 of the Activity Object, students explore the characteristics of water waves as they superpose on one another in the context of interference.	
391	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xvi) explore the characteristics of energy transferred by waves, including waves on water, as they superpose on one another	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	In Part 4 of the Activity Object, students explore the characteristics of water waves as they superpose on one another in the context of interference.	

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
392	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xvi) explore the characteristics of energy transferred by waves, including waves on water, as they superpose on one another	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	Part 5 of the Activity Object summarizes the characteristics of water waves as they superpose on one another in the context of interference.	
393	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xvii) explore the characteristics of energy transferred by waves, including waves on water, as they bend around corners	TX2_US2203A09	Diffraction of Water Waves (TX2_US2203A09)	The Animation explores the bending of water waves through diffraction.	A question in the Question-Answer Sheet asks students about the bending of water waves through diffraction.
394	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xvii) explore the characteristics of energy transferred by waves, including waves on water, as they bend around corners	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	The Enrichment Sheet describes the characteristics of water waves as they bend.	Questions in the Enrichment Sheet assess students on their understanding of the characteristics of water waves as they bend.
395	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xvii) explore the characteristics of energy transferred by waves, including waves on water, as they bend around corners	TX2_US2203A10	Reflection of Water Waves from Different Obstacles (TX2_US2203A10)	The Animation explores the bending of water waves through reflection.	
396	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xviii) explore the characteristics of energy transferred by waves, including waves on water, as they reflect off surfaces	TX2_US2203A10	Reflection of Water Waves from Different Obstacles (TX2_US2203A10)	The Animation explores water waves as they reflect off surfaces.	A question in the Question-Answer Sheet asks students about the characteristics of water waves as they reflect off surfaces.
397	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xviii) explore the characteristics of energy transferred by waves, including waves on water, as they reflect off surfaces	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	The Enrichment Sheet describes the characteristics of water waves as they reflect off surfaces.	Questions in the Enrichment Sheet assess students on their understanding of the characteristics of water waves as they reflect off surfaces.

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
398	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xix) explore the characteristics of energy transferred by waves, including waves on water, as they are absorbed by materials	TX2_US220304CD	Refraction of Water Waves (TX2_US220304CD)	In the Enrichment Sheet, students explore the characteristics of energy transferred by water waves as they are absorbed by materials.	
399	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xix) explore the characteristics of energy transferred by waves, including waves on water, as they are absorbed by materials	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	The Enrichment Sheet describes the characteristics of water waves as they are absorbed by materials.	Questions in the Enrichment Sheet assess students on their understanding of the characteristics of water waves as they are absorbed by materials.
400	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xix) explore the characteristics of energy transferred by waves, including waves on water, as they are absorbed by materials	TX2_US220304CD	Refraction of Water Waves (TX2_US220304CD)	Parts 2, 3, and 4 explore the refraction of water waves.	
401	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xix) explore the characteristics of energy transferred by waves, including waves on water, as they are absorbed by materials	TX2_US2203A09	Diffraction of Water Waves (TX2_US2203A09)	The Animation explores the diffraction of water waves.	A question in the Question-Answer Sheet asks students about the diffraction of water waves.
402	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xx) explore the characteristics of energy transferred by waves, including waves on water, as they change direction when entering new materials	TX2_US220304CD	Refraction of Water Waves (TX2_US220304CD)	In the Enrichment Sheet, students explore the characteristics of energy transferred by water waves as they change direction when entering new materials.	
403	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xx) explore the characteristics of energy transferred by waves, including waves on water, as they change direction when entering new materials	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	The Enrichment Sheet describes the characteristics of water waves as they change direction when entering new materials.	Questions in the Enrichment Sheet assess students on their understanding of the characteristics of water waves as they change direction when entering new materials.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
404	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xx) explore the characteristics of energy transferred by waves, including waves on water, as they change direction when entering new materials	TX2_US220304CD	Refraction of Water Waves (TX2_US220304CD)	In Part 2 of the Activity Object, students explore the characteristics of water waves as they change direction when entering new mediums.	
405	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xx) explore the characteristics of energy transferred by waves, including waves on water, as they change direction when entering new materials	TX2_US220304CD	Refraction of Water Waves (TX2_US220304CD)	Part 3 of the Activity Object describes the characteristics of water waves as they change direction when entering new mediums.	
406	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xx) explore the characteristics of energy transferred by waves, including waves on water, as they change direction when entering new materials	TX2_US220304CD	Refraction of Water Waves (TX2_US220304CD)	In Part 4 of the Activity Object, students explore the characteristics of water waves as they change direction when entering new mediums.	
407	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxi) explore the behaviors of energy transferred by waves, including acoustic, as they superpose on one another	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Animation explores the behaviors of acoustic waves as they superpose on one another.	Q4 of the "After the Animation" section of the Question-Answer Sheet asks students about the behaviors of energy transferred by waves, including acoustic, as they superpose on one another.
408	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxi) explore the behaviors of energy transferred by waves, including acoustic, as they superpose on one another	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Enrichment Sheet describes the behaviors of acoustic waves as they superpose on one another.	Q2 of the Enrichment Sheet asks students about the behaviors of energy transferred by waves, including acoustic, as they superpose on one another.
409	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxi) explore the behaviors of energy transferred by waves, including acoustic, as they superpose on one another	TX2_US2203A02	Sound Reflection (TX2_US2203A02)	The Animation explores how sounds may superpose on one another with a funnel-shaped object.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
410	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxii) explore the behaviors of energy transferred by waves, including acoustic, as they bend around corners	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Animation explores the behaviors of acoustic waves as they propagate in various environments and bend around corners.	Q2-Q3-Q4 of the "After the Animation" section of the Question-Answer Sheet asks students about the behaviors of energy transferred by waves, including acoustic, as they bend around corners.
411	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxii) explore the behaviors of energy transferred by waves, including acoustic, as they bend around corners	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Enrichment Sheet describes the behaviors of acoustic waves as they bend around corners.	Q4 of the Enrichment Sheet asks students about the behaviors of energy transferred by waves, including acoustic, as they bend around corners.
412	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxiii) explore the behaviors of energy transferred by waves, including acoustic, as they reflect off surfaces	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Animation explores the behaviors of acoustic waves as they reflect off surfaces.	Q1-Q2-Q4 of the "After the Animation" section of the Question-Answer Sheet asks students about the behaviors of energy transferred by waves, including acoustic, as they reflect off surfaces.
413	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxiii) explore the behaviors of energy transferred by waves, including acoustic, as they reflect off surfaces	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Enrichment Sheet describes the behaviors of acoustic waves as they reflect off surfaces.	Q1 of the Enrichment Sheet asks students about the behaviors of energy transferred by waves, including acoustic, as they reflect off surfaces.
414	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxiii) explore the behaviors of energy transferred by waves, including acoustic, as they reflect off surfaces	TX2_US2103A13	Sound Energy (TX2_US2103A13)	The Animation explores how acoustic wave energy may reflect off objects.	
415	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxiii) explore the behaviors of energy transferred by waves, including acoustic, as they reflect off surfaces	TX2_US2203A02	Sound Reflection (TX2_US2203A02)	The Animation discusses how acoustic wave energy reflects off surfaces.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
416	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxiii) explore the behaviors of energy transferred by waves, including acoustic, as they reflect off surfaces	TX2_US2203A03	The Formation of Echoes (TX2_US2203A03)	The Animation discusses how acoustic wave energy reflects off surfaces and forms echoes.	
417	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxiii) explore the behaviors of energy transferred by waves, including acoustic, as they reflect off surfaces	TX2_US2203A07	The Interaction of Sound with Objects (TX2_US2203A07)	The Animation discusses how acoustic wave energy reflects off objects and surfaces.	
418	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxiv) explore the behaviors of energy transferred by waves, including acoustic, as they are absorbed by materials	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Animation explores the behaviors of acoustic waves as they are absorbed by materials.	Q1-Q2-Q4 of the "After the Animation" section of the Question-Answer Sheet asks students about the behaviors of energy transferred by waves, including acoustic, as they are absorbed by materials.
419	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxiv) explore the behaviors of energy transferred by waves, including acoustic, as they are absorbed by materials	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Enrichment Sheet describes the behaviors of acoustic waves as they are absorbed by materials.	Q5 of the Enrichment Sheet asks students about the behaviors of energy transferred by waves, including acoustic, as they are absorbed by materials.
420	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxiv) explore the behaviors of energy transferred by waves, including acoustic, as they are absorbed by materials	TX2_US2103A13	Sound Energy (TX2_US2103A13)	The Animation discusses how acoustic wave energy may be absorbed by objects.	
421	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxiv) explore the behaviors of energy transferred by waves, including acoustic, as they are absorbed by materials	TX2_US2203A05	Sound Absorption (TX2_US2203A05)	The Animation discusses the absorption of acoustic wave energy by materials.	Q1-Q2 of the "After the Animation" section of the Question-Answer Sheet ask students about the behaviors of energy transferred by waves, including acoustic, as they are absorbed by materials.

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
422	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxiv) explore the behaviors of energy transferred by waves, including acoustic, as they are absorbed by materials	TX2_US2203A06	Different Objects Absorb Sound in a Different Manner (TX2_US2203A06)	The Animation discusses differences in the absorption of sound wave energy based on the material absorbing the sound.	
423	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxiv) explore the behaviors of energy transferred by waves, including acoustic, as they are absorbed by materials	TX2_US2203A07	The Interaction of Sound with Objects (TX2_US2203A07)	The Animation discusses the absorption of acoustic wave energy by materials.	
424	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxv) explore the behaviors of energy transferred by waves, including acoustic, as they change direction when entering new materials	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Animation explores the behaviors of acoustic waves as they change direction when entering new materials.	A question in the Question-Answer Sheet asks students about the behaviors of energy transferred by waves, including acoustic, as they change direction when entering new materials.
425	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxv) explore the behaviors of energy transferred by waves, including acoustic, as they change direction when entering new materials	TX2_US2203A01	Acoustic Environments (TX2_US2203A01)	The Enrichment Sheet describes the behaviors of acoustic waves as they change direction when entering new materials.	A question in the Enrichment Sheet asks students about the behaviors of energy transferred by waves, including acoustic, as they change direction when entering new materials.
426	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxv) explore the behaviors of energy transferred by waves, including acoustic, as they change direction when entering new materials	TX2_US2203A07	The Interaction of Sound with Objects (TX2_US2203A07)	The Animation discusses the absorption of acoustic wave energy by materials, including how they may change direction when entering new materials.	
427	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxv) explore the behaviors of energy transferred by waves, including acoustic, as they change direction when entering new materials	TX2_US2203A02	Sound Reflection (TX2_US2203A02)	The Animation discusses how acoustic wave energy may change direction when entering new materials, such as a solid.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
428	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxv) explore the behaviors of energy transferred by waves, including acoustic, as they change direction when entering new materials	TX2_US2203A06	Different Objects Absorb Sound in a Different Manner (TX2_US2203A06)	The Animation discusses how sound energy may change direction when entering a new material, such as a wall.	
429	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxvi) explore behaviors of energy transferred by waves, including seismic, as they superpose on one another	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 1 describes the behaviors of seismic waves as they superpose on one another.	Questions in Enrichment Sheet 1 assess students on their understanding of the behaviors of seismic waves as they superpose on one another.
430	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxvi) explore behaviors of energy transferred by waves, including seismic, as they superpose on one another	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 2 describes the behaviors of seismic waves as they superpose on one another.	Questions in the Enrichment Sheet 2 assess students on their understanding of the behaviors of seismic waves as they superpose on one another.
431	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxvi) explore behaviors of energy transferred by waves, including seismic, as they superpose on one another	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	The Animation explores the behaviors of seismic waves as they superpose on one another.	Q4 of the "After the Animation" section of the Question-Answer Sheet asks students about the behaviors of energy transferred by waves, including seismic, as they superpose on one another.
432	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxvii) explore behaviors of energy transferred by waves, including seismic, as they bend around corners	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 1 describes the behaviors of seismic waves as they propagate and bend.	Q2 in Enrichment Sheet 1 assesses students on their understanding of the behaviors of seismic waves as they bend around changes in Earth's topography.
433	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxvii) explore behaviors of energy transferred by waves, including seismic, as they bend around corners	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	The Enrichment Sheet 2 describes the behaviors of seismic waves as they propagate and bend.	Questions in the Enrichment Sheet 2 assess students on their understanding of the behaviors of seismic waves as they propagate and bend.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
434	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxvii) explore behaviors of energy transferred by waves, including seismic, as they bend around corners	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	The Animation explores the characteristics of seismic waves as they propagate and bend.	Q4 of the "After the Animation" section of the Question-Answer Sheet asks students about the behaviors of energy transferred by waves, including seismic, as they propagate and bend.
435	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxviii) explore the behaviors of energy transferred by waves, including seismic, as they reflect off surfaces	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 1 describes the behaviors of seismic waves as they reflect off surfaces.	Q2 in Enrichment Sheet 1 assesses students on their understanding of the behaviors of seismic waves as they reflect off surfaces.
436	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxviii) explore the behaviors of energy transferred by waves, including seismic, as they reflect off surfaces	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	The Enrichment Sheet 2 describes the behaviors of seismic waves as they reflect off surfaces.	Questions in the Enrichment Sheet 2 assess students on their understanding of the behaviors of seismic waves as they reflect off surfaces.
437	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxviii) explore the behaviors of energy transferred by waves, including seismic, as they reflect off surfaces	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	The Animation explores the characteristics of seismic waves as they reflect off surfaces.	Q4 of the "After the Animation" section of the Question-Answer Sheet asks students about the behaviors of energy transferred by waves, including seismic, as they reflect off surfaces.
438	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxix) explore the behaviors of energy transferred by waves, including seismic, as they are absorbed by materials	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 1 describes the behaviors of seismic waves as they are absorbed by materials.	Q2 in Enrichment Sheet 1 assesses students on their understanding of the behaviors of seismic waves as they are absorbed by materials.
439	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxix) explore the behaviors of energy transferred by waves, including seismic, as they are absorbed by materials	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	The Enrichment Sheet 2 describes the behaviors of seismic waves as they are absorbed by materials.	Questions in the Enrichment Sheet 2 assess students on their understanding of the behaviors of seismic waves as they are absorbed by materials.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
440	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxix) explore the behaviors of energy transferred by waves, including seismic, as they are absorbed by materials	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	The Animation explores the characteristics of seismic waves as they are absorbed by materials.	Q4 of the "After the Animation" section of the Question-Answer Sheet asks students about the behaviors of energy transferred by waves, including seismic, as they are absorbed by materials.
441	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxx) explore the behaviors of energy transferred by waves, including seismic, as they change direction when entering new materials	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	Enrichment Sheet 1 describes the behaviors of seismic waves as they change direction when entering new materials.	Q2 in Enrichment Sheet 1 assesses students on their understanding of the behaviors of seismic waves as they change direction when entering new materials.
442	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxx) explore the behaviors of energy transferred by waves, including seismic, as they change direction when entering new materials	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	The Enrichment Sheet 2 describes the behaviors of seismic waves as they change direction when entering new materials.	Questions in the Enrichment Sheet 2 assess students on their understanding of the behaviors of seismic waves as they change direction when entering new materials.
443	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxx) explore the behaviors of energy transferred by waves, including seismic, as they change direction when entering new materials	TX2_US2203A12	Seismic Waves (TX2_US2203A12)	The Animation explores the characteristics of seismic waves as they change direction when entering new materials.	Q4 of the "After the Animation" section of the Question-Answer Sheet asks students about the behaviors of energy transferred by waves, including seismic, as they change direction when entering new materials.
444	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxi) explore the behaviors of energy transferred by waves, including light, as they superpose on one another	TX2_US2203A11	Light Interference (TX2_US2203A11)	The Animation explores the behaviors of light waves as they superpose on one another.	Questions in the Enrichment Sheet assess students on their understanding of the behaviors of light waves as they superpose on one another.
445	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxi) explore the behaviors of energy transferred by waves, including light, as they superpose on one another	TX2_US2203A11	Light Interference (TX2_US2203A11)		A question in the Question-Answer Sheet asks students about the behaviors of light waves as they superpose on one another.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
446	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxii) explore the behaviors of energy transferred by waves, including light, as they bend around corners	TX2_US2203A11	Light Interference (TX2_US2203A11)	The Animation explores the behaviors of light waves as they propagate and bend around corners.	Questions in the Enrichment Sheet assess students on their understanding of the behaviors of light waves as they propagate and bend around corners.
447	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxii) explore the behaviors of energy transferred by waves, including light, as they bend around corners	TX2_US2203A11	Light Interference (TX2_US2203A11)		A question in the Question-Answer Sheet asks students about the behaviors of light waves as they propagate and bend around corners.
448	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxii) explore the behaviors of energy transferred by waves, including light, as they bend around corners	TX2_US240306CD	Reflection of Light from Plane Mirrors (TX2_US240306XP)	Part 1 of the Activity Object describes the behaviors of light wave energy and how light waves may be reflected by objects and can travel around corners.	
449	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxii) explore the behaviors of energy transferred by waves, including light, as they bend around corners	TX2_US240306CD	Reflection of Light from Plane Mirrors (TX2_US240306XP)	In Part 2 of the Activity Object, students explore the behaviors of light wave energy and how light waves may be reflected by objects and can travel around corners.	
450	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxii) explore the behaviors of energy transferred by waves, including light, as they bend around corners	TX2_US240307CD	Light Reflection Puzzle (TX2_US240307CD)	In Part 1 of the Activity Object, students must use mirrors to redirect light to shine around corners and through a doorway in order to unlock a treasure box.	
451	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxiii) explore the behaviors of energy transferred by waves, including light, as they reflect off surfaces	TX2_US2203A11	Light Interference (TX2_US2203A11)	The Animation explores the behaviors of light waves as they reflect off surfaces.	Questions in the Enrichment Sheet assess students on their understanding of the behaviors of light waves as they reflect off surfaces.

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
452	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxiii) explore the behaviors of energy transferred by waves, including light, as they reflect off surfaces	TX2_US2203A11	Light Interference (TX2_US2203A11)		A question in the Question-Answer Sheet asks students about the behaviors of light waves as they reflect off surfaces.
453	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxiii) explore the behaviors of energy transferred by waves, including light, as they reflect off surfaces	TX2_US240306CD	Reflection of Light from Plane Mirrors (TX2_US240306XP)	Part 1 of the Activity Object describes the behaviors of light wave energy and how light waves may be reflected by objects.	
454	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxiii) explore the behaviors of energy transferred by waves, including light, as they reflect off surfaces	TX2_US240306CD	Reflection of Light from Plane Mirrors (TX2_US240306XP)	In Part 2 of the Activity Object, students explore the behaviors of light wave energy and how light waves may be reflected by objects.	
455	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxiii) explore the behaviors of energy transferred by waves, including light, as they reflect off surfaces	TX2_US240307CD	Light Reflection Puzzle (TX2_US240307CD)	In Part 1 of the Activity Object, students must use mirrors to reflect light to shine through a doorway in order to unlock a treasure box.	
456	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxiii) explore the behaviors of energy transferred by waves, including light, as they reflect off surfaces	TX2_US240307CD	Light Reflection Puzzle (TX2_US240307CD)	Part 2 of the Activity Object discusses the reflection of light waves.	
457	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxiii) explore the behaviors of energy transferred by waves, including light, as they reflect off surfaces	TX2_US2403A01	Laws of Reflection (TX2_US2403A01)	The Animation discusses the reflection of waves and uses light waves as the primary example.	

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
458	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxiv) explore the behaviors of energy transferred by waves, including light, as they are absorbed by materials	TX2_US2203A11	Light Interference (TX2_US2203A11)	The Animation explores the behaviors of light waves as they are absorbed by materials.	Questions in the Enrichment Sheet assess students on their understanding of the behaviors of light waves as they are absorbed by materials.
459	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxiv) explore the behaviors of energy transferred by waves, including light, as they are absorbed by materials	TX2_US2203A11	Light Interference (TX2_US2203A11)		A question in the Question-Answer Sheet asks students about the behaviors of light waves as they are absorbed by materials.
460	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxiv) explore the behaviors of energy transferred by waves, including light, as they are absorbed by materials	TX2_US240101XP	Light Intensity and Distance from the Source (TX2_US240101XP)	Part 2 of the Activity Object presents an investigation in which students explore the behaviors of light waves as they are absorbed by a photovoltaic cell.	
461	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxiv) explore the behaviors of energy transferred by waves, including light, as they are absorbed by materials	TX2_US240101XP	Light Intensity and Distance from the Source (TX2_US240101XP)	Part 3 of the Activity Object presents an investigation in which students explore the behaviors of light waves as they are absorbed by a statue.	
462	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxiv) explore the behaviors of energy transferred by waves, including light, as they are absorbed by materials	TX2_US240101XP	Light Intensity and Distance from the Source (TX2_US240101XP)	Part 4 describes the investigations conducted in Parts 2 and 3, which presented investigations of the behaviors of light wave absorption by two materials, and concludes the background story introduced in Part 1.	
463	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxiv) explore the behaviors of energy transferred by waves, including light, as they are absorbed by materials	TX2_US240101XP	Light Intensity and Distance from the Source (TX2_US240101XP)		A question in the Question-Answer Sheet asks students about the characteristics of light waves as they are absorbed by materials.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
464	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxv) explore the behaviors of energy transferred by waves, including light, as they change direction when entering new materials	TX2_US2203A11	Light Interference (TX2_US2203A11)	The Animation explores the behaviors of light waves as they change direction when entering new materials.	Questions in the Enrichment Sheet assess students on their understanding of the behaviors of light waves as they change direction when entering new materials.
465	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxv) explore the behaviors of energy transferred by waves, including light, as they change direction when entering new materials	TX2_US2203A11	Light Interference (TX2_US2203A11)		A question in the Question-Answer Sheet asks students about the behaviors of light waves as they change direction when entering new materials.
466	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxv) explore the behaviors of energy transferred by waves, including light, as they change direction when entering new materials	TX2_US240201CD	Refraction of Light and Snell's Law (TX2_US240201CD)	Part 1 of the Activity Object describes the change of direction of light waves when entering new materials, in terms of refraction, and provides an example.	
467	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxv) explore the behaviors of energy transferred by waves, including light, as they change direction when entering new materials	TX2_US240201CD	Refraction of Light and Snell's Law (TX2_US240201CD)	Part 2 of the Activity Object provides further description of the change of direction of light waves when entering new materials, in terms of refraction.	
468	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxv) explore the behaviors of energy transferred by waves, including light, as they change direction when entering new materials	TX2_US240201CD	Refraction of Light and Snell's Law (TX2_US240201CD)	In Part 3 of the Activity Object, students explore how light waves change direction when entering a new material.	
469	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxv) explore the behaviors of energy transferred by waves, including light, as they change direction when entering new materials	TX2_US240201CD	Refraction of Light and Snell's Law (TX2_US240201CD)	Part 4 of the Activity Object summarizes the change of direction of light waves when entering new materials, in terms of refraction.	

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
470	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxv) explore the behaviors of energy transferred by waves, including light, as they change direction when entering new materials	TX2_US240308CD	Refraction of Light (TX2_US240308CD)	In Part 1 of the Activity Object, students explore the change in direction of light waves when they enter a new material.	
471	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxvi) explore the behaviors of energy transferred by waves, including waves on water, as they superpose on one another	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	Part 1 of the Activity Object describes the characteristics of water waves as they superpose on one another.	Questions in the Enrichment Sheet assess students on their understanding of the behaviors of water waves as they superpose on one another.
472	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxvi) explore the behaviors of energy transferred by waves, including waves on water, as they superpose on one another	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	Part 2 of the Activity Object describes the characteristics of water waves as they superpose on one another in the context of interference.	
473	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxvi) explore the behaviors of energy transferred by waves, including waves on water, as they superpose on one another	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	In Part 3 of the Activity Object, students explore the characteristics of water waves as they superpose on one another in the context of interference.	
474	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxvi) explore the behaviors of energy transferred by waves, including waves on water, as they superpose on one another	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	In Part 4 of the Activity Object, students explore the characteristics of water waves as they superpose on one another in the context of interference.	
475	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxvi) explore the behaviors of energy transferred by waves, including waves on water, as they superpose on one another	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	Part 5 of the Activity Object describes the characteristics of water waves as they superpose on one another in the context of interference.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
476	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxvii) explore the behaviors of energy transferred by waves, including waves on water, as they bend around corners	TX2_US2203A09	Diffraction of Water Waves (TX2_US2203A09)	The Animation explores the bending of water waves through diffraction.	A question in the Question-Answer Sheet asks students about the bending of water waves through diffraction.
477	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxvii) explore the behaviors of energy transferred by waves, including waves on water, as they bend around corners	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	The Enrichment Sheet describes the behaviors of water waves as they bend.	Questions in the Enrichment Sheet assess students on their understanding of the behaviors of water waves as they bend.
478	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxvii) explore the behaviors of energy transferred by waves, including waves on water, as they bend around corners	TX2_US2203A10	Reflection of Water Waves from Different Obstacles (TX2_US2203A10)	The Animation explores the bending of water waves through reflection.	
479	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxviii) explore behaviors of energy transferred by waves, including waves on water, as they reflect off surfaces	TX2_US2203A10	Reflection of Water Waves from Different Obstacles (TX2_US2203A10)	The Animation explores water waves as they reflect off surfaces.	A question in the Question-Answer Sheet asks students about the behaviors of water waves as they reflect off surfaces.
480	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxviii) explore behaviors of energy transferred by waves, including waves on water, as they reflect off surfaces	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	The Enrichment Sheet describes the behaviors of water waves as they reflect off surfaces.	Questions in the Enrichment Sheet assess students on their understanding of the behaviors of water waves as they reflect off surfaces.
481	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxix) explore the behaviors of energy transferred by waves, including waves on water, as they are absorbed by materials	TX2_US220304CD	Refraction of Water Waves (TX2_US220304CD)	In the Enrichment Sheet, students explore the behaviors of energy transferred by water waves as they are absorbed by materials.	

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
482	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxix) explore the behaviors of energy transferred by waves, including waves on water, as they are absorbed by materials	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	The Enrichment Sheet describes the behaviors of water waves as they are absorbed by materials.	Questions in the Enrichment Sheet assess students on their understanding of the behaviors of water waves as they are absorbed by materials.
483	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxix) explore the behaviors of energy transferred by waves, including waves on water, as they are absorbed by materials	TX2_US220304CD	Refraction of Water Waves (TX2_US220304CD)	Parts 2, 3, and 4 explore the refraction of water waves.	
484	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xxxix) explore the behaviors of energy transferred by waves, including waves on water, as they are absorbed by materials	TX2_US2203A09	Diffraction of Water Waves (TX2_US2203A09)	The Animation describes the diffraction of water waves.	A question in the Question-Answer Sheet asks students about the diffraction of water waves.
485	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xl) explore the behaviors of energy transferred by waves, including waves on water, as they change direction when entering new materials	TX2_US220304CD	Refraction of Water Waves (TX2_US220304CD)	In the Enrichment Sheet, students explore the behaviors of energy transferred by water waves as they change direction when entering new materials.	
486	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xl) explore the behaviors of energy transferred by waves, including waves on water, as they change direction when entering new materials	TX2_US220204CD	Interference of Water Waves (TX2_US220204CD)	The Enrichment Sheet describes the behaviors of water waves as they change direction when entering new materials.	Questions in the Enrichment Sheet assess students on their understanding of the behaviors of water waves as they change direction when entering new materials.
487	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xl) explore the behaviors of energy transferred by waves, including waves on water, as they change direction when entering new materials	TX2_US220304CD	Refraction of Water Waves (TX2_US220304CD)	In Part 2 of the Activity Object, students explore the behaviors of water waves as they change direction when entering new mediums.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
488	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xl) explore the behaviors of energy transferred by waves, including waves on water, as they change direction when entering new materials	TX2_US220304CD	Refraction of Water Waves (TX2_US220304CD)	Part 3 of the Activity Object describes the behaviors of water waves as they change direction when entering new mediums.	
489	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(G) explore the characteristics andbehaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials	(xl) explore the behaviors of energy transferred by waves, including waves on water, as they change direction when entering new materials	TX2_US220304CD	Refraction of Water Waves (TX2_US220304CD)	In Part 4 of the Activity Object, students explore the behaviors of water waves as they change direction when entering new mediums.	
490	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(i) analyze energy conversions	TX2_US480502XP	Batteries, Chemicals, and Potential Difference (TX2_US480502XP)	Parts 1, 2, and 3 of the Activity Object examine the conversion of chemical energy to electrical energy.	Q1 through Q10 in the Assessment section ask students to analyze how a battery works.
491	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(i) analyze energy conversions	TX2_US480502XP	Batteries, Chemicals, and Potential Difference (TX2_US480502XP)		Q1 of the "Learner Journal" section of the Activity Sheet asks students to analyze energy conversions that occur in a battery.
492	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(i) analyze energy conversions	TX2_US480502XP	Batteries, Chemicals, and Potential Difference (TX2_US480502XP)	The Lab Sheet involves an investigation of energy conversions.	Questions in the Lab Sheet require that students analyze energy conversions.
493	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(i) analyze energy conversions	TX2_US210307CD	Conservation of Mechanical Energy (TX2_US210307CD)	In an interactive activity in Part 2 of the Activity Object, students analyze the energy conversion between potential and kinetic energy.	Q1 through Q10 in the Assessment section ask students detailed questions about the conversion of mechanical energy.
494	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(i) analyze energy conversions	TX2_US210314CD	Energy Conversions in a Power Plant (TX2_US210314CD)	The Activity Object examines energy conversions.	Q3-Q4-Q6 in the Assessment section ask students about energy conversions.
495	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(i) analyze energy conversions	TX2_US210314CD	Energy Conversions in a Power Plant (TX2_US210314CD)		Q2 of the "Learner Journal" section of the Activity Sheet asks students about energy conversions.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
496	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(i) analyze energy conversions	TX2_US210314CD	Energy Conversions in a Power Plant (TX2_US210314CD)		A question in the Investigation Sheet asks students to analyze energy conversions.
497	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(i) analyze energy conversions	TX2_US210311CD	Roller Coaster Design: Gravitational Potential and Kinetic Energy (TX2_US210311CD)	Part 2 of the Activity Object describes the conversion of gravitational potential energy to kinetic energy.	
498	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(ii) analyze fossil fuels	TX2_US4101A11	Fossil Fuels and Renewable Energy Resources (TX2_US4101A11)	The Animation analyzes the use of fossil fuels and compares fossil fuels to renewable energy sources.	Q1-Q2-Q3-Q4 of the "After the Animation" section of the Question-Answer Sheet ask students about fossil fuels.
499	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(ii) analyze fossil fuels	TX2_US210312CD	Nonrenewable Energy Sources (TX2_US210312CD)	In Part 1 of the Activity Object, students complete a simulation that requires the analysis of the impact of fossil fuels.	Q1-Q2 of the "Reflections" section of the Activity Sheet ask students questions that require them to analyze fossil fuels and other nonrenewable energy sources.
500	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(ii) analyze fossil fuels	TX2_US210313CD	Renewable Energy Sources (TX2_US210313CD)	Parts 1 and 2 of the Activity Object analyze the use of fossil fuels.	
501	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(ii) analyze fossil fuels	TX2_US210315CD	Solar Energy: Design a Solar Car (TX2_US210315CD)	Part 1 of the Activity Object analyzes the use of fossil fuels in comparison to solar power.	
502	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(iii) analyze the movement of water or wind	TX2_US210313CD	Renewable Energy Sources (TX2_US210313CD)	Parts 1 and 2 of the Activity Object analyze the movement of water and wind in the context of renewable energy sources.	Q5-Q10 in the Assessment section ask students about water and wind energy.
503	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(iii) analyze the movement of water or wind	TX2_US210313CD	Renewable Energy Sources (TX2_US210313CD)		Q3 of the "Learner Journal" section of the Activity Sheet asks students how energy can be generated from the movement of water or wind.
504	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(H) analyze energy conversions suchas those from radiant, nuclear, and geothermal sources; fossil fuels such as coal, gas, oil; and the movementof water or wind	(iii) analyze the movement of water or wind	TX2_US2103A16	The Impact of Energy Resources: Part I (TX2_US2103A16)	The Animation discusses the movement of water and wind as potential sources of energy.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
505	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(i) critique the advantages of various energy sources	TX2_US210312CD	Nonrenewable Energy Sources (TX2_US210312CD)	Parts 1 and 2 of the Activity Object discuss the advantages and disadvantages of various energy sources with a focus on nonrenewable energy sources. In Part 1, students complete a simulation in which an island's energy needs are managed.	Q1-Q6 in the Assessment section ask students to critique the advantages of nonrenewable energy.
506	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(i) critique the advantages of various energy sources	TX2_US210312CD	Nonrenewable Energy Sources (TX2_US210312CD)		Q2 of the "Learner Journal" section and Q1 of the "Reflections" section of the Activity Sheet require students to compare the advantages of various energy sources.
507	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(i) critique the advantages of various energy sources	TX2_US210313CD	Renewable Energy Sources (TX2_US210313CD)	Parts 1 and 2 of the Activity Object describe various renewable energy sources and discuss the advantages and disadvantages of various energy sources with a focus on renewable energy sources. Students complete a simulation in Part 2 of the Activity Object.	Q1 of the "Learner Journal" section and Q1-Q2 of the "Reflections" section of the Activity Sheet ask students to compare the advantages of various energy sources.
508	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(i) critique the advantages of various energy sources	TX2_US2103A16	The Impact of Energy Resources: Part I (TX2_US2103A16)	The Animation critiques the advantages of various energy sources, including fossil fuels, nuclear energy, hydroelectricity, and wind power.	
509	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(i) critique the advantages of various energy sources	TX2_US2103A16	The Impact of Energy Resources: Part I (TX2_US2103A16)	The Enrichment Sheet critiques the advantages of various energy sources, including fossil fuels, nuclear energy, hydroelectricity, and wind power.	Q1-Q2-Q4 of the Enrichment Sheet ask students to critique the advantages of various energy sources.
510	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(ii) critique the disadvantages of various energy sources	TX2_US210312CD	Nonrenewable Energy Sources (TX2_US210312CD)	Parts 1 and 2 of the Activity Object discuss the advantages and disadvantages of various energy sources with a focus on nonrenewable energy sources. In Part 1, students complete a simulation in which an island's energy needs are managed.	Q2-Q4-Q8 in the Assessment section ask students to critique the disvantages of nonrenewable energy.
511	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(ii) critique the disadvantages of various energy sources	TX2_US210312CD	Nonrenewable Energy Sources (TX2_US210312CD)		Q2 of the "Learner Journal" section and Q1 of the "Reflections" section of the Activity Sheet require students to compare the disadvantages of various energy sources.
512	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(ii) critique the disadvantages of various energy sources	TX2_US210313CD	Renewable Energy Sources (TX2_US210313CD)	Parts 1 and 2 of the Activity Object describe various renewable energy sources and discuss the advantages and disadvantages of various energy sources with a focus on renewable energy sources. Students complete a simulation in Part 2 of the Activity Object.	Q1 of the "Learner Journal" section and Q1-Q2 of the "Reflections" section of the Activity Sheet ask students to compare the disadvantages of various energy sources.
513	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(ii) critique the disadvantages of various energy sources	TX2_US260201CD	Nuclear Energy: Fission (TX2_US260201CD)	Parts 1 and 2 of the Activity Object describe the production of nuclear energy, and Part 4 covers the advantages and disadvantages of using nuclear energy.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
514	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(ii) critique the disadvantages of various energy sources	TX2_US2103A16	The Impact of Energy Resources: Part I (TX2_US2103A16)	The Animation critiques the disadvantages of various energy sources, including fossil fuels, nuclear energy, hydroelectricity, and wind power.	
515	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(ii) critique the disadvantages of various energy sources	TX2_US2103A17	The Impact of Energy Resources: Part II (TX2_US2103A17)	The Animation critiques the disadvantages of various energy sources, including fossil fuels, nuclear energy, hydroelectricity, and wind power.	
516	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(iii) critique the impact [of various energy sources] on society	TX2_US210312CD	Nonrenewable Energy Sources (TX2_US210312CD)	Parts 1 and 2 of the Activity Object critique the impact of various sources of energy on society.	
517	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(iii) critique the impact [of various energy sources] on society	TX2_US210313CD	Renewable Energy Sources (TX2_US210313CD)	Parts 1 and 2 of the Activity Object critique the impact of various sources of energy on society.	
518	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(iii) critique the impact [of various energy sources] on society	TX2_US260201CD	Nuclear Energy: Fission (TX2_US260201CD)	Parts 1, 2, and 3 of the Activity Object describe nuclear energy obtained from fission and provide a critique of the impact of this energy source on society.	
519	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(iii) critique the impact [of various energy sources] on society	TX2_US2103A16	The Impact of Energy Resources: Part I (TX2_US2103A16)	The Animation critiques the impact of various energy sources, including fossil fuels, nuclear energy, hydroelectricity, and wind power, on society.	A question in the Enrichment Sheet asks students to critique the impact of various energy sources on society.
520	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(iii) critique the impact [of various energy sources] on society	TX2_US2103A17	The Impact of Energy Resources: Part II (TX2_US2103A17)	The Animation critiques the impact of various energy sources, including biomass energy, geothermal energy, and solar energy, on society.	A question in the Enrichment Sheet asks students to critique the impact of various energy sources on society.
521	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(iv) critique the impact [of various energy sources] on the environment	TX2_US210312CD	Nonrenewable Energy Sources (TX2_US210312CD)	Parts 1 and 2 of the Activity Object critique the impact of various sources of energy on the environment.	Q2 of the "Reflections" section of the Activity Sheet asks students to critique the impact of various energy sources on the environment.
522	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(iv) critique the impact [of various energy sources] on the environment	TX2_US210313CD	Renewable Energy Sources (TX2_US210313CD)	Parts 1 and 2 of the Activity Object critique the impact of various sources of energy on the environment.	
523	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(iv) critique the impact [of various energy sources] on the environment	TX2_US260201CD	Nuclear Energy: Fission (TX2_US260201CD)	Part 4 of the Activity Object critiques the impact of nuclear fission on the environment.	
524	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(iv) critique the impact [of various energy sources] on the environment	TX2_US2103A16	The Impact of Energy Resources: Part I (TX2_US2103A16)	The Animation critiques the impact of various energy sources, including fossil fuels, nuclear energy, hydroelectricity, and wind power, on the environment.	A question in the Enrichment Sheet asks students to critique the impact of various energy sources on the environment.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
525	(5) Science concepts. Thestudent recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:	(I) critique the advantages anddisadvantages of various energy sources and their impact on society and the environment	(iv) critique the impact [of various energy sources] on the environment	TX2_US2103A17	The Impact of Energy Resources: Part II (TX2_US2103A17)	The Animation critiques the impact of various energy sources, including biomass energy, geothermal energy, and solar energy, on the environment.	A question in the Enrichment Sheet asks students to critique the impact of various energy sources on the environment.
526	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(i) examine differences in physical properties of solids as explained by the arrangement of atoms, ions, or molecules of the substances	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)	Part 1 of the Activity Object explains the differences in the physical properties of solids as students complete a maze.	Q1-Q2-Q4-Q5-Q9 in the Assessment section ask students about the differences in the physical properties of solids, liquids, and gases, as explained by the arrangement of atoms, ions, or molecules of the substances.
527	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(i) examine differences in physical properties of solids as explained by the arrangement of atoms, ions, or molecules of the substances	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)	Part 3 of the Activity Object describes the physical properties of solids, liquids, and gases in terms of the arrangement of their atoms.	
528	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(i) examine differences in physical properties of solids as explained by the arrangement of atoms, ions, or molecules of the substances	TX2_US4404A01	Reciprocating and Vibration Motion (TX2_US4404A01)	The Animation examines the differences in the physical properties of solids as explained by the arrangement of their atoms.	
529	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(i) examine differences in physical properties of solids as explained by the arrangement of atoms, ions, or molecules of the substances	TX2_US4102A01	Plasma and Plasma Types (TX2_US4102A01)	The Animation examines the differences in the physical properties of solids as explained by the arrangement of their atoms.	
530	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(i) examine differences in physical properties of solids as explained by the arrangement of atoms, ions, or molecules of the substances	TX2_US410204XP	Melting and Boiling Points: Different Materials, Different Amounts (TX2_US410204XP)	Part 1 examines the differences in the physical properties of solids as explained by the arrangement of their atoms.	
531	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(ii) examine differences in physical properties of liquids as explained by the arrangement of atoms, ions, or molecules of the substances	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)	Part 1 of the Activity Object explains the differences in the physical properties of liquids as students complete a maze.	Q1-Q2-Q4-Q5-Q9 in the Assessment section ask students about the differences in the physical properties of solids, liquids, and gases, as explained by the arrangement of atoms, ions, or molecules of the substances.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
532	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(ii) examine differences in physical properties of liquids as explained by the arrangement of atoms, ions, or molecules of the substances	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)	Part 3 of the Activity Object describes the physical properties of solids, liquids, and gases in terms of the arrangement of their atoms.	
533	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(ii) examine differences in physical properties of liquids as explained by the arrangement of atoms, ions, or molecules of the substances	TX2_US4404A03	Particle Structure and Bond Strength (TX2_US4404A03)	The Animation examines the strength of forces of attraction between liquid particles as explained by the arrangement of atoms, ions, or molecules of the substances.	
534	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(ii) examine differences in physical properties of liquids as explained by the arrangement of atoms, ions, or molecules of the substances	TX2_US4401A06	Solid, Liquid, Gas States of Matter (TX2_US4401A06)	The Animation describes the physical properties of liquids, gases, and solids based on the arrangement of their molecules.	
535	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(iii) examine differences in physical properties of gases as explained by the arrangement of atoms, ions, or molecules of the substances	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)	Part 1 of the Activity Object explains the differences in the physical properties of gases as students complete a maze.	Q1-Q2-Q4-Q5-Q9 in the Assessment section ask students about the differences in the physical properties of solids, liquids, and gases, as explained by the arrangement of atoms, ions, or molecules of the substances.
536	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(iii) examine differences in physical properties of gases as explained by the arrangement of atoms, ions, or molecules of the substances	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)	Part 3 of the Activity Object describes the physical properties of solids, liquids, and gases in terms of the arrangement of their atoms.	
537	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(iii) examine differences in physical properties of gases as explained by the arrangement of atoms, ions, or molecules of the substances	TX2_US4404A03	Particle Structure and Bond Strength (TX2_US4404A03)	The Animation examines the strength of forces of attraction between gas particles as explained by the arrangement of atoms, ions, or molecules of the substances.	
538	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(iii) examine differences in physical properties of gases as explained by the arrangement of atoms, ions, or molecules of the substances	TX2_US4401A06	Solid, Liquid, Gas States of Matter (TX2_US4401A06)	The Animation describes the physical properties of liquids, gases, and solids based on the arrangement of their molecules.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
539	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(iv) examine differences in physical properties of solids as explained by the motion of atoms, ions, or molecules of the substances	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)	Part 3 of the Activity Object describes the physical properties of solids, liquids, and gases in terms of the motion of their atoms.	Q3-Q7-Q8-Q10 in the Assessment section ask students about the differences in the physical properties of solids, liquids, and gases, as explained by the motion of atoms, ions, or molecules of the substances.
540	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(iv) examine differences in physical properties of solids as explained by the motion of atoms, ions, or molecules of the substances	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)		A question in the Activity Sheet asks students to explore the physical properties of solids, liquids, and gases in terms of the motion of their atoms.
541	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(iv) examine differences in physical properties of solids as explained by the motion of atoms, ions, or molecules of the substances	TX2_US4401A06	Solid, Liquid, Gas States of Matter (TX2_US4401A06)	The Animation describes the physical properties of liquids, gases, and solids based on the motion of their molecules.	
542	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(v) examine differences in physical properties of liquids as explained by the motion of atoms, ions, or molecules of the substances	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)	Part 3 of the Activity Object describes the physical properties of solids, liquids, and gases in terms of the motion of their atoms.	Q3-Q7-Q8-Q10 in the Assessment section ask students about the differences in the physical properties of solids, liquids, and gases, as explained by the motion of atoms, ions, or molecules of the substances.
543	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(v) examine differences in physical properties of liquids as explained by the motion of atoms, ions, or molecules of the substances	TX2_US4404A01	Reciprocating and Vibration Motion (TX2_US4404A01)	The Animation examines the physical properties of solids, liquids, and gases in terms of the motion of their atoms.	
544	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(v) examine differences in physical properties of liquids as explained by the motion of atoms, ions, or molecules of the substances	TX2_US4401A06	Solid, Liquid, Gas States of Matter (TX2_US4401A06)	The Animation describes the physical properties of liquids, gases, and solids based on the motion of their molecules.	
545	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(vi) examine differences in physical properties of gases as explained by the motion of atoms, ions, or molecules of the substances	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)	Part 3 of the Activity Object describes the physical properties of solids, liquids, and gases in terms of the motion of their atoms.	Q3-Q7-Q8-Q10 in the Assessment section ask students about the differences in the physical properties of solids, liquids, and gases, as explained by the motion of atoms, ions, or molecules of the substances.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
546	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(vi) examine differences in physical properties of gases as explained by the motion of atoms, ions, or molecules of the substances	TX2_US4404A01	Reciprocating and Vibration Motion (TX2_US4404A01)	The Animation examines the physical properties of solids, liquids, and gases in terms of the motion of their atoms.	
547	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(vi) examine differences in physical properties of gases as explained by the motion of atoms, ions, or molecules of the substances	TX2_US4401A06	Solid, Liquid, Gas States of Matter (TX2_US4401A06)	The Animation describes the physical properties of liquids, gases, and solids based on the motion of their molecules.	
548	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(vii) examine the strength of the forces of attraction between [solid] particles	TX2_US4404A03	Particle Structure and Bond Strength (TX2_US4404A03)	The Animation discusses the particle structure and bond strength of solids, liquids, and gases.	Q1-Q2-Q3 of the "After the Animation" section of the Question-Answer Sheet ask students about the strength of the forces of attraction between particles for substances in solid, liquid, and gas phases.
549	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(vii) examine the strength of the forces of attraction between [solid] particles	TX2_US4404A03	Particle Structure and Bond Strength (TX2_US4404A03)	The Animation examines the strength of the forces of attraction between solid particles.	
550	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(vii) examine the strength of the forces of attraction between [solid] particles	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)	Part 3 of the Activity Object describes the strength of the force of attraction among the particles of solids, liquids, and gases.	Questions in the Activity Sheet ask students about the force of attraction among particles for substances in solid, liquid, and gas phases.
551	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(viii) examine the strength of the forces of attraction between [liquid] particles	TX2_US4404A03	Particle Structure and Bond Strength (TX2_US4404A03)	The Animation discusses the particle structure and bond strength of solids, liquids, and gases.	Q1-Q2-Q3 of the "After the Animation" section of the Question-Answer Sheet ask students about the strength of the forces of attraction between particles for substances in solid, liquid, and gas phases.
552	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(viii) examine the strength of the forces of attraction between [liquid] particles	TX2_US4404A03	Particle Structure and Bond Strength (TX2_US4404A03)	The Animation examines the strength of the forces of attraction between liquid particles.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
553	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(viii) examine the strength of the forces of attraction between [liquid] particles	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)	Part 3 of the Activity Object describes the strength of the force of attraction among the particles of solids, liquids, and gases.	Questions in the Activity Sheet ask students about the force of attraction among particles for substances in solid, liquid, and gas phases.
554	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(ix) examine the strength of the forces of attraction between [gas] particles	TX2_US4404A03	Particle Structure and Bond Strength (TX2_US4404A03)	The Animation discusses the particle structure and bond strength of solids, liquids, and gases.	Q1-Q2-Q3 of the "After the Animation" section of the Question-Answer Sheet ask students about the strength of the forces of attraction between particles for substances in solid, liquid, and gas phases.
555	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(ix) examine the strength of the forces of attraction between [gas] particles	TX2_US4404A03	Particle Structure and Bond Strength (TX2_US4404A03)	The Animation examines the strength of the forces of attraction between gas particles.	
556	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(A) examine differences in physicalproperties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of the forces of attraction between those particles	(ix) examine the strength of the forces of attraction between [gas] particles	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)	Part 3 of the Activity Object describes the strength of the force of attraction among the particles of solids, liquids, and gases.	Questions in the Activity Sheet ask students about the force of attraction among particles for substances in solid, liquid, and gas phases.
557	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(B) relate chemical properties ofsubstances to the arrangement of their atoms or molecules		TX2_US430107CD	Comparing Ionic and Covalent Compounds (TX2_US430107CD)	Part 4 of the Activity Object relates the chemical properties of ionic and covalent compounds to the arrangement of their molecules.	Q6-Q9-Q10 in the Assessment section ask students to relate chemical properties of substances to the arrangement of their atoms or molecules.
558	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(B) relate chemical properties ofsubstances to the arrangement of their atoms or molecules		TX2_US430107CD	Comparing Ionic and Covalent Compounds (TX2_US430107CD)	In Part 2 of the Activity Object, students complete a virtual laboratory session to determine the melting point of various molecular compounds that have either ionic or covalent bonds.	
559	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(B) relate chemical properties ofsubstances to the arrangement of their atoms or molecules		TX2_US430107CD	Comparing Ionic and Covalent Compounds (TX2_US430107CD)	In Part 3 of the Activity Object, students complete a virtual laboratory session to determine the various molecular compounds that have either ionic or covalent bonds.	
560	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(B) relate chemical properties ofsubstances to the arrangement of their atoms or molecules		TX2_US430106CD	Crystal Lattice (TX2_US430106CD)	Part 3 of the Activity Object relates substances with a crystal lattice structure to their chemical properties.	
561	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(i) analyze physical properties of elements	TX2_US420405CD	Physical Properties and the Periodic Table (TX2_US420405CD)	Parts 1 and 3 of the Activity Object describe the Periodic Table of elements and the physical properties of metals, metalloids, and nonmetals.	Q1-Q10 in the Assessment section ask students to analyze physical properties of elements.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
562	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(i) analyze physical properties of elements	TX2_US420405CD	Physical Properties and the Periodic Table (TX2_US420405CD)	In Part 2 of the Activity Object, students perform tests on the physical properties of elements to determine whether they are metals, metalloids, or nonmetals.	
563	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(i) analyze physical properties of elements	TX2_US410306CD	Physical Properties of Substances (TX2_US410306CD)	In the Activity Object, students must identify elements and compounds by analyzing their physical properties.	Q7-Q8 in the Assessment section ask students to analyze physical properties of elements.
564	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(i) analyze physical properties of elements	TX2_US410203XP	The Density of Marbles (TX2_US410203XP)	In the Activity Object, students analyze the physical properties of an element (iron) and two compounds (glass and porcelain).	
565	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(i) analyze physical properties of elements	TX2_US210112XP	Buoyancy and Archimedes' Principle (TX2_US210112XP)	In Part 2 of the Activity Object, students perform tests to analyze the physical properties of two elements (gold and iron) and a compound (porcelain) related to Archimedes' principle of buoyancy.	
566	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(ii) analyze physical properties of compounds	TX2_US410306CD	Physical Properties of Substances (TX2_US410306CD)	In the Activity Object, students must identify elements and compounds by analyzing their physical properties.	Q2-Q4 in the Assessment section ask students to analyze physical properties of compounds.
567	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(ii) analyze physical properties of compounds	TX2_US410306CD	Physical Properties of Substances (TX2_US410306CD)	In the Activity Object, students must identify elements and compounds by analyzing their physical properties.	Q1 of the "Learner Journal" section of the Activity Sheet ask students to analyze physical properties of compounds.
568	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(ii) analyze physical properties of compounds	TX2_US4401A02	Properties of Liquids: Viscosity (TX2_US4401A02)	The Animation analyzes the physical properties of liquid compounds.	
569	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(ii) analyze physical properties of compounds	TX2_US410203XP	The Density of Marbles (TX2_US410203XP)	In the Activity Object, students analyze the physical properties of an element (iron) and two compounds (glass and porcelain).	
570	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(ii) analyze physical properties of compounds	TX2_US210112XP	Buoyancy and Archimedes' Principle (TX2_US210112XP)	In Part 2 of the Activity Object, students perform tests to analyze the physical properties of two elements (gold and iron) and a compound (porcelain) related to Archimedes' principle of buoyancy.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
571	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(iii) analyze chemical properties of elements	TX2_US420402CD	Electron Configuration and the Tendency to Gain or Lose Electrons (TX2_US420402CD)	Part 1 of the Activity Object analyzes the reactivity (a chemical property) of elements.	Q1-Q10 in the Assessment section ask students to analyze chemical properties of elements.
572	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(iii) analyze chemical properties of elements	TX2_US420402CD	Electron Configuration and the Tendency to Gain or Lose Electrons (TX2_US420402CD)	Part 3 of the Activity Object analyzes the reactivity (a chemical property) of elements.	
573	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(iii) analyze chemical properties of elements	TX2_US4204A06	Properties of s-Block Elements (TX2_US4204A06)	The Animation relates physical and chemical behaviors of s-block elements, including bonding, to their placement in the Periodic Table.	
574	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(iii) analyze chemical properties of elements	TX2_US420404CD	Ionization Energy on the Periodic Table (TX2_US420404CD)	In Parts 2 and 3 of the Activity Object, students analyze the ionization energy of elements using the Periodic Table. Parts 1 and 4 of the Activity Object summarize the concept of ionization energy.	
575	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(iii) analyze chemical properties of elements	TX2_US420403CD	Electronegativity on the Periodic Table (TX2_US420403CD)	In Parts 3 and 4 of the Activity Object, students analyze the electronegativity of elements using the Periodic Table. Parts 1, 2, and 5 of the Activity Object summarize the concept of electronegativity.	
576	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(iv) analyze chemical properties of compounds	TX2_US480202CD	Endothermic and Exothermic Reactions (TX2_US480202CD)	Part 1 of the Activity Object describes how to determine whether a chemical reaction is exothermic or endothermic.	Q4-Q5-Q6-Q9-Q10 in the Assessment section ask students to analyze chemical properties of compounds.
577	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(iv) analyze chemical properties of compounds	TX2_US480202CD	Endothermic and Exothermic Reactions (TX2_US480202CD)	Part 2 of the Activity Object describes how to determine whether a chemical reaction will be exothermic or endothermic based on the bonds of the compound.	
578	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(iv) analyze chemical properties of compounds	TX2_US480202CD	Endothermic and Exothermic Reactions (TX2_US480202CD)	In Part 3 of the Activity Object, students combine compounds to analyze whether the chemical reaction is exothermic or endothermic with the goal of achieving a lower temperature.	
579	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(iv) analyze chemical properties of compounds	TX2_US480401XP	Factor Affecting the Rate of Chemical Reactions (TX2_US480401XP)	In Part 2 of the Activity Object, students examine how the amount of reactant affects the rate of chemical reactions of compounds.	Q9-Q10 in the Assessment section ask students to analyze chemical properties of compounds.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
580	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(C) analyze physical and chemicalproperties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity	(iv) analyze chemical properties of compounds	TX2_US480401XP	Factor Affecting the Rate of Chemical Reactions (TX2_US480401XP)	In Part 3 of the Activity Object, students analyze how temperature and the surface area of solid reactants affect the rate of chemical reactions of compounds.	
581	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(D) relate the physical and chemicalbehavior of an element, including bonding and classification, to its placement on the Periodic Table	(i) relate the physical behavior of an element, including classification, to its placement on the Periodic Table	TX2_US420405CD	Physical Properties and the Periodic Table (TX2_US420405CD)	Parts 1 and 3 of the Activity Object describe the Periodic Table of elements and the physical properties of metals, metalloids, and nonmetals.	Q1-Q10 in the Assessment section ask students to relate the physical behavior of an element, including classification, to its placement on the Periodic Table.
582	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(D) relate the physical and chemicalbehavior of an element, including bonding and classification, to its placement on the Periodic Table	(i) relate the physical behavior of an element, including classification, to its placement on the Periodic Table	TX2_US420405CD	Physical Properties and the Periodic Table (TX2_US420405CD)	In Part 2 of the Activity Object, students perform tests on the physical properties of elements to determine whether they are metals, metalloids, and nonmetals.	
583	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(D) relate the physical and chemicalbehavior of an element, including bonding and classification, to its placement on the Periodic Table	(i) relate the physical behavior of an element, including classification, to its placement on the Periodic Table	TX2_US4204A06	Properties of s-Block Elements (TX2_US4204A06)	The Animation relates the physical and chemical behaviors of s-block elements, including classification, to its placement on the Periodic Table	Q2-Q3 of the "After the Animation" section of the Question-Answer Sheet ask students to relate physical behavior of s-block elements, including classification, to its placement on the Periodic Table
584	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(D) relate the physical and chemicalbehavior of an element, including bonding and classification, to its placement on the Periodic Table	(i) relate the physical behavior of an element, including classification, to its placement on the Periodic Table	TX2_US4204A08	Properties of d-Block Elements (TX2_US4204A08)	The Animation relates the physical and chemical behaviors of d-block elements, including classification, to its placement on the Periodic Table	
585	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(D) relate the physical and chemicalbehavior of an element, including bonding and classification, to its placement on the Periodic Table	(i) relate the physical behavior of an element, including classification, to its placement on the Periodic Table	TX2_US4204A13	Properties of Group 7A Elements (TX2_US4204A13)	The Animation relates the physical and chemical behaviors of group 7A elements, including classification, to its placement on the Periodic Table	
586	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(D) relate the physical and chemicalbehavior of an element, including bonding and classification, to its placement on the Periodic Table	(ii) relate the chemical behavior of an element, including bonding, to its placement on the Periodic Table	TX2_US420402CD	Electron Configuration and the Tendency to Gain or Lose Electrons (TX2_US420402CD)	Parts 1, 2, and 3 of the Activity Object examine the chemical bonding behavior of elements based on their placement on the Periodic Table.	Q3-Q4-Q6-Q8-Q9-Q10 in the Assessment section ask students to relate the chemical behavior of an element, including bonding, to its placement on the Periodic Table.
587	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(D) relate the physical and chemicalbehavior of an element, including bonding and classification, to its placement on the Periodic Table	(ii) relate the chemical behavior of an element, including bonding, to its placement on the Periodic Table	TX2_US4301A17	Bonding and the Periodic Table (TX2_US4301A17)	The Animation explains how different elements in the Periodic Table form different chemical bonds and identifies bonding trends in the Periodic Table.	
588	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(D) relate the physical and chemicalbehavior of an element, including bonding and classification, to its placement on the Periodic Table	(ii) relate the chemical behavior of an element, including bonding, to its placement on the Periodic Table	TX2_US4301A16	Concept of Bonding (TX2_US4301A16)	After watching the Animation, students understand how the chemical behavior of an element, including bonding, relates to its placement on the Periodic Table	
589	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(D) relate the physical and chemicalbehavior of an element, including bonding and classification, to its placement on the Periodic Table	(iii) relate the chemical behavior of an element, including classification, to its placement on the Periodic Table	TX2_US420402CD	Electron Configuration and the Tendency to Gain or Lose Electrons (TX2_US420402CD)	Parts 1, 2, and 3 of the Activity Object examine the chemical bonding behavior of elements based on their placement on the Periodic Table.	Q2-Q3-Q4-Q6-Q10 in the Assessment section ask students to relate the chemical behavior of an element, including classification, to its placement on the Periodic Table

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590	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(D) relate the physical and chemicalbehavior of an element, including bonding and classification, to its placement on the Periodic Table	(iii) relate the chemical behavior of an element, including classification, to its placement on the Periodic Table	TX2_US4204A02	Trends in Metallic and Nonmetallic Properties in the Periodic Table (TX2_US4204A02)	The Animation identifies the changes in metallic and nonmetallic properties as you move along the Periodic Table and connects these changes with the differences in the structure of atoms.	
591	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(D) relate the physical and chemicalbehavior of an element, including bonding and classification, to its placement on the Periodic Table	(iii) relate the chemical behavior of an element, including classification, to its placement on the Periodic Table	TX2_US4204A15	General Structure of the Periodic Table (TX2_US4204A15)	The Animation discusses the chemical behavior of categories of elements based on the classification of elements and their placement on the Periodic Table.	
592	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(D) relate the physical and chemicalbehavior of an element, including bonding and classification, to its placement on the Periodic Table	(iii) relate the chemical behavior of an element, including classification, to its placement on the Periodic Table	TX2_US4204A06	Properties of s-Block Elements (TX2_US4204A06)	The Animation relates the physical and chemical behaviors of s-block elements, including classification, to its placement on the Periodic Table	
593	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(D) relate the physical and chemicalbehavior of an element, including bonding and classification, to its placement on the Periodic Table	(iii) relate the chemical behavior of an element, including classification, to its placement on the Periodic Table	TX2_US4204A13	Properties of Group 7A Elements (TX2_US4204A13)	The Animation relates the physical and chemical behaviors of group 7A elements, including classification, to its placement on the Periodic Table	
594	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(i) relate the structure of water to its function as a solvent	TX2_US6602A11	Water Transport in Plants (TX2_US6602A11)	The Lab Sheet describes the relation of the structure of water to its function as a solvent	A question in the Lab Sheet asks students about the structure of water and its function as a solvent.
595	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(ii) investigate the properties of solutions, including pH	TX2_US460203MS	pH Calculation of Acid and Base Solutions (TX2_US460203MS)	Parts 1 and 2 of the Activity Object explain the properties of solutions and how to perform calculations using pH.	All questions in the Assessment section ask students to investigate the properties of solutions, including pH.
596	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(ii) investigate the properties of solutions, including pH	TX2_US460203MS	pH Calculation of Acid and Base Solutions (TX2_US460203MS)	In Part 3 of the Activity Object, students investigate the properties of solutions and perform calculations using pH.	
597	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(iii) investigate the properties of solutions including concentration	TX2_US450203MS	The Concentration of Solutions: Molarity and Molality (TX2_US450203MS)	In Part 2 of the Activity Object, students are asked to calculate the concentration of solutions.	Q3-Q4-Q5-Q6-Q7-Q10 in the Assessment section ask students about the concentration of solutions.
598	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(iii) investigate the properties of solutions including concentration	TX2_US450204MS	The Concentration of Solutions: Mass Fraction and Mass Percent (TX2_US450204MS)	In Part 3 of the Activity Object, students are asked to calculate the concentration of solutions.	

#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
599	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(iv) investigate factors affecting gas solubility, including nature of solute	TX2_US450205XP	Factors Affecting the Solubility of Gases (TX2_US450205XP)	In Parts 2 and 3 of the Activity Object, students investigate the factors affecting gas solubility, including the nature of the solute.	
600	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(iv) investigate factors affecting gas solubility, including nature of solute	TX2_US410202CD	Using Solubility to Identify Substances (TX2_US410202CD)	In the Lab Sheet, students are required to investigate factors that affect gas solubility, including the nature of the solute.	A question in the Lab Sheet assesses students on their investigations on gas solubility, including the nature of the solute.
601	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(v) investigate factors affecting gas solubility, including temperature	TX2_US450205XP	Factors Affecting the Solubility of Gases (TX2_US450205XP)	In Part 4 of the Activity Object, students investigate the factors affecting gas solubility, including temperature.	Q2-Q4-Q5-Q6-Q7-Q9 in the Assessment section ask students about the factors affecting gas solubility, including temperature.
602	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(v) investigate factors affecting gas solubility, including temperature	TX2_US450205XP	Factors Affecting the Solubility of Gases (TX2_US450205XP)		Q3 of the "Learner Journal" section of the Activity Sheet asks students to describe what happens to the solubility of gases as the temperature is increased based on their investigations.
603	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(vi) investigate factors affecting gas solubility, including pressure	TX2_US450205XP	Factors Affecting the Solubility of Gases (TX2_US450205XP)	In Part 3 of the Activity Object, students investigate the factors affecting gas solubility, including pressure.	Q1-Q5-Q7 in the Assessment section ask students about the factors affecting gas solubility, including pressure.
604	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(vi) investigate factors affecting gas solubility, including pressure	TX2_US450205XP	Factors Affecting the Solubility of Gases (TX2_US450205XP)		Q2 of the "Learner Journal" section of the Activity Sheet asks students to describe what happens to the solubility of gases as the pressure is increased based on their investigations.
605	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(vii) investigate factors affecting solid solubility, including nature of solute	TX2_US410202CD	Using Solubility to Identify Substances (TX2_US410202CD)	In Part 2 of the Activity Object, students investigate the factors that affect solid solubility, including the nature of the solute.	Q1-Q2-Q5-Q10 in the Assessment section ask students about investigating factors affecting solid solubility, including the nature of the solute.
606	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(viii) investigate factors affecting solid solubility, including temperature	TX2_US410202CD	Using Solubility to Identify Substances (TX2_US410202CD)	In Part 2 of the Activity Object, students investigate the factors that affect solid solubility, including temperature.	Q3-Q4-Q6-Q7-Q8-Q9 in the Assessment section ask students about investigating factors affecting solid solubility, including temperature.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
607	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(viii) investigate factors affecting solid solubility, including temperature	TX2_US410202CD	Using Solubility to Identify Substances (TX2_US410202CD)		Q2 of the "Learner Journal" section of the Activity Sheet asks students to describe what happens to the solubility of substances as the temperature is increased based on their investigations.
608	(6) Science concepts. Thestudent knows that relationships exist between the structure and properties of matter. The student is expected to:	(E) relate the structure of water to itsfunction as a solvent and investigate the properties of solutions and factors affecting gas and solid solubility, including nature of solute, temperature, pressure, pH, and concentration	(ix) investigate factors affecting solid solubility, including pressure	TX2_US410202CD	Using Solubility to Identify Substances (TX2_US410202CD)	In the Lab Sheet, students are required to investigate the factors affecting solid solubiltiy, including pressure.	A question in the Lab Sheet assesses students on their investigations on solid solubility, including pressure.
609	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(A) investigate changes of state as itrelates to the arrangement of particles of matter and energy transfer	(i) investigate changes of state as it relates to the arrangement of particles of matter	TX2_US4404A03	Particle Structure and Bond Strength (TX2_US4404A03)	The Animation discusses the particle structure of solids, liquids, and gases as they relate to changes of state.	Q3-Q4 of the "After the Animation" section of the Question-Answer Sheet ask students about changes of state as they relate to the arrangement of particles.
610	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(A) investigate changes of state as itrelates to the arrangement of particles of matter and energy transfer	(i) investigate changes of state as it relates to the arrangement of particles of matter	TX2_US440401XP	Heating Curves (TX2_US440401XP)	Part 4 of the Activity Object describes how the arrangement of particles relates to changes of state. Students investigate changes of state in Parts 2 and 3 of the Activity Object.	A question in the Activity Sheet requires students to relate changes in state observed in their investigations to the arrangement of particles of matter.
611	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(A) investigate changes of state as itrelates to the arrangement of particles of matter and energy transfer	(i) investigate changes of state as it relates to the arrangement of particles of matter	TX2_US410204XP	Melting and Boiling Points: Different Materials, Different Amounts (TX2_US410204XP)	Part 1 of the Activity Object describes how the arrangement of particles is related to changes of state. Students investigate phase changes in Part 2 of the Activity Object.	
612	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(A) investigate changes of state as itrelates to the arrangement of particles of matter and energy transfer	(i) investigate changes of state as it relates to the arrangement of particles of matter	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)	Part 1 of the Activity Object describes the changes of state as they relate to the arrangement of particles of matter.	
613	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(A) investigate changes of state as itrelates to the arrangement of particles of matter and energy transfer	(i) investigate changes of state as it relates to the arrangement of particles of matter	TX2_US410205CD	Properties of Solids, Liquids, and Gases (TX2_US410205CD)	In Part 2 of the Activity Object, students investigate the changes of the state of matter from solid to liquid and liquid to gas.	
614	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(A) investigate changes of state as itrelates to the arrangement of particles of matter and energy transfer	(ii) investigate changes of state as it relates to energy transfer	TX2_US440401XP	Heating Curves (TX2_US440401XP)	Part 4 of the Activity Object describes how energy transfer relates to changes of state. Students investigate changes of state in Parts 2 and 3 of the Activity Object.	Q5-Q8-Q10 in the Assessment section ask students to investigate changes of state as they relate to energy transfer.
615	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(A) investigate changes of state as itrelates to the arrangement of particles of matter and energy transfer	(ii) investigate changes of state as it relates to energy transfer	TX2_US410204XP	Melting and Boiling Points: Different Materials, Different Amounts (TX2_US410204XP)	Part 1 of the Activity Object describes changes of state from the different types of matter as they relate to energy transfer.	Q3-Q4-Q6-Q8 in the Assessment section ask students to investigate changes of state as they relate to energy transfer.
616	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(A) investigate changes of state as itrelates to the arrangement of particles of matter and energy transfer	(ii) investigate changes of state as it relates to energy transfer	TX2_US410204XP	Melting and Boiling Points: Different Materials, Different Amounts (TX2_US410204XP)	In Part 2 of the Activity Object, students explore the physical properties of the same element in different states as it relates to energy transfer.	
617	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(B) recognize that chemical changescan occur when substances react to form different substances and that these interactions are largely determined by the valence electrons	(i) recognize that chemical changes can occur when substances react to form different substances	TX2_US480103CD	Precipitation Reactions (TX2_US480103CD)	Parts 1 and 3 of the Activity Object demonstrate that chemical changes can occur when substances react to form different substances.	Q3-Q6-Q8-Q9-Q10 in the Assessment section ask students whether chemical changes can occur when substances react to form different substances.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
618	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(B) recognize that chemical changescan occur when substances react to form different substances and that these interactions are largely determined by the valence electrons	(i) recognize that chemical changes can occur when substances react to form different substances	TX2_US480103CD	Precipitation Reactions (TX2_US480103CD)	In Part 2 of the Activity Object, students perform an investigation that demonstrates that chemical changes can occur when substances react to form different substances.	
619	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(B) recognize that chemical changescan occur when substances react to form different substances and that these interactions are largely determined by the valence electrons	(i) recognize that chemical changes can occur when substances react to form different substances	TX2_US410307CD	Physical and Chemical Changes (TX2_US410307CD)	Parts 1 and 2 of the Activity Object demonstrate that chemical changes can occur when substances react to form different substances.	Q1 through Q10 in the Assessment section ask students whether chemical changes can occur when substances react to form different substances.
620	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(B) recognize that chemical changescan occur when substances react to form different substances and that these interactions are largely determined by the valence electrons	(ii) recognize that these interactions are largely determined by the valence electrons	TX2_US420402CD	Electron Configuration and the Tendency to Gain or Lose Electrons (TX2_US420402CD)	Part 1 of the Activity Object discusses the fact that chemical changes can occur when substances react to form different substances, and that these interactions are determined by the valence electrons.	Q1-Q3-Q5 in the Assessment section ask students to recognize that chemical interactions are largely determined by the valence electrons.
621	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(B) recognize that chemical changescan occur when substances react to form different substances and that these interactions are largely determined by the valence electrons	(ii) recognize that these interactions are largely determined by the valence electrons	TX2_US420402CD	Electron Configuration and the Tendency to Gain or Lose Electrons (TX2_US420402CD)	In Part 2 of the Activity Object, students either manipulate the number of electrons an element has based on the octet rule or view short video clips about how the element bonds with other elements.	
622	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(B) recognize that chemical changescan occur when substances react to form different substances and that these interactions are largely determined by the valence electrons	(ii) recognize that these interactions are largely determined by the valence electrons	TX2_US420402CD	Electron Configuration and the Tendency to Gain or Lose Electrons (TX2_US420402CD)	Part 3 of the Activity Object discusses the fact that chemical changes can occur when substances react to form different substances, and that these interactions are determined by the valence electrons.	
623	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(C) demonstrate that mass isconserved when substances undergo chemical change and that the number and kind of atoms are the same in the reactants and products	(i) demonstrate that mass is conserved when substances undergo chemical change	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	Parts 1, 2, and 3 of the Activity Object demonstrate, through interactive activities and animation clips, that mass is conserved when substances undergo chemical changes.	Q1 through 10 in the Assessment section ask students about mass being conserved when substances undergo chemical change.
624	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(C) demonstrate that mass isconserved when substances undergo chemical change and that the number and kind of atoms are the same in the reactants and products	(ii) demonstrate that the number of atoms [is] the same in the reactants and products [when substances undergo chemical change]	TX2_US480104CD	Writing and Balancing Chemical Equations (TX2_US480104CD)	Parts 2, 3, and 4 of the Activity Object demonstrate, through interactive activities and animation clips, that the number of atoms is the same in the reactants and products when substances undergo a chemical change.	Q1-Q2-Q5-Q8-Q9-Q10 in the Assessment section ask students to demonstrate that the number of atoms is the same in the reactants and products when substances undergo chemical change.
625	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(C) demonstrate that mass isconserved when substances undergo chemical change and that the number and kind of atoms are the same in the reactants and products	(ii) demonstrate that the number of atoms [is] the same in the reactants and products [when substances undergo chemical change]	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	Parts 2 and 3 of the Activity Object demonstrate, through interactive activities and animation clips, that the number of atoms are the same in the reactants and products when substances undergo a chemical change.	Q2 in the Assessment section asks students to demonstrate that the number of atoms is the same in the reactants and products when substances undergo chemical change.
626	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(C) demonstrate that mass isconserved when substances undergo chemical change and that the number and kind of atoms are the same in the reactants and products	(iii) demonstrate that the kind of atoms [is] the same in the reactants and products [when substances undergo chemical change]	TX2_US480104CD	Writing and Balancing Chemical Equations (TX2_US480104CD)	Parts 2, 3, and 4 of the Activity Object demonstrate, through interactive activities and animation clips, that the kind of atoms is the same in the reactants and products when substances undergo a chemical change.	Q1-Q2-Q5-Q8-Q9-Q10 in the Assessment section ask students to demonstrate that the kind of atoms is the same in the reactants and products when substances undergo chemical change.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
627	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(C) demonstrate that mass isconserved when substances undergo chemical change and that the number and kind of atoms are the same in the reactants and products	(iii) demonstrate that the kind of atoms [is] the same in the reactants and products [when substances undergo chemical change]	TX2_US480304XP	Conservation of Mass in Chemical Reactions (TX2_US480304XP)	Parts 2 and 3 of the Activity Object demonstrate, through an interactive activity and animation clips, that the kind of atoms is the same in the reactants and products when substances undergo a chemical change.	Q2-Q6-Q7-Q8-Q9-Q10 in the Assessment section ask students to demonstrate that the kind of atoms is the same in the reactants and products when substances undergo chemical change.
628	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(C) demonstrate that mass isconserved when substances undergo chemical change and that the number and kind of atoms are the same in the reactants and products	(iii) demonstrate that the kind of atoms [is] the same in the reactants and products [when substances undergo chemical change]	TX2_US4801A09	Elements and Compounds (TX2_US4801A09)	The Animation demonstrates that the kind of atoms is the same in the reactants and products when two elements are combined.	
629	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(D) analyze energy changes thataccompany chemical reactions such as those occurring in heat packs, cold packs, and glow sticks and classify them as exothermic or endothermic reactions	(i) analyze energy changes that accompany chemical reactions	TX2_US480202CD	Endothermic and Exothermic Reactions (TX2_US480202CD)	Part 1 of the Activity Object analyzes energy changes that accompany chemical reactions.	Q4-Q6-Q9-Q10 in the Assessment section ask students to analyze energy changes that accompany chemical reactions.
630	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(D) analyze energy changes thataccompany chemical reactions such as those occurring in heat packs, cold packs, and glow sticks and classify them as exothermic or endothermic reactions	(ii) classify [energy changes] as exothermic or endothermic reactions	TX2_US480202CD	Endothermic and Exothermic Reactions (TX2_US480202CD)	Part 2 of the Activity Object classifies energy changes as exothermic or endothermic.	Q1-Q2-Q3-Q4-Q5-Q7-Q8-Q9-Q10 in the Assessment section ask students to classify energy changes as exothermic or endothermic reactions.
631	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(D) analyze energy changes thataccompany chemical reactions such as those occurring in heat packs, cold packs, and glow sticks and classify them as exothermic or endothermic reactions	(ii) classify [energy changes] as exothermic or endothermic reactions	TX2_US480202CD	Endothermic and Exothermic Reactions (TX2_US480202CD)	In Part 3 of the Activity Object, students perform energy changes that are either exothermic or endothermic.	
632	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(D) analyze energy changes thataccompany chemical reactions such as those occurring in heat packs, cold packs, and glow sticks and classify them as exothermic or endothermic reactions	(ii) classify [energy changes] as exothermic or endothermic reactions	TX2_US480202CD	Endothermic and Exothermic Reactions (TX2_US480202CD)	Part 4 of the Activity Object classifies energy changes as exothermic or endothermic.	
633	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(E) describe types of nuclearreactions such as fission and fusion and their roles in applications such as medicine and energy production	(i) describe types of nuclear reactions	TX2_US260202CD	Radioactive Decay (TX2_US260202CD)	Parts 1, 2, and 3 of the Activity Object describe nuclear reactions.	Q1 through Q10 in the Assessment section ask students to describe types of nuclear reactions.
634	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(E) describe types of nuclearreactions such as fission and fusion and their roles in applications such as medicine and energy production	(i) describe types of nuclear reactions	TX2_US260201CD	Nuclear Energy: Fission (TX2_US260201CD)	Part 1 of the Activity Object describes nuclear reactions.	Q1 through Q10 in the Assessment section ask students to describe types of nuclear reactions.
635	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(E) describe types of nuclearreactions such as fission and fusion and their roles in applications such as medicine and energy production	(i) describe types of nuclear reactions	TX2_US260201CD	Nuclear Energy: Fission (TX2_US260201CD)	Part 2 of the Activity Object describes nuclear reactions.	
636	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(E) describe types of nuclearreactions such as fission and fusion and their roles in applications such as medicine and energy production	(i) describe types of nuclear reactions	TX2_US260201CD	Nuclear Energy: Fission (TX2_US260201CD)	Part 3 of the Activity Object describes nuclear reactions.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
637	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(E) describe types of nuclearreactions such as fission and fusion and their roles in applications such as medicine and energy production	(i) describe types of nuclear reactions	TX2_US260201CD	Nuclear Energy: Fission (TX2_US260201CD)	The Enrichment Sheet describes types of nuclear reactions.	A question in the Enrichment Sheet asks students to describe types of nuclear reactions.
638	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(E) describe types of nuclearreactions such as fission and fusion and their roles in applications such as medicine and energy production	(ii) describe [the] role [of nuclear reactions] in applications	TX2_US2601A02	Examples of Atomic and Nuclear Phenomena (TX2_US2601A02)	The Animation describes the role of nuclear reactions in applications.	Q2-Q3-Q4 of the "After the Animation" section of the Question-Answer Sheet ask students to describe the role of nuclear reactions in applications.
639	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(E) describe types of nuclearreactions such as fission and fusion and their roles in applications such as medicine and energy production	(ii) describe [the] role [of nuclear reactions] in applications	TX2_US260201CD	Nuclear Energy: Fission (TX2_US260201CD)	Part 1 of the Activity Object describes the role of nuclear reactions in applications.	
640	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(E) describe types of nuclearreactions such as fission and fusion and their roles in applications such as medicine and energy production	(ii) describe [the] role [of nuclear reactions] in applications	TX2_US260201CD	Nuclear Energy: Fission (TX2_US260201CD)	Part 4 of the Activity Object describes the role of nuclear reactions in applications.	
641	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(i) research the environmental impact of the end-products of chemical reactions	TX2_US210314CD	Energy Conversions in a Power Plant (TX2_US210314CD)	The Activity Object describes the environmental impact of a coal power plant.	Questions in the Enrichment Sheet ask students to research the economic and environmental impact of end-products of chemical reactions and then describe such impacts.
642	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(i) research the environmental impact of the end-products of chemical reactions	TX2_US210314CD	Energy Conversions in a Power Plant (TX2_US210314CD)	The Enrichment Sheet requires students to research the economic and environmental impact of end-products of chemical reactions.	
643	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(i) research the environmental impact of the end-products of chemical reactions	TX2_US210312CD	Nonrenewable Energy Sources (TX2_US210312CD)	Parts 1 and 2 of the Activity Object describe the environmental impact of a coal power plant.	
644	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(i) research the environmental impact of the end-products of chemical reactions	TX2_US210313CD	Renewable Energy Sources (TX2_US210313CD)	Parts 1 and 2 of the Activity Object describe the environmental impact of chemical reactions from renewable and nonrenewable energy sources.	
645	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(i) research the environmental impact of the end-products of chemical reactions	TX2_US260201CD	Nuclear Energy: Fission (TX2_US260201CD)	Parts 1 and 4 of the Activity Object discuss the environmental impact of end-products from nuclear fission.	

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
646	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(i) research the environmental impact of the end-products of chemical reactions	TX2_US6106A17	Acid Rain (TX2_US6106A17)	The Animation describes how the end-products of chemical reactions result in air pollution and acid rain.	
647	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(ii) research the economic impact of the end-products of chemical reactions	TX2_US210314CD	Energy Conversions in a Power Plant (TX2_US210314CD)	The Activity Object describes the economic impact of a coal power plant on a community.	Questions in the Enrichment Sheet ask students to research the economic and environmental impact of end-products of chemical reactions and then describe such impacts.
648	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(ii) research the economic impact of the end-products of chemical reactions	TX2_US210314CD	Energy Conversions in a Power Plant (TX2_US210314CD)	The Enrichment Sheet requires students to research the economic and environmental impact of end-products of chemical reactions.	
649	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(ii) research the economic impact of the end-products of chemical reactions	TX2_US210312CD	Nonrenewable Energy Sources (TX2_US210312CD)	Parts 1 and 2 of the Activity Object describe the economic impact of a coal power plant on a community.	
650	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(ii) research the economic impact of the end-products of chemical reactions	TX2_US210313CD	Renewable Energy Sources (TX2_US210313CD)	Parts 1 and 2 of the Activity Object describe the economic impact of chemical changes from renewable and nonrenewable energy sources.	
651	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(ii) research the economic impact of the end-products of chemical reactions	TX2_US260201CD	Nuclear Energy: Fission (TX2_US260201CD)	Parts 1 and 4 of the Activity Object discuss the economic impact of end-products from nuclear fission.	
652	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(ii) research the economic impact of the end-products of chemical reactions	TX2_US6106A17	Acid Rain (TX2_US6106A17)	The Animation describes how the end-products of chemical reactions result in air pollution and acid rain. It also discusses the economic impact.	
653	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(iii) describe the environmental impact of the end-products of chemical reactions	TX2_US210314CD	Energy Conversions in a Power Plant (TX2_US210314CD)	The Activity Object describes the environmental impact of a coal power plant.	Questions in the Enrichment Sheet ask students to describe the economic and environmental impact of end-products of chemical reactions.

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#	TEKS (Knowledge and Skills)	Student Expectation	Breakout	Item Number	Component	Learning Component Description	Assessment Component Description
654	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(iii) describe the environmental impact of the end-products of chemical reactions	TX2_US210314CD	Energy Conversions in a Power Plant (TX2_US210314CD)	The Enrichment Sheet requires students to describe the economic and environmental impact of end-products of chemical reactions.	
655	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(iii) describe the environmental impact of the end-products of chemical reactions	TX2_US210312CD	Nonrenewable Energy Sources (TX2_US210312CD)	Parts 1 and 2 of the Activity Object describe the environmental impact of a coal power plant.	
656	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(iii) describe the environmental impact of the end-products of chemical reactions	TX2_US210313CD	Renewable Energy Sources (TX2_US210313CD)	Parts 1 and 2 of the Activity Object describe the environmental impact of chemical changes from renewable and nonrenewable energy sources.	
657	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(iii) describe the environmental impact of the end-products of chemical reactions	TX2_US260201CD	Nuclear Energy: Fission (TX2_US260201CD)	Parts 1 and 4 discuss the environmental impact of the end-products of nuclear fission.	
658	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(iii) describe the environmental impact of the end-products of chemical reactions	TX2_US6106A17	Acid Rain (TX2_US6106A17)	The Animation describes how the end-products of chemical reactions result in air pollution and acid rain.	
659	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(iv) describe the economic impact of the end-products of chemical reactions	TX2_US210314CD	Energy Conversions in a Power Plant (TX2_US210314CD)	The Activity Object describes the economic impact of a coal power plant on a community.	Questions in the Enrichment Sheet ask students to describe the economic and environmental impact of end-products of chemical reactions.
660	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(iv) describe the economic impact of the end-products of chemical reactions	TX2_US210314CD	Energy Conversions in a Power Plant (TX2_US210314CD)	The Enrichment Sheet requires students to describe the economic and environmental impact of end-products of chemical reactions.	
661	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(iv) describe the economic impact of the end-products of chemical reactions	TX2_US210312CD	Nonrenewable Energy Sources (TX2_US210312CD)	Parts 1 and 2 of the Activity Object describe the economic impact of a coal power plant on a community.	

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662	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(iv) describe the economic impact of the end-products of chemical reactions	TX2_US210313CD	Renewable Energy Sources (TX2_US210313CD)	Parts 1 and 2 of the Activity Object describe the economic impact of chemical changes from renewable and nonrenewable energy sources.	
663	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(iv) describe the economic impact of the end-products of chemical reactions	TX2_US260201CD	Nuclear Energy: Fission (TX2_US260201CD)	Parts 1 and 4 discuss the economic impact of end-products from nuclear fission.	
664	(7) Science concepts. Thestudent knows that changes in matter affect everyday life. The student is expected to:	(F) research and describe theenvironmental and economic impact of the end-products of chemical reactions such as those that may result in acid rain, degradation of water and air quality, and ozone depletion	(iv) describe the economic impact of the end-products of chemical reactions	TX2_US6106A17	Acid Rain (TX2_US6106A17)	The Animation describes how the end products of chemical reactions result in air pollution and acid rain. It also discusses the economic impact.	