| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|---|--|--|---|-----------------|---|---|---|
| 1 | (1) Scientific investigation and reasoning. The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to: | (A) demonstrate safe practices during laboratory and field investigations as outlined in the Texas Safety Standards | (i) demonstrate safe practices during laboratory investigations as outlined in the Texas Safety Standards | TX2_USSAN200102 | The Safety of Classroom Investigations (TX2_USSAN200102) | The Animation demonstrates safe practices in classroom investigations as described in the Texas Safety Standards. | The Question-Answer Sheet asks students to demonstrate safe practices in classroom investigations as described in the Texas Safety Standards . |
| 2 | (1) Scientific investigation and reasoning. The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to: | (A) demonstrate safe practices during laboratory and field investigations as outlined in the Texas Safety Standards | demonstrate safe practices during laboratory investigations as outlined in the Texas Safety Standards | TX2_USSSM200101 | Laboratory Safety (TX2_USSSM200101) | In the Enrichment Sheet, students learn safe practices during laboratory investigations as described in the Texas Safety Standards. | In the Enrichment Sheet, students are asked to demonstrate safe practices during laboratory investigations as described in the Texas Safety Standards. |
| 3 | (1) Scientific investigation and reasoning. The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to: | (A) demonstrate safe practices during laboratory and field investigations as outlined in the Texas Safety Standards | (i) demonstrate safe practices during laboratory investigations as outlined in the Texas Safety Standards | TX2_USSSM200101 | Laboratory Safety (TX2_USSSM200101) | The Activity Object demonstrates safe practices during laboratory investigations as described in the Texas Safety Standards. | In the Activity Sheet, students are asked to demonstrate safe practices during laboratory investigations as described in the Texas Safety Standards. |
| 4 | (1) Scientific investigation and reasoning. The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to: | (A) demonstrate safe practices during laboratory and field investigations as outlined in the Texas Safety Standards | (ii) demonstrate safe practices during field investigations as outlined in the Texas Safety Standards | TX2_USSAN200110 | The Safety of Outdoor Investigations (TX2_USSAN200110) | The Animation demonstrates safe practices during field investigations as outlined in the Texas Safety Standards. | In the Question-Answer Sheet, students are assessed on safe practices during field investigations as outlined in the Texas Safety Standards. |
| 5 | (1) Scientific investigation and reasoning. The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to: | (B) practice appropriate use and conservation of resources, including disposal, reuse, or recycling of materials | (i) practice appropriate use of resources, including disposal, reuse, or recycling of materials | TX2_USSSM200101 | Laboratory Safety (TX2_USSSM200101) | After clicking on the unsafe trash can in Part 3 of the Activity Object, students are presented with a description of the proper disposal and recycling of materials. | |
| 6 | (1) Scientific investigation and reasoning. The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to: | (B) practice appropriate use and conservation of resources, including disposal, reuse, or recycling of materials | (i) practice appropriate use of resources, including disposal, reuse, or recycling of materials | TX2_USSSM200101 | Laboratory Safety (TX2_USSSM200101) | Enrichment Sheet 1 teaches appropriate use of resources, including disposal, reuse, or recycling of materials. | Enrichment Sheet 1 assesses appropriate use of resources, including disposal, reuse, or recycling of materials. |
| 7 | (1) Scientific investigation and reasoning. The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to: | (B) practice appropriate use and conservation of resources, including disposal, reuse, or recycling of materials | (ii) practice appropriate conservation of resources, including disposal, reuse, or recycling of materials | TX2_USSSM200101 | Laboratory Safety (TX2_USSSM200101) | In Part 3 of the Activity Object, students are presented with a description of appropriate conservation of resources, including disposal, reuse, or recycling of materials. | |
| 8 | (1) Scientific investigation and reasoning. The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to: | (B) practice appropriate use and conservation of resources, including disposal, reuse, or recycling of materials | (ii) practice appropriate conservation of resources, including disposal, reuse, or recycling of materials | TX2_USSSM200101 | Laboratory Safety (TX2_USSSM200101) | Enrichment Sheet 1 teaches appropriate conservation of resources, including disposal, reuse, or recycling of materials. | Enrichment Sheet 1 assesses appropriate conservation of resources, including disposal, reuse, or recycling of materials. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Departmention | Assessment Component Description |
|----|--|---|--|-----------------|---|---|---|
| 9 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (A) plan and implement comparative and descriptive investigations by | investigations by making observations | TX2_USSSM130406 | Component Hurricane Formation (TX2_USSSM130406) | Learning Component Description In the Activity Object, students plan comparative investigations by making observations on hurricane formation. | In the Investigation Sheet, students are expected to plan comparative investigations by making observations. |
| 10 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | | (i) plan comparative investigations by making observations | TX2_USSSM180204 | Introduction to Classification (TX2_USSSM180204) | In the Activity Object, students plan comparative investigations by making observations. | |
| 11 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (A) plan and implement comparative and descriptive investigations by making observations, asking well- defined questions, and using appropriate equipment and technology | (i) plan comparative investigations by making observations | TX2_USSSM160106 | Comparing Plant and Animal Cells (TX2_USSSM160106) | In the Activity Object, students plan comparative investigations on plant and animal cells by making observations. | |
| 12 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (A) plan and implement comparative and descriptive investigations by making observations, asking well- defined questions, and using appropriate equipment and technology | (i) plan comparative investigations by making observations | TX2_USSSM180202 | Classification of Animals (TX2_USSSM180202) | In the Activity Object, students plan comparative investigations by making observations. | |
| 13 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (A) plan and implement comparative and descriptive investigations by making observations, asking well- defined questions, and using appropriate equipment and technology | (ii) plan comparative investigations by asking well- defined questions | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students plan comparative investigations by asking well- defined questions about hurricane formation. | In the Investigation Sheet, students are expected to plan comparative investigations by asking well-defined questions. |
| 14 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (A) plan and implement comparative and descriptive investigations by making observations, asking well- defined questions, and using appropriate equipment and technology | (iii) plan comparative investigations by using appropriate equipment | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students plan comparative investigations by using appropriate equipment for hurricane formation. | In the Investigation Sheet, students are expected to plan comparative investigations by using appropriate equipment. |
| 15 | during laboratory and field investigations. The student is expected to: | (A) plan and implement comparative and descriptive investigations by making observations, asking well- defined questions, and using appropriate equipment and technology | (iii) plan comparative investigations by using appropriate equipment | TX2_USSSM160105 | Cell Theory and Cell Types (TX2_USSSM160105) | In the Activity Object, students plan comparative investigations by using appropriate equipment. | |
| 16 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (A) plan and implement comparative and descriptive investigations by making observations, asking well- defined questions, and using appropriate equipment and technology | (iv) plan comparative investigations by using appropriate technology | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students plan comparative investigations by using appropriate technology to study hurricane formation. | In the Investigation Sheet, students are expected to plan comparative investigations by using appropriate technology. |
| 17 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (A) plan and implement comparative and descriptive investigations by making observations, asking well- defined questions, and using appropriate equipment and technology | (v) implement comparative investigations by making observations | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students implement comparative investigations by making observations on hurricane formation. | In the Investigation Sheet, students are expected to implement comparative investigations by making observations. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|----|--|---|---|-----------------|---|--|--|
| 18 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods | (A) plan and implement comparative and descriptive investigations by | (v) implement comparative investigations by making observations | TX2_USSSM180204 | Introduction to Classification (TX2_USSSM180204) | In the Activity Object, students implement comparative investigations by making observations. | Assessment component beschpion |
| 19 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (A) plan and implement comparative and descriptive investigations by making observations, asking well- defined questions, and using appropriate equipment and technology | (v) implement comparative investigations by making observations | TX2_USSSM160106 | Comparing Plant and Animal Cells (TX2_USSSM160106) | In the Activity Object, students implement comparative investigations on plant and animal cells by making observations. | |
| 20 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | and descriptive investigations by | (v) implement comparative investigations by making observations | TX2_USSSM180202 | Classification of Animals (TX2_USSSM180202) | In the Activity Object, students implement comparative investigations by making observations. | |
| 21 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | and descriptive investigations by | (vi) implement comparative investigations by asking well- defined questions | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students implement comparative investigations by asking well- defined questions about hurricane formation. | In the Investigation Sheet, students are expected to implement comparative investigations by asking well-defined questions. |
| 22 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | and descriptive investigations by | (vii) implement comparative investigations by using appropriate equipment | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students implement comparative investigations by using appropriate equipment to study hurricane formation. | In the Investigation Sheet, students are expected to implement comparative investigations by using appropriate equipment. |
| 23 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (A) plan and implement comparative and descriptive investigations by making observations, asking well- defined questions, and using appropriate equipment and technology | (vii) implement comparative investigations by using appropriate equipment | TX2_USSSM160105 | Cell Theory and Cell Types (TX2_USSSM160105) | In the Activity Object, students implement comparative investigations by using appropriate equipment. | |
| 24 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (A) plan and implement comparative and descriptive investigations by making observations, asking well- defined questions, and using appropriate equipment and technology | (viii) implement comparative investigations by using appropriate technology | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students implement comparative investigations by using appropriate technology on hurricane formation. | In the Investigation Sheet, students are expected to implement comparative investigations by using appropriate technology. |
| 25 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | and descriptive investigations by making observations, asking well- defined questions, and using appropriate equipment and technology | (ix) plan descriptive investigations by making observations | TX2_USSSM180102 | Sorting and Identifying Animal Fossils (TX2_USSSM180102) | In the Activity Object, students plan descriptive investigations by making observations on sorting and identifying animal fossils. | In the Investigation Sheet, students are expected to plan descriptive investigations by making observations. |
| 26 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | and descriptive investigations by | (x) plan descriptive investigations by asking well- defined questions | TX2_USSSM180102 | Sorting and Identifying Animal Fossils (TX2_USSSM180102) | In the Activity Object, students plan descriptive investigations by asking well- defined questions on sorting and identifying animal fossils. | In the Investigation Sheet, students are expected to plan descriptive investigations by asking well-defined questions. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|----|--|---|---|-----------------|---|---|--|
| 27 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods | (A) plan and implement comparative and descriptive investigations by | | TX2_USSSM180102 | Sorting and Identifying Animal Fossils (TX2_USSSM180102) | In the Activity Object, students plan descriptive investigations by using | In the Investigation Sheet, students are expected to plan descriptive investigations |
| | The student is expected to: | , , | appropriate equipment | | (172_030300100102) | appropriate equipment on sorting and identifying animal fossils. | by using appropriate equipment. |
| 28 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | | (xi) plan descriptive investigations by using appropriate equipment | TX2_USSSM050101 | Separation of Mixtures (TX2_USSSM050101) | In the Activity Object, students plan descriptive investigations by using appropriate equipment to separate mixtures. | |
| 29 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | and descriptive investigations by | (xii) plan descriptive investigations by using appropriate technology | TX2_USSSM180102 | Sorting and Identifying Animal Fossils (TX2_USSSM180102) | In the Activity Object, students plan descriptive investigations by using appropriate technology to sort and identify animal fossils. | In the Investigation Sheet, students are expected to plan descriptive investigations by using appropriate technology. |
| 30 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | | (xiii) implement descriptive investigations by making observations | TX2_USSSM180102 | Sorting and Identifying Animal Fossils (TX2_USSSM180102) | In the Activity Object, students implement descriptive investigations by making observations on sorting and identifying animal fossils. | In the Investigation Sheet, students are expected to implement descriptive investigations by making observations. |
| 31 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | and descriptive investigations by | (xiv) implement descriptive investigations by asking well- defined questions | TX2_USSSM180102 | Sorting and Identifying Animal Fossils (TX2_USSSM180102) | In the Activity Object, students implement descriptive investigations by asking well- defined questions on sorting and identifying animal fossils. | In the Investigation Sheet, students are expected to implement descriptive investigations by asking well-defined questions. |
| 32 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (A) plan and implement comparative and descriptive investigations by making observations, asking well- defined questions, and using appropriate equipment and technology | (xv) implement descriptive investigations by using appropriate equipment | TX2_USSSM180102 | Sorting and Identifying Animal Fossils (TX2_USSSM180102) | In the Activity Object, students implement descriptive investigations by using appropriate equipment to sort and identify animal fossils. | In the Investigation Sheet, students are expected to implement descriptive investigations by using appropriate equipment. |
| 33 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | and descriptive investigations by | (xv) implement descriptive investigations by using appropriate equipment | TX2_USSSM050101 | Separation of Mixtures (TX2_USSSM050101) | In the Activity Object, students implement descriptive investigations by using appropriate equipment on separation of mixtures. | |
| 34 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | | (xvi) implement descriptive investigations by using appropriate technology | TX2_USSSM180102 | Sorting and Identifying Animal Fossils (TX2_USSSM180102) | In the Activity Object, students implement descriptive investigations by using appropriate technology to sort and identify animal fossils. | In the Investigation Sheet, students are expected to implement descriptive investigations by using appropriate technology. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|----|--|---|--|-----------------|--|---|---|
| 35 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement | (i) design comparative investigations by making observations | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students design comparative investigations by making observations on hurricane formation. | In Section 1 of the Activity Object, after completing the main activity in which the likelihood of several hurricanes is estimated using a simulator, the student enters "free mode," where they can set any of the parameters of the simulator and see what happens. This is used in conjunction with the Investigation Sheet to allow students to design and implement a comparative investigation. In the Investigation Sheet, students are expected to design comparative investigations by making observations with the simulator. |
| 36 | The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (ii) design comparative investigations by asking well- defined questions | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students design comparative investigations by asking well- defined questions. | In Section 1 of the Activity Object, after completing the main activity in which the likelihood of several hurricanes is estimated using a simulator, the student enters "free mode," where they can set any of the parameters of the simulator and see what happens. This is used in conjunction with the Investigation Sheet to allow students to design and implement a comparative investigation. In the Investigation Sheet, students are expected to design comparative investigations by asking well- defined questions that can be answered with the simulator. |
| 37 | | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (iii) design comparative investigations by formulating testable hypotheses | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students design comparative investigations by formulating testable hypotheses about hurricane formation. | In Section 1 of the Activity Object, after completing the main activity in which the likelihood of several hurricanes is estimated using a simulator, the student enters "free mode," where they can set any of the parameters of the simulator and see what happens. This is used in conjunction with the Investigation Sheet to allow students to design and implement a comparative investigation. In the Investigation Sheet, students are expected to design comparative investigations by formulating testable hypotheses that can be answered with the simulator. |
| 38 | | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (iv) design comparative investigations by using appropriate equipment | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students design comparative investigations by using appropriate equipment. | In Section 1 of the Activity Object, after completing the main activity in which the likelihood of several hurricanes is estimated using a simulator, the student enters "free mode," where they can set any of the parameters of the simulator and see what happens. This is used in conjunction with the Investigation Sheet to allow students to design and implement a comparative investigation. In the Investigation Sheet, students are expected to design comparative investigations by using appropriate equipment. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|----|--|---|--|-----------------|---|---|--|
| 39 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (v) design comparative investigations by using appropriate technology | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students design comparative investigations by using appropriate technology. | In Section 1 of the Activity Object, after completing the main activity in which the likelihood of several hurricanes is estimated using a simulator, the student enters "free mode," where they can set any of the parameters of the simulator and see what happens. This is used in conjunction with the Investigation Sheet to allow students to design and implement a comparative investigation. In the Investigation Sheet, students are expected to design comparative investigations by using appropriate technology. |
| 40 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (vi) implement comparative investigations by making observations | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students implement comparative investigations by making observations on hurricane formation. | In Section 1 of the Activity Object, after completing the main activity in which the likelihood of several hurricanes is estimated using a simulator, the student enters "free mode," where they can set any of the parameters of the simulator and see what happens. This is used in conjunction with the Investigation Sheet to allow students to design and implement a comparative investigation. In the Investigation Sheet, students are expected to implement comparative investigations by making observations with the simulator. |
| 41 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (vi) implement comparative investigations by making observations | TX2_USSSM180204 | Introduction to Classification (TX2_USSSM180204) | In the Activity Object, students implement comparative investigations by making observations. | |
| 42 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (vi) implement comparative investigations by making observations | TX2_USSSM160106 | Comparing Plant and Animal Cells (TX2_USSSM160106) | In the Activity Object, students implement comparative investigations on plant and animal cells by making observations. | |
| 43 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (vii) implement comparative investigations by asking well- defined questions | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students implement comparative investigations by asking well- defined questions about hurricane formation. | In the Investigation Sheet, students are expected to implement comparative investigations by asking well-defined questions. |

| # | TEKS (Knowledge and Skills) Student Expectation Breakout Item Number Component Learning Component Description Assessment Component Description | | | | | | | | | | |
|----|--|---|--|--------------------------------|---|---|--|--|--|--|--|
| # | (2) Scientific investigation and reasoning. | (B) design and implement | (viii) implement comparative | Item Number TX2_USSSM130406 | Component Hurricane Formation | Learning Component Description In the Activity Object, students implement | Assessment Component Description In Section 1 of the Activity Object, after | | | | |
| | The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | | time stigations by formulating testable hypotheses | | (TX2_USSSM130406) | comparative investigations by formulating testable hypotheses about hurricane formation. | completing the main activity in which the likelihood of several hurricanes is estimated using a simulator, the student enters "free mode," where they can set any of the parameters of the simulator and see what happens. This is used in conjunction with the Investigation Sheet to allow students to design and implement a comparative investigation. In the "Investigation Activity" are expected to implement comparative investigations by formulating testable hypotheses. | | | | |
| 45 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (ix) implement comparative investigations by using appropriate equipment | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students implement comparative investigations by using appropriate equipment to study hurricane formation. | In Section 1 of the Activity Object, after completing the main activity in which the likelihood of several hurricanes is estimated using a simulator, the student enters "free mode," where they can set any of the parameters of the simulator and see what happens. This is used in conjunction with the Investigation Sheet to allow students to design and implement a comparative investigation. In the Investigation Sheet, students are expected to implement comparative investigations by using appropriate equipment. | | | | |
| 46 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (ix) implement comparative investigations by using appropriate equipment | TX2_USSSM160105 | Cell Theory and Cell Types (TX2_USSSM160105) | In the Activity Object, students implement comparative investigations by using appropriate equipment. | | | | | |
| 47 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (x) implement comparative investigations by using appropriate technology | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In the Activity Object, students implement comparative investigations by using appropriate technology on hurricane formation. | In Section 1 of the Activity Object, after completing the main activity in which the likelihood of several hurricanes is estimated using a simulator, the student enters "free mode," where they can set any of the parameters of the simulator and see what happens. This is used in conjunction with the Investigation Sheet to allow students to design and implement a comparative investigation. In the Investigation Sheet, students are expected to implement comparative investigations by using appropriate technology. | | | | |
| 48 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xi) design experimental investigations by making observations | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Activity Object, students design experimental investigations by making observations on phototropism in plants | In the Investigation Sheet, students are expected to design experimental investigations by making observations. | | | | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Itom Number | Component | Learning Component Description | Accessment Component Description |
|----------------|---|--|--|--------------------------------|---|--|--|
| <u>#</u> 49 | TEKS (Knowledge and Skills) (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | Student Expectation (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xi) design experimental investigations by making observations | Item Number TX2_USSXP160109 | Component Osmosis (TX2_USSXP160109) | Learning Component Description In the Activity Object, students design experimental investigations by making observations on osmosis. | Assessment Component Description |
| 50 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xi) design experimental investigations by making observations | TX2_USSXP010404 | Conservation of Mass in Chemical Reactions (TX2_USSXP010404) | In the Activity Object, students design experimental investigations by making observations on conservation of mass in different chemical reactions. | |
| 51 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xii) design experimental investigations by asking well- defined questions | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Activity Object, students design experimental investigations by asking well- defined questions on phototropism in plants. | In the Investigation Sheet, students are expected to design experimental investigations by asking well-defined questions. |
| 52 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xii) design experimental investigations by asking well- defined questions | TX2_USSXP160101 | Plants' Needs for Photosynthesis (TX2_USSXP160101) | In the Activity Object, students design experimental investigations by asking well- defined questions on photosynthesis. | |
| 53 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xiii) design experimental investigations by formulating testable hypotheses | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Activity Object, students design experimental investigations by formulating testable hypotheses on phototropism in plants. | In the Investigation Sheet, students are expected to design experimental investigations by formulating testable hypotheses. |
| 54 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xiv) design experimental investigations by using appropriate equipment | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Activity Object, students design experimental investigations by using appropriate equipment to study phototropism in plants. | In the Investigation Sheet, students are expected to design experimental investigations by using appropriate equipment. |
| 55 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xiv) design experimental investigations by using appropriate equipment | TX2_USSSM160107 | Homeostasis (TX2_USSSM160107) | In the Activity Object, students design experimental investigations by using appropriate equipment to study homeostasis. | |
| 56 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xv) design experimental investigations by using appropriate technology | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Activity Object, students design experimental investigations by using appropriate technology to study phototropism in plants. | In the Investigation Sheet, students are expected to design experimental investigations by using appropriate technology. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|----|--|---|---|-----------------|---|---|---|
| 57 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement | (xv) design experimental investigations by using appropriate technology | TX2_USSSM160107 | Homeostasis (TX2_USSSM160107) | In the Activity Object, students design experimental investigations by using appropriate technology to study homeostasis. | |
| 58 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xvi) implement experimental investigations by making observations | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Activity Object, students implement experimental investigations by making observations on phototropism in plants. | In the Investigation Sheet, students record the data from the observations of their experiment in the Activity Object. |
| 59 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xvi) implement experimental investigations by making observations | TX2_USSXP160109 | Osmosis (TX2_USSXP160109) | In the Activity Object, students implement experimental investigations by making observations on osmosis. | |
| 60 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xvi) implement experimental investigations by making observations | TX2_USSXP010404 | Conservation of Mass in Chemical Reactions (TX2_USSXP010404) | In the Activity Object, students implement experimental investigations by making observations on conservation of mass in different chemical reactions. | |
| 61 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xvii) implement experimental investigations by asking well- defined questions | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Activity Object, students implement experimental investigations by asking well- defined questions about phototropism in plants. | In the Investigation Sheet, students are expected to implement experimental investigations by asking well-defined questions. |
| 62 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xvii) implement experimental investigations by asking well- defined questions | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Lab Sheet, students are taught to ask well-defined questions while implementing an experimental investigation. | In the Lab Sheet, students must provide their well defined questions regarding the implementation of their experiment. |
| 63 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xvii) implement experimental investigations by asking well- defined questions | TX2_USSXP160101 | Plants' Needs for Photosynthesis (TX2_USSXP160101) | In the Activity Object, students are shown how to implement experimental investigations by asking well-defined questions about photosynthesis. | |
| 64 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xviii) implement experimental investigations by formulating testable hypotheses | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Activity Object, students are shown how to implement experimental investigations by formulating testable hypotheses about phototropism in plants. | Q1 of the "Design an Experimental Investigation" section in the Investigation Sheet expects students to implement experimental investigations by formulating testable predictions/hypotheses. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|----|--|---|---|-----------------|--|---|---|
| 65 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement | (xviii) implement experimental investigations by formulating testable hypotheses | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Lab Sheet, students are taught to formulate testable hypotheses while implementing experimental investigations. | In the Lab Sheet, students must write out their testable hypotheses for their experimental investigations. |
| 66 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xix) implement experimental investigations by using appropriate equipment | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Activity Object, students are shown how to implement experimental investigations by using appropriate equipment to study phototropism in plants. | In the Investigation Sheet, students are expected to implement experimental investigations by using appropriate equipment. |
| 67 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xix) implement experimental investigations by using appropriate equipment | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Lab Sheet, students are shown how to implement an investigation by using scissors, protractors, rulers, and lamps. | In the Lab Sheet, students must make a sketch of their experimental setup, and they must record the data they collected with the aid of the rulers, protractors, and lamps. |
| 68 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xix) implement experimental investigations by using appropriate equipment | TX2_USSSM160107 | Homeostasis (TX2_USSSM160107) | In the Activity Object, students are shown how to implement experimental investigations by using appropriate equipment to study homeostasis. | In the Investigation Sheet, students are expected to enter the data from the experimental investigations they performed in the Activity Object. This data includes information regarding the appropriate equipment (timer, solutions) they used to study homeostasis. |
| 69 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xx) implement experimental investigations by using appropriate technology | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Activity Object, students are shown how to implement experimental investigations by using appropriate technology to study phototropism in plants. | In the Investigation Sheet, students are expected to describe how they implemented experimental investigations with the use of appropriate technology. |
| 70 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xx) implement experimental investigations by using appropriate technology | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Lab Sheet, students are taught how to implement an investigation with the aid of a calculator. | Q1 of the "Design an Experimental Investigation" section of the Lab Sheet expects students to use a calculator to record the results of their experimental investigations. This includes the creation of a graph. |
| 71 | during laboratory and field investigations. The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xx) implement experimental investigations by using appropriate technology | TX2_USSSM160107 | Homeostasis (TX2_USSSM160107) | In the Activity Object, students are shown how to implement experimental investigations by using appropriate technology to study homeostasis. | In the Investigation Sheet, students are expected to implement experimental investigations by using appropriate technology (simulated microscope). Data from the investigations is entered in the sheet. |
| 72 | The student is expected to: | (B) design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology | (xx) implement experimental investigations by using appropriate technology | TX2_USSSM010202 | Calculating Atomic Mass (TX2_USSSM010202) | In the Activity Object, students are shown how to implement experimental investigations by using a simulated mass spectrometer. | In the Activity Sheet, students must answer questions about their experiment investigations, including the use of appropriate technology. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|----|--|--|---|-----------------|--|---|--|
| 73 | (2) Scientific investigation and reasoning. | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (i) collect data using the International System of Units (SI) | TX2_USSXP040201 | Heat Conduction (TX2_USSXP040201) | In the Activity Object, students collect data using the International System of Units (SI). | |
| 74 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (i) collect data using the International System of Units (SI) | TX2_USSSM030104 | Physical Properties (TX2_USSSM030104) | In the Activity Object, students collect data using the International System of Units (SI). | In the Activity Sheet, students enter the data that they collected, using SI units (g, ml). |
| 75 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (i) collect data using the International System of Units (SI) | TX2_USSSM200102 | SI Units and Dimensional Analysis (TX2_USSSM200102) | In the Activity Object, students collect data using the International System of Units (SI). | |
| 76 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (i) collect data using the International System of Units (SI) | TX2_USSXP080102 | Balanced and Unbalanced Forces (TX2_USSXP080102) | In the Activity Object, students collect data using the International System of Units (SI). | In the Activity Sheet, students enter data that they collected, using SI units (N). |
| 77 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (i) collect data using the International System of Units (SI) | TX2_USSAN200108 | Tools for Scientific Analysis: Tape Measures (TX2_USSAN200108) | In the Lab Sheet, students use a metric ruler to measure the distance food coloring travels up a celery stalk. Students then record their data (in cm) in a table. | In the Lab Sheet, students must use a metric ruler to measure the distance that food coloring travels up a celery stalk. Students must then record their data (in cm) in a table. |
| 78 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (ii) collect data using qualitative means | TX2_USSSM160105 | Cell Theory and Cell Types (TX2_USSSM160105) | In the Part 2 of the Activity Object, students are shown how to collect data using qualitative means. | In the Part 2 of the Activity Object, students collect data using qualitative means. Students enter data in a chart, and their responses are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. |
| 79 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (ii) collect data using qualitative means | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | In the Lab Sheet, students are shown how to use a spectroscope to see spectral lines of different substances. They are also shown how to record this data by using colored pencils to make a drawing. | In the Lab Sheet, students use a spectroscope to see spectral lines of different substances. Students must then record this data in the Lab Sheet by using colored pencils to make a drawing. |
| 80 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (ii) collect data using qualitative means | TX2_USSSM130101 | Drilling into Groundwater (TX2_USSSM130101) | In the Activity Object, students collect data using qualitative means. | |
| 81 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (ii) collect data using qualitative means | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Activity Object, students collect data using qualitative means. | |
| 82 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (ii) collect data using qualitative means | TX2_USSSM030104 | Physical Properties (TX2_USSSM030104) | In the Activity Object, students are shown how to collect data on electrical conductivity using qualitative means. | In the Activity Sheet, students must enter the qualitative data that they collected on the conductivity of substances, by entering "yes" or "no" in a table. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|----|--|--|--|-----------------|---|---|---|
| 83 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the | | TX2_USSXP080102 | Balanced and Unbalanced Forces (TX2_USSXP080102) | In the Activity Object, students collect data about whether or not an object moves under a certain combination of forces. | In the Activity Sheet, students must enter the data that they collected for the movement of objects under different forces, by entering "yes" or "no" in a table. |
| 84 | The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (ii) collect data using qualitative means | TX2_USSAN200111 | Water Test Kits (TX2_USSAN200111) | In the Lab Sheet, students use pH test strips to collect data, and then record the color changes observed in different water samples. | In the Lab Sheet, students use the data collected in their experiments to record the color changes observed on pH text strips exposed to different solutions. The collected data is displayed in a table. |
| 85 | The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (iii) record data using the International System of Units (SI) | TX2_USSXP040201 | Heat Conduction (TX2_USSXP040201) | In the Activity Object, students record data using the International System of Units (SI). | In the Lab Sheet, students must record the data they collected from their heat conduction experiments. |
| 86 | The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (iii) record data using the International System of Units (SI) | TX2_USSSM030104 | Physical Properties (TX2_USSSM030104) | In the Activity Object, students record data using the International System of Units (SI). | In the Activity Sheet, students record the data that they collect using SI units (g, ml). |
| 87 | The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (iii) record data using the International System of Units (SI) | TX2_USSSM200102 | SI Units and Dimensional Analysis (TX2_USSSM200102) | In the Activity Object, students record data using the International System of Units (SI). | In the Activity Sheet, students record the data that they collect using SI units. |
| 88 | The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (iii) record data using the International System of Units (SI) | TX2_USSXP080102 | Balanced and Unbalanced Forces (TX2_USSXP080102) | In the Activity Object, students are shown how to record data using the International System of Units (SI). | In the Activity Sheet, students record the data that they collect using SI units (N) |
| 89 | The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (iii) record data using the International System of Units (SI) | TX2_USSAN200108 | Tools for Scientific Analysis: Tape Measures (TX2_USSAN200108) | In the Lab Sheet, students use a metric ruler to measure the distance food coloring travels up a celery stalk. Students then record their data (in cm) in a table. | In the Lab Sheet, students use a metric ruler to measure the distance food coloring travels up a celery stalk. Students then record their data (in cm) in a table. |
| 90 | The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (iv) record data using qualitative means | TX2_USSSM160105 | Cell Theory and Cell Types (TX2_USSSM160105) | In the Activity Object, students are shown how to record data using qualitative means. | |
| 91 | The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (iv) record data using qualitative means | TX2_USSSM030104 | Physical Properties (TX2_USSSM030104) | | In the Activity Sheet, students record qualitative data that they collected on the conductivity of substances, as "yes" or "no" in a table. |
| 92 | The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (iv) record data using qualitative means | TX2_USSSM160105 | Cell Theory and Cell Types (TX2_USSSM160105) | | In the Part 2 of the Activity Object, students collect, and then record, qualitative data in a chart. The data is entered in a chart, and student responses are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. |

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|---------|---|---|---|--------------------------------|---|---|--|
| # 93 | TEKS (Knowledge and Skills) (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | Student Expectation (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | Breakout (iv) record data using qualitative means | Item Number TX2_USSSM130101 | Component Drilling into Groundwater (TX2_USSSM130101) | Learning Component Description In the Activity Object, students record data using qualitative means. | Assessment Component Description |
| 94 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (iv) record data using qualitative means | TX2_USSSM010502 | Bohr (TX2_USSSM010502) | In the Lab Sheet, students use a spectroscope to see spectral lines of different substances. Students then record this data. | In the Lab Sheet, students use a spectroscope to see spectral lines of different substances. Students must then record this data using colored pencils to make a drawing. |
| 95 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (iv) record data using qualitative means | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Activity Object, students record data using qualitative means. | |
| 96 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers | (iv) record data using qualitative means | TX2_USSAN200111 | Water Test Kits (TX2_USSAN200111) | In the Lab Sheet, students use pH test strips to collect data. Students then record the color changes observed in different water samples. | In the Lab Sheet, students use the data collected in their experiments to record the color changes observed on pH text strips exposed to different solutions. The recorded data is displayed in a table. |
| 97 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (i) construct tables, using repeated trials, to organize data | TX2_USSSM160107 | Homeostasis (TX2_USSSM160107) | In the Activity Object, students construct tables, using repeated trials and means, to organize data. | In the Activity Sheet, students create a table from repeated trials, then average data to find patterns. |
| 98 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (i) construct tables, using repeated trials, to organize data | TX2_USSXP080102 | Balanced and Unbalanced Forces (TX2_USSXP080102) | In the Activity Object, students experiment, using repeated trials with various combinations of weights, and a table of data is later constructed from these trials. | In the Activity Sheet, students must record/organize the data that they collected from their trials, by constructing a table. |
| 99 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (i) construct tables, using repeated trials, to organize data | TX2_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | In the Lab Sheet students learn how to construct a table, using repeated trials, to organize data. | In the Lab Sheet, students are assessed on their ability to construct a table, using repeated trials, to organize data. |
| 100 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (ii) construct tables, using repeated trials, to identify patterns | TX2_USSSM160107 | Homeostasis (TX2_USSSM160107) | In the Activity Object, students construct tables, using repeated trials and means, to organize data and identify patterns. | In the Activity Sheet, students must record data, from repeated trials, by constructing a table to organize data and identify patterns. Students must average their data to find patterns. |
| 101 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (ii) construct tables, using repeated trials, to identify patterns | TX2_USSXP010404 | Conservation of Mass in Chemical Reactions (TX2_USSXP010404) | In the Activity Object, students construct tables, using repeated trials and means, to organize data and identify patterns on conservation of mass in different chemical reactions. | <u>.</u> |
| 102 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (ii) construct tables, using repeated trials, to identify patterns | TX2_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | In the Lab Sheet, students learn how to construct a table, using repeated trials, to organize data and identify patterns. | In the Lab Sheet, students are assessed on their ability to construct a table, using repeated trials, to organize data and identify patterns. Students must average their data to find patterns. |
| 103 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (iii) construct graphs, using repeated trials, to organize data | TX2_USSSM190301 | Graphical Visualization of Air Pollution (TX2_USSSM190301) | In the Activity Object, students construct graphs, using repeated trials and means, to organize data. | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|--|--|--|-----------------|--|---|---|
| 104 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, | (iii) construct graphs, using repeated trials, to organize data | TX2_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | In the Lab Sheet, students learn how to construct a graph, using repeated trials, to organize data and identify patterns. | In the Lab Sheet, students are assessed on their ability to construct a graph, using repeated trials, to organize data and identify patterns. Students must average their data to find patterns, and build a graph to show the patterns. |
| 105 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (iv) construct graphs, using repeated trials, to identify patterns | TX2_USSSM190301 | Graphical Visualization of Air Pollution (TX2_USSSM190301) | In the Activity Object, students construct graphs using repeated trials and means to identify patterns. | |
| 106 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (iv) construct graphs, using repeated trials, to identify patterns | TX2_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | In the Lab Sheet, students learn how to construct graphs, using repeated trials, to identify patterns. | In the Lab Sheet, students are assessed on their ability to construct a graph, using repeated trials, to organize data and identify patterns. Students must average their data to find patterns, and build a graph to show the patterns. |
| 107 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (v) construct tables, using repeated means, to organize data | TX2_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | In the Lab Sheet, students learn how to construct tables, using repeated means, to organize data | In the Lab Sheet, students are assessed on their ability to construct tables, using repeated means, to organize data. |
| 108 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (vi) construct tables, using means, to identify patterns | TX2_USSXP080102 | Balanced and Unbalanced Forces (TX2_USSXP080102) | In the Activity Object, students experiment with various combinations of weights in order to construct a table of data from these trials. Patterns in the motion of the combinations of weights are then identified. | In the Activity Sheet, students record the data that they collected from their trials, in a table. Students then use patterns in this data to answer a question about the relationship between force and motion. |
| 109 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (vi) construct tables, using means, to identify patterns | TX2_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | In the Lab Sheet, students learn how to construct tables, using means, to identify patterns. | In the Lab Sheet, students are assessed on their ability to construct tables, using means, to identify patterns. |
| 110 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (vii) construct graphs, using means, to organize data | TX2_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | In the Lab Sheet, students learn how to construct graphs, using means, to organize data. | In the Lab Sheet, students are assessed on their ability to construct graphs, using means, to organize data. |
| 111 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (viii) construct graphs, using means, to identify patterns | TX2_USSAN080204 | Motion Graph of Constant Velocity (TX2_USSAN080204) | The animation shows how to construct a graph, using means, to show patterns from data that is in a table. | In the Question-Answer Sheet, students are asked to construct a motion graph from data in a table. Students must also interpret the pattern shown on the graph. |
| 112 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | organize data and identify patterns | (viii) construct graphs, using means, to identify patterns | TX2_USSSM080202 | Truck On: Position-Time and Velocity- Time Graphs (TX2_USSSM080202) | In Part 1 of the Activity Object, students construct graphs of a moving vehicle in order to identify patterns. | In the Activity Object, students are asked to identify patterns from graphs. Student responses are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. |
| 113 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (viii) construct graphs, using means, to identify patterns | TX2_USSSM190301 | Graphical Representation of Air Pollution (TX2_USSSM190301) | In the Activity Object, students construct graphs of the number of cars, and relate them to graphs showing air pollution, in order to identify patterns. | In the Activity Sheet, students must record data collected from the Activity Object, and explain the purpose and utility of graphs to identify patterns. |
| 114 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns | (viii) construct graphs, using means, to identify patterns | TX2_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | The Lab Sheet shows how to construct graphs, using means, to identify patterns. | In the Lab Sheet, students are assessed on their ability to construct graphs, using means, to identify patterns. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|--|--|---|-----------------|---|--|--|
| 115 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (E) analyze data to formulate | (i) analyze data to formulate reasonable explanations | | Cell Theory and Cell Types (TX2_USSSM160105) | In Section 2 of the Activity Object, students analyze data to formulate reasonable explanations. | Assessment Component Description In the Activity Sheet, students complete a table in which they classify organisms as either prokaryotes or eukaryotes, based on various analyses. During this activity, students are making reasonable explanations about the data, which is gathered from activities in Part 2 of the Activity Object. |
| 116 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends | (i) analyze data to formulate reasonable explanations | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | In the Lab Sheet, students are shown how to use a spectroscope to see spectral lines of different substances. Students are also provided additional data, which must then be analyzed to formulate reasonable explanations. | In the Lab Sheet, students use a spectroscope to see spectral lines of different substances. Students are asked to analyze this data in order to eventually explain that all elements have a unique spectral pattern. Students must also explain how scientists can determine what elements must be in stars. |
| 117 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends | (i) analyze data to formulate reasonable explanations | TX2_USSSM160111 | Investigating Photosynthesis with Van Helmont (TX2_USSSM160111) | In the Activity Object, students analyze data to formulate reasonable explanations. | In the Activity Object, students analyze data to formulate reasonable explanations. Based on their analyses, students provide responses that are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. |
| 118 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends | (i) analyze data to formulate reasonable explanations | TX2_USSSM160112 | Investigating Photosynthesis with Priestley and Ingenhousz (TX2_USSSM160112) | In the Activity Object, students analyze data to formulate reasonable explanations. | |
| 119 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends | (i) analyze data to formulate reasonable explanations | TX2_USSAN200108 | Tools for Scientific Analysis: Tape Measures (TX2_USSAN200108) | In the Lab Sheet, students measure the distance that food coloring travels up a celery stalk under different conditions. During the exercises, students are provided with additional information, and they begin to analyze the data in order to make reasonable explanations. | In the Lab Sheet, students measure the distance that food coloring travels up a celery stalk under different conditions. Students are then asked to analyze the data and decide if it supports the theory of evapotranspiration. |
| 120 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends | (ii) analyze data to communicate valid conclusions supported by the data | TX2_USSSM160105 | Cell Theory and Cell Types (TX2_USSSM160105) | In the Activity Object, students analyze data to communicate valid conclusions supported by the data. | In the Activity Sheet, students complete a table in which they classify organisms as either prokaryotes or eukaryotes, based on various analyses. During this activity, students are asked to communicate valid conclusions that are supported by the data they collected in Section 2 of the Activity Object |
| 121 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends | (ii) analyze data to communicate valid conclusions supported by the data | TX2_USSAN080104 | The Application of Newton's Laws of Motion (TX2_USSAN080104) | In the Investigation Sheet, students analyze data from an investigation and form conclusions. | In the Investigation Sheet, students are asked to enter information from their investigations into a table. Students are further asked to communicate valid conclusions about how their data relates to Newton's law of inertia. |
| 122 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends | (iii) analyze data to predict trends | TX2_USSSM080101 | The Concept of Inertia (TX2_USSSM080101) | In Part 2 of the Activity Object, students slide a block down inclined planes of varying surface roughness. While doing this, they analyze data and make predictions based on trends. | |
| 123 | | (E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends | (iii) analyze data to predict trends | TX2_USSSM080101 | The Concept of Inertia (TX2_USSSM080101) | In the Investigation Sheet, students record data from their investigations in a table and then begin to analyze the data to predict trends. | In the Investigation Sheet, students record data from their investigations in a table. Students are also asked to predict trends based on their analysis of the data. |

| # | TEKS (Knowledge and Skills) Student Expectation Breakout Item Number Component Learning Component Description Assessment Component Description | | | | | | | | | |
|----------|---|---|---|-----------------|--|--|---|--|--|--|
| # 124 | (2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to: | (E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends | (iii) analyze data to predict trends | TX2_USSXP010201 | The Density of Marbles (TX2_USSXP010201) | In the Activity Object, students use several different quantilies of marbles to measure both mass and volume. Based on the data, students begin to predict trends with regard to how density varies within substances, or between them. | In the Activity Sheet, students are asked to predict trends in density by analyzing the data they collected in their experiments in the Activity Object. | | | |
| 125 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSSM160107 | Homeostasis (TX2_USSSM160107) | In the Activity Object, students analyze scientific explanations by using empirical evidence. | In the Investigation Sheet, students are asked to analyze scientific explanations by using empirical evidence. | | | |
| 126 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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 | in all fields of science, analyze scientific explanations by using empirical evidence | TX2_USSXP160101 | Plants' Needs for Photosynthesis (TX2_USSXP160101) | In Part 2 of the Activity Object, students analyze scientific explanations by using empirical evidence. | In the Investigation Sheet, students are asked to analyze scientific explanations by using empirical evidence. | | | |
| 127 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | In the Investigation Sheet, students are taught about how to use empirical evidence to analyze scientific explanations. | Q1 of the Investigation Sheet assesses student understanding of how to use empirical evidence to analyze scientific explanations. | | | |
| 128 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | In the Activity Object, students analyze scientific explanations by using logical reasoning. | In the Investigation Sheet, students are asked to analyze scientific explanations by using logical reasoning. | | | |
| 129 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSXP180101 | Life from Nonliving Things: Redi's Experiment (TX2_USSXP180101) | In the Activity Object, students analyze scientific explanations by using experimental testing. | In the Investigation Sheet, students are asked to analyze scientific explanations by using experimental testing. | | | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|---|---|-----------------|--|--|--|
| 130 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSXP080102 | Balanced and Unbalanced Forces (TX2_USSXP080102) | In the Activity Object, students analyze scientific explanations by using experimental testing. | Q1-Q2-Q3-Q4 of the "Learner Journal" section of the Activity Sheet assess student understanding of concepts related to analyzing and evaluating scientific explanations through experimental testing. |
| 131 | contributions of relevant scientists. The | (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_USSSM150207 | Star Types: In Search of Habitability (TX2_USSSM150207) | In the Activity Object, students analyze scientific explanations by using observational testing. | In the Investigation Sheet, students are asked to analyze scientific explanations by using observational testing. |
| 132 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSSM160210 | Life Cycle of Animals (TX2_USSSM160210) | In the Activity Object, students analyze scientific explanations by using observational testing. | Q1-Q2-Q3-Q4-Q5-Q6 of the "Learner Journal" section of the Activity Sheet assess student understanding of concepts related to analyzing and evaluating scientific explanations by observational testing. |
| 133 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | development of atomic models from | In the Investigation Sheet, students are asked to analyze various scientific explanations regarding the atomic model, including examining all sides of scientific evidence of those scientific explanations. |
| 134 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational | (v) in all fields of science, analyze scientific explanations, including examining all sides of scientific evidence of those scientific explanations | TX2_USSAN200113 | Applying and Communicating Scientific Information (TX2_USSAN200113) | The Animation teaches students about analyzing scientific explanations, including examining all sides of scientific evidence of those scientific explanations. | Questions in the "After the Animation" section of the Question-Answer Sheet ask students to evaluate and analyze scientific explanations, including examining all sides of scientific evidence of those scientific explanations. |
| 135 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSSM180103 | Analysis of Fossil Evidence (TX2_USSSM180103) | The Activity Object presents data about fossils found in a certain area, and shows students how to examine and analyze the evidence to support or refute explanations about the animals who lived there. | Q2-Q3 of the "Doing the Activity Object" section of the Activity Sheet, as well as Q1- Q2 of the "Thinking About the Activity Object" section of the Activity Sheet, ask students to analyze and evaluate scientific explanations, including examining all sides of scientific evidence of those scientific explanations. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|---|---|-----------------|--|--|--|
| 136 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSSM160107 | Homeostasis (TX2_USSSM160107) | In the Activity Object, students evaluate scientific explanations by using empirical evidence. | In the Investigation Sheet, students are asked to evaluate scientific explanations by using empirical evidence. |
| 137 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSXP160101 | Plants' Needs for Photosynthesis (TX2_USSXP160101) | In Part 2 of the Activity Object, students evaluate scientific explanations by using empirical evidence. | In the Investigation Sheet, students are asked to evaluate scientific explanations by using empirical evidence. |
| 138 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | In the Investigation Sheet, students learn about using empirical evidence to evaluate scientific explanations. | Q2 of the Investigation Sheet assesses student understanding of using empirical evidence to evaluate scientific explanations. |
| 139 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | In the Activity Object, students evaluate scientific explanations by using logical reasoning. | In the Investigation Sheet, students are asked to evaluate scientific explanations by using logical reasoning. |
| 140 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSXP180101 | Life from Nonliving Things: Redi's Experiment (TX2_USSXP180101) | In the Activity Object, students evaluate scientific explanations by using experimental testing. | In the Investigation Sheet, students are asked to evaluate scientific explanations by using experimental testing. |
| 141 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSXP080102 | Balanced and Unbalanced Forces (TX2_USSXP080102) | In the Activity Object, students evaluate scientific explanations by using experimental testing. | Q1-Q2-Q3-Q4 of the "Learner Journal" section of the Activity Sheet ask students to analyze and evaluate scientific explanations through experimental testing. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|----------|--|---|--|-----------------|--|---|--|
| # 142 | 12KS (Knowledge and Skills) (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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 | evaluate scientific explanations by using observational testing | TX2_USSSM150207 | (TX2_USSSM150207) | In the Activity Object, students evaluate scientific explanations by using observational testing. | Assessment Component Description In the Investigation Sheet, students are asked to evaluate scientific explanations by using observational testing. |
| 143 | contributions of relevant scientists. The | (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_USSSM160210 | Life Cycle of Animals (TX2_USSSM160210) | In the Activity Object, students evaluate scientific explanations by using observational testing. | Q1-Q2-Q3-Q4-Q5-Q6 of the "Learner Journal" section of the Activity Sheet ask students to analyze and evaluate scientific explanations by observational testing. |
| 144 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational | (x) in all fields of science, evaluate scientific explanations, including examining all sides of scientific evidence of those scientific explanations | TX2_USSSM010502 | | development of atomic models from | In the Investigation Sheet, students are asked to evaluate scientific explanations of the atomic model, including examining all sides of scientific evidence of those scientific explanations. |
| 145 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSAN200113 | Applying and Communicating Scientific Information (TX2_USSAN200113) | The Animation teaches students about evaluating scientific explanations, including examining all sides of scientific evidence of those scientific explanations. | Questions in the "After the Animation" section of the Question-Answer Sheet ask students to evaluate and analyze scientific explanations, including examining all sides of scientific evidence of those scientific explanations. |
| 146 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational | (x) in all fields of science, evaluate scientific explanations, including examining all sides of scientific evidence of those scientific explanations | TX2_USSSM180103 | Analysis of Fossil Evidence (TX2_USSSM180103) | The Activity Object presents data about fossils found in a certain area, and shows students how to evaluate the evidence to support or refute explanations about the animals who lived there. | Q2-Q3 of the "Doing the Activity Object" section of the Activity Sheet, as well as Q1- Q2 of the "Thinking About the Activity Object" section of the Activity Sheet, ask students to analyze and evaluate scientific explanations, including examining all sides of scientific evidence of those scientific explanations. |
| 147 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSSM160107 | Homeostasis (TX2_USSSM160107) | In the Activity Object, students critique scientific explanations by using empirical evidence. | In the Investigation Sheet, students are asked to critique scientific explanations by using empirical evidence. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|---|---|-----------------|--|---|---|
| 148 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSXP160101 | Plants' Needs for Photosynthesis (TX2_USSXP160101) | In Part 2 of the Activity Object, students critique scientific explanations by using empirical evidence. | In the Investigation Sheet, students are asked to critique scientific explanations by using empirical evidence. |
| 149 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | In the Activity Object, students critique scientific explanations by using logical reasoning. | In the Investigation Sheet, students are asked to critique scientific explanations by using logical reasoning. |
| 150 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSXP180101 | Life from Nonliving Things: Redi's Experiment (TX2_USSXP180101) | In the Activity Object, students critique scientific explanations by using experimental testing. | In the Investigation Sheet, students are asked to critique scientific explanations by using experimental testing. |
| 151 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSXP080102 | Balanced and Unbalanced Forces (TX2_USSXP080102) | In the Activity Object, students evaluate scientific explanations by using experimental testing. | A question in the "Reflections" section of the Activity Sheet assesses student understanding of critiquing scientific explanations by using experimental testing. |
| 152 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | evaluate, and critique scientific explanations by using empirical | (xiv) in all fields of science, critique scientific explanations by using observational testing | TX2_USSSM150207 | Star Types: In Search of Habitability (TX2_USSSM150207) | In the Activity Object, students critique scientific explanations by using observational testing. | In the Investigation Sheet, students are asked to critique scientific explanations by using observational testing. |
| 153 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. 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_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | The Activity Object explains the historical development of atomic models from Rutherford to Bohr. Throughout the Activity Object, students critique scientific explanations, including examining all sides of scientific evidence of those scientific explanations. | In the Investigation Sheet, students are asked to critique scientific explanations about the atomic model, including examining all sides of scientific evidence of those scientific explanations. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|---|-------------------|---|---|---|
| 154 | (3) Scientific investigation and reasoning. | (A) in all fields of science, analyze, | (xv) in all fields of science, | TX2_USSAN200113 | Applying and Communicating Scientific | The Animation teaches students about | In the Question-Answer Sheet, students |
| 104 | | evaluate, and critique scientific | critique scientific | 1712_000741200110 | Information (TX2_USSAN200113) | critiquing scientific explanations, including | critique scientific explanations, including |
| | reasoning, and problem solving to make | explanations by using empirical | explanations, including | | | examining all sides of scientific evidence | examining all sides of scientific evidence o |
| | | evidence, logical reasoning, and | examining all sides of | | | of those scientific explanations. | those scientific explanations. |
| | contributions of relevant scientists. The | experimental and observational | scientific evidence of those | | | | |
| | | | scientific explanations | | | | |
| | | of scientific evidence of those | | | | | |
| | | scientific explanations, so as to | | | | | |
| | | encourage critical thinking by the | | | | | |
| | | student | | | | | |
| | | otadoni | | | | | |
| | | | | | | | |
| 155 | (3) Scientific investigation and reasoning. | (A) in all fields of science, analyze, | (xv) in all fields of science, | TX2_USSSM180103 | Analysis of Fossil Evidence | The Activity Object presents data about | Q2-Q3 of the "Doing the Activity Object" |
| | The student uses critical thinking, scientific | evaluate, and critique scientific | critique scientific | | (TX2_USSSM180103) | fossils found in a certain area, and shows | section of the Activity Sheet, as well as Q1- |
| | reasoning, and problem solving to make | explanations by using empirical | explanations, including | | | students how to critique the evidence to | Q2 of the "Thinking About the Activity |
| | informed decisions and knows the contributions of relevant scientists. The | evidence, logical reasoning, and | examining all sides of | | | support or refute explanations about the | Object" section of the Activity Sheet, ask |
| | | experimental and observational | scientific evidence of those | | | animals who lived there. | students to evaluate and critique scientific |
| | student is expected to: | testing, including examining all sides | scientific explanations | | | | explanations, including examining all sides |
| | | of scientific evidence of those | | | | | of scientific evidence of those scientific |
| | | scientific explanations, so as to | | | | | explanations. |
| | | encourage critical thinking by the | | | | | |
| | | student | | | | | |
| 150 | (2) Colontific investigation and access | | (i) use models to compare t | | | In the Astivity Object students was a | |
| 156 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific | (B) use models to represent aspects | (i) use models to represent | TX2_USSSM160103 | Agent Organelles (TX2_USSSM160103) | In the Activity Object, students use cell | |
| | reasoning, and problem solving to make | of the natural world such as an atom, a molecule, space, or a geologic | aspects of the natural world | | | models to represent aspects of the natural world. | |
| | informed decisions and knows the | | | | | world. | |
| | | feature | | | | | |
| | contributions of relevant scientists. The student is expected to: | | | | | | |
| | student is expected to. | | | | | | |
| 157 | (3) Scientific investigation and reasoning. | (B) use models to represent aspects | (i) use models to represent | TX2 USSSM160301 | Muscles and Pinocchio's Arm | In the Activity Object, students use human | |
| 101 | The student uses critical thinking, scientific | of the natural world such as an atom, | | | (TX2_USSSM160301) | models to represent aspects of the natural | |
| | reasoning, and problem solving to make | a molecule, space, or a geologic | appeele el tre hataral fiena | | (1)=======(| world. | |
| | informed decisions and knows the | feature | | | | | |
| | contributions of relevant scientists. The | | | | | | |
| | student is expected to: | | | | | | |
| | | | | | | | |
| 158 | (3) Scientific investigation and reasoning. | | (i) use models to represent | TX2_USSSM010501 | Atomic Model History: From Ancient | In the Activity Object, students use models | |
| | The student uses critical thinking, scientific | | aspects of the natural world | | Greece to Thomson | to represent atomic structure. | |
| | reasoning, and problem solving to make | a molecule, space, or a geologic | | | (TX2_USSSM010501) | | |
| | informed decisions and knows the | feature | | | | | |
| | contributions of relevant scientists. The | | | | | | |
| | student is expected to: | | | | | | |
| 150 | (2) Scientific investigation and recording | (P) use models to represent set and | (i) uno modolo to represent | TV2 11000M040500 | Atomic Model History From Dutherford to | In the Activity Object students use so do | |
| 159 | (3) Scientific investigation and reasoning. The student uses critical thinking scientific | (B) use models to represent aspects of the natural world such as an atom, | (i) use models to represent aspects of the natural world | TX2_USSSM010502 | Bohr (TX2 USSSM010502) | In the Activity Object, students use models | |
| | The student uses critical thinking, scientific reasoning, and problem solving to make | | aspects of the natural world | | DUIII (172_03331VI010302) | to represent atomic structure. | |
| | informed decisions and knows the | a molecule, space, or a geologic feature | | | | | |
| | contributions of relevant scientists. The | | | | | | |
| | student is expected to: | | | | | | |
| | | | | | | | |
| 160 | (3) Scientific investigation and reasoning. | (B) use models to represent aspects | (i) use models to represent | TX2 USSSM130112 | The Structural Layers of Earth | In Part 2 of the Activity Object, students | In Part 2 of the Activity Object, students |
| | The student uses critical thinking, scientific | of the natural world such as an atom, | | | (TX2_USSSM130112) | create a virtual model of the layers of the | create a virtual model of the layers of the |
| | reasoning, and problem solving to make | a molecule, space, or a geologic | | | / | Earth. | Earth by providing responses. These |
| | | feature | | | | | responses are assessed by the Activity |
| | contributions of relevant scientists. The | | | | | | Object software, which provides |
| | student is expected to: | | | | | | appropriate feedback as students work |
| | | | | | | | through the exercises. |
| | | | | | | | - |
| 161 | (3) Scientific investigation and reasoning. | (B) use models to represent aspects | | TX2_USSSM150101 | Formation of Seasons | In the Investigation Sheet, students create | In the Investigation Sheet, students use a |
| | The student uses critical thinking, scientific | | aspects of the natural world | | (TX2_USSSM150101) | a model that uses foam spheres to | foam model of the sun to answer various |
| | reasoning, and problem solving to make | a molecule, space, or a geologic | | | | demonstrate both the Earth's rotation and | questions. |
| | | feature | | | | revolution around the sun. | |
| | contributions of relevant scientists. The | | | | | | |
| | student is expected to: | | | | | | |
| | | 1 | | | 1 | 1 | 1 |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|----------|---|---|---|-----------------|--|---|---|
| # 162 | (3) Scientific investigation and reasoning. | (B) use models to represent aspects | (i) use models to represent | TX2_USSSM150101 | Formation of Seasons | In Part 3 of the Activity Object, students | Assessment component Description |
| | The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | | aspects of the natural world | | (TX2_USSSM150101) | a thermometer, and a screen. | |
| 163 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (C) identify advantages and limitations of models such as size, scale, properties, and materials | (i) identify advantages of models | TX2_USSAN200118 | Modeling and Mathematics in Physics (TX2_USSAN200118) | The Animation identifies the advantages of models in science. | Q3 of the Enrichment Sheet asks students to list some advantages of models. |
| 164 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (C) identify advantages and limitations of models such as size, scale, properties, and materials | (i) identify advantages of models | TX2_USSAN200107 | Life Science Models (TX2_USSAN200107) | The Animation identifies the advantages of models in science. | |
| 165 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (C) identify advantages and limitations of models such as size, scale, properties, and materials | (ii) identify limitations of models | TX2_USSAN200118 | Modeling and Mathematics in Physics (TX2_USSAN200118) | The Animation identifies the limitations of models. | In the Enrichment Sheet, students are asked to explain the limitations of models. |
| 166 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (C) identify advantages and limitations of models such as size, scale, properties, and materials | (ii) identify limitations of models | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | The Activity Object teaches how certain models of the atom have limits, and how newer experiments have suggested more accurate models. | In the Investigation Sheet, students are asked to analyze various atomic models and fill out a chart that includes evidence that supports or refutes the models. Some of the models have limitations that can be explained by students based on what they learned in the Activity Object. |
| 167 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content | (i) relate the impact of research on scientific thought, including the history of science | TX2_USSAN200112 | The Impact of Scientific Advances on Science and Society (TX2_USSAN200112) | The Animation teaches students about the impacts of the scientific contributions from a variety of historical scientists on scientific thought, and history. | |
| 168 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content | (i) relate the impact of research on scientific thought, including the history of science | TX2_USSAN200116 | History of Biology (TX2_USSAN200116) | The Animation relates the impact of scientific research on scientific thought, and the history of biology. | The Question-Answer Sheets tests students on their knowledge of the impact of research on scientific thought, and specifically to the history of biology. |
| 169 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content | (i) relate the impact of research on scientific thought, including the history of science | TX2_USSAN180207 | History of Taxonomy (TX2_USSAN180207) | The Animation relates the impact of research on scientific thought, and specifically the history of taxonomy. | The Question-Answer Sheets tests students on their knowledge of the impact of research on scientific thought, and specifically to the history of taxonomy. |
| 170 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content | (i) relate the impact of research on scientific thought, including the history of science | TX2_USSSM010501 | Atomic Model History: From Ancient Greece to Thomson (TX2_USSSM010501) | The Activity Object teaches how the historical experiments and ideas from Ancient Greece to Thomson contributed to the evolution of the modern model of the atom. | In the Activity Sheet, students answer questions in which they must describe how individual scientists contributed to a change in scientific thought regarding the structure of the atom, and thereby the historical evolution of the atomic model. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|---|---|-----------------|--|--|---|
| 171 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (D) relate the impact of research on scientific thought and society, including the history of science and | (i) relate the impact of research on scientific thought, including the history of science | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | | In the Activity Sheet, students answer a question that asks them to describe how individual scientists contributed to a change in scientific thought regarding the structure of atoms, and thereby the historical evolution of the atomic model. |
| 172 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content | (ii) relate the impact of research on society, including the history of science | TX2_USSAN200112 | The Impact of Scientific Advances on Science and Society (TX2_USSAN200112) | The Animation relates the impact of research on society, including the history of science. | In the Question-Answer Sheet, students are asked to describe how scientific advances have changed the lives of ordinary people and the history of science. |
| 173 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content | (ii) relate the impact of research on society, including the history of science | TX2_USSAN200116 | History of Biology (TX2_USSAN200116) | The Animation identifies the impact of research, including the history of biology, on society. | In the Question-Answer Sheet, students are asked to describe the purpose of the human genome project as it benefits society: to improve medical knowledge and develop cures for disease. Students are also asked about historical scientific advances in biology. |
| 174 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content | (ii) relate the impact of research on society, including the history of science | TX2_USSAN180207 | History of Taxonomy (TX2_USSAN180207) | The Animation identifies the impact of research on society, and the historical advances in science, as it they relate to the history of taxonomy. | |
| 175 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content | (iii) relate the impact of research on scientific thought, including the contributions of scientists as related to the content | TX2_USSAN200112 | The Impact of Scientific Advances on Science and Society (TX2_USSAN200112) | The Animation relates the impact of research on scientific thought, including the contributions of scientists as related to the content. | |
| 176 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content | (iii) relate the impact of research on scientific thought, including the contributions of scientists as related to the content | TX2_USSAN200116 | History of Biology (TX2_USSAN200116) | The Animation identifies the contributions of numerous scientists, and shows how their research influenced scientific thought. | In the Question-Answer Sheet, students identify the research contributions of numerous biologists, as well as how their contributions affected scientific thought and society. |
| 177 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content | (iii) relate the impact of research on scientific thought, including the contributions of scientists as related to the content | TX2_USSAN180207 | History of Taxonomy (TX2_USSAN180207) | The Animation follows the development of taxonomy from Aristotle to Linnaeus and teaches students about the impact of the scientific research on scientific thought and society. | In the Question-Answer Sheet, students identify the contributions of Aristotle and Linnaeus to scientific thought, as they relate to taxonomy. |
| 178 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | scientific thought and society, including the history of science and | (iv) relate the impact of research on society, including the contributions of scientists as related to the content | TX2_USSAN200112 | The Impact of Scientific Advances on Science and Society (TX2_USSAN200112) | The Animation explains the impact of research on society, including the contributions of scientists as related to the content. | |
| 179 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | scientific thought and society, including the history of science and | (iv) relate the impact of research on society, including the contributions of scientists as related to the content | TX2_USSSM080104 | Newton's Third Law of Motion: The Physics of Rockets (TX2_USSSM080104) | In Part 1 of the Activity Object, students are shown how Newton's third law has enabled the development of modern space technology. | In the Activity Sheet, students are asked to describe how the principles of Newton's third law allow rockets to be useful in space. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|--|-----------------|--|---|---|
| 180 | (3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to: | (D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content | (iv) relate the impact of research on society, including the contributions of scientists as related to the content | TX2_USSAN200116 | History of Biology (TX2_USSAN200116) | The Animation explains how the human genome project can help scientists prevent or cure current and future diseases. | In the Question-Answer Sheet, students are asked to identify the impact of the human genome project research on society. |
| 181 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | use appropriate tools to collect information, including beakers | TX2_USSSM030104 | Physical Properties (TX2_USSSM030104) | In the Activity Object, students use appropriate tools to collect information, including beakers. | |
| 182 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (i) use appropriate tools to collect information, including beakers | TX2_USSSM050101 | Separation of Mixtures (TX2_USSSM050101) | In the Activity Object, students use appropriate tools to collect information, including beakers | |
| 183 | | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | use appropriate tools to collect information, including beakers | | | In the Lab Sheet, students use a beaker during an investigation involving the measurement of the pH of water samples. | Q4 of the Lab Sheet assesses the use of the beaker during an investigation involving the measurement of the pH of water samples. |
| 184 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | use appropriate tools to collect information, including beakers | TX2_USSAN190103 | Competition in Ecosystems (TX2_USSAN190103) | In the Lab Sheet, students use beakers to collect information during an investigation. | The Lab Sheet assesses the use of beakers. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|---|-----------------|-------------------------------------|---|---|
| 185 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (i) use appropriate tools to collect information, including beakers | TX2_USSAN200108 | Tools for Scientific Analysis: Tape | In the Lab Sheet, students use beakers to collect information during an investigation. | The Lab Sheet assesses the use of beakers. |
| 186 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (ii) use appropriate tools to collect information, including meter sticks | TX2_USSAN080102 | | The Animation shows how to collect scientific information, including the use of meter sticks. | Q11 of the Enrichment Sheet assesses the use of a meter stick in the investigation. |
| 187 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (iii) use appropriate tools to collect information, including graduated cylinders | TX2_USSSM030104 | | In the Activity Object, students use appropriate tools to collect information, including graduated cylinders. | |
| 188 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (iii) use appropriate tools to collect information, including graduated cylinders | TX2_USSAN190103 | (TX2_USSAN190103) | In the Lab Sheet, students use graduated cylinders as part of an investigation, to collect information. | Q12 of the Lab Sheet assesses the use of a graduated cylinder in the investigation. |
| 189 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (iv) use appropriate tools to collect information, including anemometers | TX2_USSSM130401 | (TX2_USSSM130401) | In the Activity Object, students use appropriate tools to collect information, including anemometers. | In the Activity Sheet, students record wind speed measurements, which were taken during Part 2 of the Activity Object with the anemometer. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|---|-----------------|--|--|---|
| 190 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (v) use appropriate tools to collect information, including psychrometers | TX2_USSAN200101 | Psychrometers (TX2_USSAN200101) | The Animation explains how to use appropriate tools to collect information, including psychrometers. | The Question-Answer Sheet assesses the use of psychrometers. |
| 191 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (v) use appropriate tools to collect information, including psychrometers | TX2_USSSM030104 | Physical Properties (TX2_USSSM030104) | to use a psychrometer, and to take | The Investigation Sheet contains an assessment items that requires students to know how to use a psychrometer. |
| 192 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (vi) use appropriate tools to collect information, including hot plates | | Melting and Boiling Points: Different Materials, Different Amounts (TX2_USSXP020201) | In the Activity Object, students use appropriate tools to collect information, including hot plates. | In the Activity Sheet, students record data on melting and boiling points, as collected during the Activity Object interaction with the aid of hot plates. |
| 193 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (vii) use appropriate tools to collect information, including test tubes | TX2_USSSM160110 | The Effect of Temperature on Enzyme Activity (TX2_USSSM160110) | In the Activity Object, students use appropriate tools to collect information, including test tubes. | |
| 194 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (vii) use appropriate tools to collect information, including test tubes | TX2_USSXP020201 | Melting and Boiling Points: Different Materials, Different Amounts (TX2_USSXP020201) | In the Activity Object, students use appropriate tools to collect information, including hot plates. | In the Activity Sheet, students record data on melting and boiling points, as collected during the Activity Object interaction with the aid of hot plates. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|--|-----------------|---|--|--|
| 195 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (vii) use appropriate tools to collect information, including test tubes | TX2_USSAN040104 | | In the Lab Sheet, students carry out two investigations in which they collect information by using test tubes. | In the Lab Sheet, data collected with the use of test tubes is analyzed. |
| 196 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | including lab journals/notebooks, | (viii) use appropriate tools to collect information, including spring scales | TX2_USSSM200103 | Measuring Mass and Weight (TX2_USSSM200103) | In the Activity Object, students use appropriate tools to collect information, including spring scales. | |
| 197 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (viii) use appropriate tools to collect information, including spring scales | TX2_USSAN080103 | The Differences between Mass and Weight (TX2_USSAN080103) | | In Part 2 of the Activity Object, students use a spring scale to measure a piece of fruit. Values are entered into a chart according to student responses. These responses are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. |
| 198 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (viii) use appropriate tools to collect information, including spring scales | TX2_USSAN080103 | | The Animation shows students how to use appropriate tools to collect information, including spring scales. | |
| 199 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | including lab journals/notebooks, | (ix) use appropriate tools to collect information, including balances | TX2_USSXP010404 | Conservation of Mass in Chemical Reactions (TX2_USSXP010404) | In the Activity Object, students use appropriate tools to collect information, including balances. | |

| | TEKC (Knowledge and Chille) | Student Expectation | Breekeut | ltom Number | Component | Learning Compensat Departmetics | Assessment Component Description |
|----------|---|--|---|--------------------------------|---|---|--|
| # 200 | TEKS (Knowledge and Skills) (4) Scientific investigation and reasoning. | Student Expectation (A) use appropriate tools to collect, | Breakout (ix) use appropriate tools to | Item Number TX2_USSSM200103 | Component Measuring Mass and Weight | Learning Component Description In the Activity Object, students use | Assessment Component Description |
| 200 | (4) Scientific Investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate toos to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (ii) use appropriate tools to collect information, including balances | TX2_0333W200103 | (TX2_USSSM200103) | appropriate tools to collect information, including balances. | |
| 201 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (ix) use appropriate tools to collect information, including balances | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | Students are shown how to use a lab balance to make measurements during investigations. | The Lab Sheet asks students to record the measurements they made with a balance. |
| 202 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (x) use appropriate tools to collect information, including microscopes | TX2_USSSM160101 | Exploring Cells with a Microscope (TX2_USSSM160101) | In the Activity Object, students use appropriate tools to collect information, including microscopes. | |
| 203 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (x) use appropriate tools to collect information, including microscopes | TX2_USSSM160105 | Cell Theory and Cell Types (TX2_USSSM160105) | In the Activity Object, students use appropriate tools to collect information, including microscopes. | |
| 204 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (x) use appropriate tools to collect information, including microscopes | TX2_USSAN200105 | Insect Traps (TX2_USSAN200105) | In the Lab Sheet, students observe features of insects with a microscope. | Q4 of the Lab Sheet asks students to record their observations of insects, which were observed under a microscope. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|---|-----------------|---|--|---|
| 205 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (x) use appropriate tools to collect information, including microscopes | TX2_USSAN160104 | Levels of Organization in Plants (TX2_USSAN160104) | In the Lab Sheet, students observe features of onion cells with a microscope. | In the Lab Sheet, students are asked to diagram the observations they performed with a microscope. |
| 206 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xi) use appropriate tools to collect information, including thermometers | TX2_USSXP040201 | Heat Conduction (TX2_USSXP040201) | In the Activity Object, students use appropriate tools to collect information, including thermometers. | |
| 207 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xi) use appropriate tools to collect information, including thermometers | TX2_USSXP020202 | Melting and Boiling Points: Heating Curves (TX2_USSXP020202) | | During the Activity Object interaction, the correct use of the thermometer is assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. |
| 208 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xi) use appropriate tools to collect information, including thermometers | TX2_USSXP020202 | Melting and Boiling Points: Heating Curves (TX2_USSXP020202) | In the Activity Object, students use appropriate tools to collect information, including thermometers. | During the Interaction, the correct use of the thermometer is assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. |
| 209 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xi) use appropriate tools to collect information, including thermometers | TX2_USSSM150101 | Formation of Seasons (TX2_USSSM150101) | In Part 3 of the Activity Object, students model the heating of the Earth and collect information with a lamp, a thermometer, and a screen. | In the Activity Sheet, students are asked to record the temperature measurements they made with a thermometer. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|----------|---|--|---|-----------------|--|---|--|
| # 210 | (4) Scientific investigation and reasoning. | (A) use appropriate tools to collect, | (xi) use appropriate tools to | TX2_USSAN040104 | How Liquid Thermometers Measure | In the Lab Sheet, students carry out an | In the Lab Sheet, data is collected with the |
| | The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach | collect information, including thermometers | | Temperature (TX2_USSAN040104) | | use of a thermometer and students are assessed on the measurements. |
| 211 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | the curriculum (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xii) use appropriate tools to collect information, including calculators | TX2_USSSM030104 | Physical Properties (TX2_USSSM030104) | In the Activity Object, students use appropriate tools to collect information, including calculators. | |
| 212 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xii) use appropriate tools to collect information, including calculators | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | The Animation teaches students how to collect information with calculators. | The Question-Answer Sheet asks a question that assesses the use of calculators to collect information. |
| 213 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xii) use appropriate tools to collect information, including calculators | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | Investigation Sheet 1 explains how to collect information with a calculator. | Investigation Sheet 1 asks a question that assesses the use of calculators to collect information. |
| 214 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xii) use appropriate tools to collect information, including calculators | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | collect information with a calculator. | Investigation Sheet 2 asks a question that assesses the use of calculators to collect information. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|---|-----------------|--|---|---|
| 215 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xiii) use appropriate tools to collect information, including computers | TX2_USSSM010202 | Calculating Atomic Mass (TX2_USSSM010202) | In the Activity Object, students use appropriate tools to collect information, including computers. | |
| 216 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xiii) use appropriate tools to collect information, including computers | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | The Animation teaches how to collect information with computers | The Question-Answer Sheet asks a question about the functions of computers in collecting information. |
| 217 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xiii) use appropriate tools to collect information, including computers | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | Investigation Sheet 1 explains how to collect information with a computer. | Investigation Sheet 1 assesses the collection of information with a computer. |
| 218 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xiii) use appropriate tools to collect information, including computers | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | Investigation Sheet 2 explains how to collect information with a computer. | Investigation Sheet 2 assesses the collection of information with a computer. |
| 219 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xiv) use appropriate tools to collect information, including spectroscopes | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | The Lab Sheet contains an activity in which a spectroscope is used to collect data. | The Lab Sheet assesses the collection of data with a spectroscope. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|---|-----------------|--|--|---|
| 220 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xv) use appropriate tools to collect information, including timing devices | TX2_USSAN200108 | Tools for Scientific Analysis: Tape Measures (TX2_USSAN200108) | In the Lab Sheet, students use a stopwatch to collect information in an investigation. | Q6 of the Lab Sheet asks students for the time measurements they made with the stopwatch. |
| 221 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xv) use appropriate tools to collect information, including timing devices | TX2_USSAN040104 | How Liquid Thermometers Measure Temperature (TX2_USSAN040104) | In the Lab Sheet, students carry out an investigation in which data is collected with the aid of a clock. | In the Lab Sheet, data is collected with the use of a clock. |
| 222 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xvi) use appropriate tools to collect information, including other equipment as needed | TX2_USSSM030104 | Physical Properties (TX2_USSSM030104) | appropriate tools to collect information, including other equipment as needed, | During the Activity Object, students provide responses regarding their use of the equipment. These responses are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. |
| 223 | | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xvi) use appropriate tools to collect information, including other equipment as needed | TX2_USSXP110302 | Color Absorption and Reflection: Light into Heat Energy (TX2_USSXP110302) | appropriate tools to collect information, including other equipment as needed, such as light bulbs and thermometers. | During the Activity Object, students provide responses regarding their use of the equipment. These responses are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. |
| 224 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xvi) use appropriate tools to collect information, including other equipment as needed | TX2_USSXP040202 | Light Intensity and Distance from the Source (TX2_USSXP040202) | | During the Activity Object, students provide responses regarding their use of the equipment. These responses are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|---|-----------------|--|--|---|
| 225 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, | (xvi) use appropriate tools to collect information, including other equipment as needed | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | In the Lab Sheet, students use shoeboxes to collect investigative information about | In the Lab Sheet, students use shoeboxes to collect investigative information about the effect that abiotic factors have on plant growth. Students are assessed on the results of the investigations. |
| 226 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xvi) use appropriate tools to collect information, including other equipment as needed | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | | The Lab Sheet provides assessment items in which students must demonstrate the correct use of the spectroscope, gas-filled spectrum tubes, metal loops, alcohol burner, light bulbs, and salt, to collect information. |
| 227 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xvii) use appropriate tools to record information, including lab journals/notebooks | TX2_USSSM130201 | The Rock Cycle (TX2_USSSM130201) | In the Activity Object, students use appropriate tools to record information, including notebooks. | |
| 228 | | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xvii) use appropriate tools to record information, including lab journals/notebooks | | The Rock Cycle (TX2_USSSM130201) | In the Investigation Sheet, students use appropriate tools to record information, including notebooks. | In the Investigation Sheet, students are assessed on the use of appropriate tools to record information, including notebooks. |
| 229 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xvii) use appropriate tools to record information, including lab journals/notebooks | TX2_USSXP160108 | Diffusion (TX2_USSXP160108) | In the Activity Object, students use appropriate tools to record information, including lab journals. | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|--|-----------------|--|--|--|
| 230 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xvii) use appropriate tools to record information, including lab journals/notebooks | | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | In the Lab Sheet, students use a lab notebook to record information during an investigation. | In the Lab Sheet, students use a lab notebook to record information during an investigation. The recorded data is submitted for assessment. |
| 231 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xviii) use appropriate tools to record information, including calculators | TX2_USSSM030104 | Physical Properties (TX2_USSSM030104) | In the Activity Object, students use appropriate tools to record information, including calculators. | |
| 232 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xviii) use appropriate tools to record information, including calculators | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | The Animation teaches students how to record information with calculators. | The Question-Answer Sheet asks a question about the function of calculators. |
| 233 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xviii) use appropriate tools to record information, including calculators | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | Investigation Sheet 1 teaches students how to record information with calculators. | Investigation Sheet 1 assesses students' ability to record information with calculators. |
| 234 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xviii) use appropriate tools to record information, including calculators | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | Investigation Sheet 2 teaches students how to record information with calculators. | Investigation Sheet 2 assesses students' ability to record information with calculators. |

| # | TEKS (Knowledge and Skills) Student Expectation Breakout Item Number Component Learning Component Description Assessment Component Description | | | | | | | | | |
|----------|---|--|---|--------------------------------|--|--|---|--|--|--|
| # 235 | (4) Scientific investigation and reasoning. | (A) use appropriate tools to collect, | (xix) use appropriate tools to | Item Number TX2_USSAN200120 | Component Computers and Calculators | Learning Component Description The Animation teaches how to record | Assessment Component Description The Question-Answer Sheet asks a | | | |
| | The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | computers | | (TX2_USSAN200120) | information with computers. | question about the function of computers. | | | |
| 236 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xix) use appropriate tools to record information, including computers | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | Investigation Sheet 1 explains how to record information with a computer. | Investigation Sheet 1 assesses students' ability to record information with a computer. | | | |
| 237 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xix) use appropriate tools to record information, including computers | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | Investigation Sheet 2 involves recording information with a computer. | Investigation Sheet 2 assesses students' ability to record information with a computer. | | | |
| 238 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xx) use appropriate tools to record information, including other equipment as needed | TX2_USSAN190103 | | In the Lab Sheet, students use markers and tape to record the identity of experimental treatments on beakers during an investigation. | | | | |
| 239 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | including lab journals/notebooks, | (xxi) use appropriate tools to analyze information, including lab journals/notebooks | TX2_USSSM130201 | The Rock Cycle (TX2_USSSM130201) | In the Activity Object, students use appropriate tools to analyze information, including notebooks. | In the Activity Object, students are assessed on the use of appropriate tools to analyze information, including lab notebooks. Students provide responses that are to be placed in the lab notebook/experiment report. These responses are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. | | | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|---|-----------------|---|---|---|
| 240 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxi) use appropriate tools to analyze information, including lab journals/notebooks | TX2_USSSM130201 | The Rock Cycle (TX2_USSSM130201) | In the Investigation Sheet, students use appropriate tools to analyze information, including notebooks. | In the Investigation Sheet, students are assessed on the use of appropriate tools to analyze information, including lab notebooks. |
| 241 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxi) use appropriate tools to analyze information, including lab journals/notebooks | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | In the Lab Sheet, students must use a lab notebook to record observations, and then analyze the recorded observations to make conclusions. | The Lab Sheet requires data be kept in a lab notebook. The Lab Sheet also includes questions in which this data is analyzed and used for assessment. |
| 242 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxi) use appropriate tools to analyze information, including lab journals/notebooks | TX2_USSXP160108 | Diffusion (TX2_USSXP160108) | In the Activity Object, students use appropriate tools to analyze information, including lab journals. | |
| 243 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxi) use appropriate tools to analyze information, including lab journals/notebooks | TX2_USSSM190106 | Interactions Among Organisms - Competition (TX2_USSSM190106) | In the Lab Sheet, students use a lab notebook to record observations, and then analyze the recorded observations to make conclusions. | |
| 244 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxii) use appropriate tools to analyze information, including beakers | TX2_USSSM030104 | Physical Properties (TX2_USSSM030104) | In the Activity Object, students use appropriate tools to analyze information, including beakers. | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|----------|---|--|--|-----------------|--|---|--|
| # 245 | (4) Scientific investigation and reasoning. | (A) use appropriate tools to collect, | (xxii) use appropriate tools to | | Separation of Mixtures | In the Activity Object, students use | Absessment component bescription |
| | The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach | analyze information, including beakers | | (TX2_USSSM050101) | appropriate tools to analyze information, including beakers. | |
| 246 | (4) Scientific investigation and reasoning. The student knows how to use a variety of | (A) use appropriate tools to collect, record, and analyze information, | (xxii) use appropriate tools to analyze information, | TX2_USSAN200111 | Water Test Kits (TX2_USSAN200111) | In the Lab Sheet, students use glass beakers to analyze information, while | Q4 of the Lab Sheet assesses the use of a glass beaker to analyze information. |
| | science inquiry. The student is expected to: | including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | including beakers | | | measuring the pH of water samples. | gaod boandi to analyzo miorinakon. |
| 247 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxii) use appropriate tools to analyze information, including beakers | | Competition in Ecosystems (TX2_USSAN190103) | In the Lab Sheet, students use glass beakers to grow plant samples. | The Lab Sheet includes questions that require the analysis of data that was collected with the aid of beakers. |
| 248 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxiii) use appropriate tools to analyze information, including meter sticks | TX2_USSAN080102 | Lab Equipment: Mechanics (TX2_USSAN080102) | The Animation shows students how to use appropriate tools to analyze information, including meter sticks. | |
| 249 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxiii) use appropriate tools to analyze information, including meter sticks | TX2_USSSM080101 | The Concept of Inertia (TX2_USSSM080101) | The Investigation Sheet involves an investigation in which a meter stick is used to analyze information. | In the Investigation Sheet, students use a meter stick to collect information, and then analyze the data that they have collected in Question 2. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|--|---|--------------------------------|-----------------|---------------------------------------|---|---|
| 250 | (4) Scientific investigation and reasoning. | (A) use appropriate tools to collect, | (xxiv) use appropriate tools | TX2_USSSM030104 | Physical Properties (TX2_USSSM030104) | In the Activity Object, students use | In Section 1 of the Activity Object, students |
| | The student knows how to use a variety of | record, and analyze information, | to analyze information, | | | appropriate tools to analyze information, | measure the volume of unknown |
| | tools and safety equipment to conduct | including lab journals/notebooks, | including graduated cylinders | | | including graduated cylinders. | substances with a graduated cylinder and |
| | science inquiry. The student is expected to: | | 33 | | | 33 | record the data in a table. This and other |
| | | cylinders, anemometers, | | | | | data entered into the table is then analyzed |
| | | psychrometers, hot plates, test | | | | | and the identities of the unknown |
| | | tubes, spring scales, balances, | | | | | substances are determined. Correct |
| | | microscopes, thermometers, | | | | | analyses (responses) are assessed by the |
| | | calculators, computers, | | | | | Activity Object software, and appropriate |
| | | spectroscopes, timing devices, and | | | | | feedback is given as students work their |
| | | other equipment as needed to teach | | | | | way through the exercises. |
| | | the curriculum | | | | | |
| | | | | | | | |
| | | | | | | | |
| 251 | (4) Scientific investigation and reasoning. | (A) use appropriate tools to collect, | (xxv) use appropriate tools to | TX2_USSSM130401 | Sea and Land Breezes | In the Activity Object, students use | In the Activity Sheet, users record |
| | The student knows how to use a variety of | record, and analyze information, | analyze information, | | (TX2_USSSM130401) | appropriate tools to analyze information, | measurements taken with an anemometer |
| | tools and safety equipment to conduct | including lab journals/notebooks, | including anemometers | | | including anemometers. | in Part 2 of the Activity Object, and then |
| | science inquiry. The student is expected to: | beakers, meter sticks, graduated | | | | | analyze the data to answer a question |
| | | cylinders, anemometers, | | | | | about trends in breezes. |
| | | psychrometers, hot plates, test | | | | | |
| | | tubes, spring scales, balances, | | | | | |
| | | microscopes, thermometers, | | | | | |
| | | calculators, computers, | | | | | |
| | | spectroscopes, timing devices, and | | | | | |
| | | other equipment as needed to teach | | | | | |
| | | the curriculum | | | | | |
| | | | | | | | |
| 252 | (4) Scientific investigation and reasoning. | (A) use appropriate tools to collect, | (xxvi) use appropriate tools | TX2_USSAN200101 | Psychrometers (TX2_USSAN200101) | The Animation explains how to use | The Question-Answer Sheet assesses the |
| | The student knows how to use a variety of | record, and analyze information, | to analyze information, | | | appropriate tools to analyze information, | use of psychrometers to analyze |
| | tools and safety equipment to conduct | including lab journals/notebooks, | including psychrometers | | | including psychrometers. | information. |
| | science inquiry. The student is expected to: | beakers, meter sticks, graduated | | | | | |
| | | cylinders, anemometers, | | | | | |
| | | psychrometers, hot plates, test | | | | | |
| | | tubes, spring scales, balances, | | | | | |
| | | microscopes, thermometers, | | | | | |
| | | calculators, computers, | | | | | |
| | | spectroscopes, timing devices, and | | | | | |
| | | other equipment as needed to teach | | | | | |
| | | the curriculum | | | | | |
| | | | | | | | |
| | (4) Scientific investigation and reasoning. | (A) use appropriate tools to collect, | (xxvi) use appropriate tools | TX2_USSSM030104 | Physical Properties (TX2_USSSM030104) | | The Investigation Sheet contains |
| | The student knows how to use a variety of | record, and analyze information, | to analyze information, | | | to use a psychrometer | assessment items that require students to |
| | tools and safety equipment to conduct | including lab journals/notebooks, | including psychrometers | | | | know how to use a psychrometer to analyze |
| | science inquiry. The student is expected to: | | | | | | information. |
| | | cylinders, anemometers, | | | | | |
| | | psychrometers, hot plates, test | | | | | |
| | | tubes, spring scales, balances, | | | | | |
| | | microscopes, thermometers, | | | | | |
| | | calculators, computers, | | | | | |
| | | spectroscopes, timing devices, and | | | | | |
| | | other equipment as needed to teach | | | | | |
| | | the curriculum | | | | | |
| L | | | | | | | |
| 254 | (4) Scientific investigation and reasoning. | (A) use appropriate tools to collect, | (xxvii) use appropriate tools | TX2_USSXP020201 | Melting and Boiling Points: Different | In the Activity Object, students use | |
| | The student knows how to use a variety of | record, and analyze information, | to analyze information, | | Materials, Different Amounts | appropriate tools to analyze information, | |
| | tools and safety equipment to conduct | including lab journals/notebooks, | including hot plates | | (TX2_USSXP020201) | including hot plates. | |
| | science inquiry. The student is expected to: | | | | | | |
| | | cylinders, anemometers, | | | | | |
| | | psychrometers, hot plates, test | | | | | |
| | | tubes, spring scales, balances, | | | | | |
| | | microscopes, thermometers, | | | | | |
| | | calculators, computers, | | | | | |
| | | spectroscopes, timing devices, and | | | | | |
| | | other equipment as needed to teach the curriculum | | | | | |
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|----------|---|--|--|--------------------------------|--|---|---|
| # 255 | TEKS (Knowledge and Skills) (4) Scientific investigation and reasoning. | Student Expectation (A) use appropriate tools to collect, | Breakout (xxvii) use appropriate tools | Item Number TX2_USSAN040104 | Component How Liquid Thermometers Measure | Learning Component Description In the Lab Sheet, students carry out two | Assessment Component Description In the Lab Sheet, data collected with the |
| | The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | to analyze information, including hot plates | | Temperature (TX2_USSAN040104) | investigations in which they analyze information gathered by using a hot plate. | use of a hot plate is analyzed. |
| | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxviii) use appropriate tools to analyze information, including test tubes | TX2_USSSM160110 | The Effect of Temperature on Enzyme Activity (TX2_USSSM160110) | In the Activity Object, students use appropriate tools to analyze information, including test tubes. | |
| | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxviii) use appropriate tools to analyze information, including test tubes | TX2_USSAN020201 | Boiling, Condensation, Freezing, and Melting Points (TX2_USSAN020201) | The Animation shows students how to use appropriate tools to analyze information, including test tubes. | |
| | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxviii) use appropriate tools to analyze information, including test tubes | TX2_USSAN040104 | How Liquid Thermometers Measure Temperature (TX2_USSAN040104) | In the Lab Sheet, students carry out two investigations in which they analyze information gathered by using test tubes. | In the Lab Sheet, data collected with the use of test tubes is analyzed. |
| | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxix) use appropriate tools to analyze information, including spring scales | TX2_USSSM200103 | Measuring Mass and Weight (TX2_USSSM200103) | including spring scales. | In the Activity Object, students measure pieces of fruit with a spring scale, and also with a triple beam and pan balance. Measurements are made on Earth, and on the moon. Values are entered in a chart. Students analyze the values in the chart and answer questions about them in the Activity Sheet. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|--|-----------------|---|--|--|
| 260 | | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxix) use appropriate tools to analyze information, including spring scales | TX2_USSAN080103 | The Differences between Mass and Weight (TX2_USSAN080103) | The Animation shows students how to use appropriate tools to analyze information, including spring scales. | |
| 261 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxx) use appropriate tools to analyze information, including balances | TX2_USSXP010404 | Conservation of Mass in Chemical Reactions (TX2_USSXP010404) | In the Activity Object, students use appropriate tools to analyze information, including balances. | |
| 262 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxx) use appropriate tools to analyze information, including balances | TX2_USSSM030104 | Physical Properties (TX2_USSSM030104) | In the Activity Object, students use appropriate tools to analyze information, including balances. | |
| 263 | | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxx) use appropriate tools to analyze information, including balances | | Measuring Mass and Weight (TX2_USSSM200103) | In the Activity Object, students use appropriate tools to analyze information, including balances. | In the Activity Object, students measure pieces of fruit with a spring scale, and also with a triple beam and pan balances. Measurements are made on Earth, and on the moon. Values are entered in a chart. Students analyze the values in the chart and answer questions about them in the Activity Sheet. |
| 264 | | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxx) use appropriate tools to analyze information, including balances | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | In the Lab Sheet, students use appropriate tools to analyze information, including balances. | In the Lab Sheet, students record data taken from a lab balance and then analyze the data. |

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|-----|---|--|--|-----------------|--|--|---|--|--|--|--|
| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description | | | | |
| | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxi) use appropriate tools to analyze information, including microscopes | TX2_USSSM160101 | Exploring Cells with a Microscope (TX2_USSSM160101) | In the Activity Object, students use appropriate tools to analyze information, including microscopes. | During the interaction, the use of the microscope is assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. | | | | |
| 266 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxi) use appropriate tools to analyze information, including microscopes | TX2_USSSM160105 | Cell Theory and Cell Types (TX2_USSSM160105) | In the Activity Object, students use appropriate tools to analyze information, including microscopes. | | | | | |
| | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxi) use appropriate tools to analyze information, including microscopes | TX2_USSAN200105 | Insect Traps (TX2_USSAN200105) | In the Lab Sheet, students use a microscope to examine and analyze structures of insects. | Q4 of the Lab Sheet asks students to analyze and describe structures that are visible under a microscope. | | | | |
| | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxi) use appropriate tools to analyze information, including microscopes | TX2_USSAN160104 | Levels of Organization in Plants (TX2_USSAN160104) | In the Lab Sheet, students use a microscope to examine and analyze plant cells. | In the Lab Sheet, students must diagram and analyze parts of plant cells seen using a microscope. | | | | |
| 269 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxii) use appropriate tools to analyze information, including thermometers | TX2_USSXP040201 | Heat Conduction (TX2_USSXP040201) | In the Activity Object, students use appropriate tools to analyze information, including thermometers. | In the Lab Sheet, students use a Celsius thermometer (temperature probe) in an investigation. Data is recorded in a table and then students must answer several questions involving analysis of the data. | | | | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|--|-----------------|--|---|---|
| 270 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxii) use appropriate tools to analyze information, including thermometers | TX2_USSXP020202 | Melting and Boiling Points: Heating Curves (TX2_USSXP020202) | | In Part 2 of the Activity Object, students use a digital thermometer to measure the melting and boiling points of substances. The data is used to create a graph, which is analyzed in order to answer questions. |
| 271 | | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxii) use appropriate tools to analyze information, including thermometers | TX2_USSAN040104 | | In the Animation, students learn how to use appropriate tools to analyze information, including thermometers. | |
| 272 | science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxii) use appropriate tools to analyze information, including thermometers | TX2_USSAN040104 | | In the Lab Sheet, students carry out two investigations in which they analyze information gathered by using a thermometer. | In the Lab Sheet, data collected with the use of a thermometer is analyzed. |
| 273 | | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxiii) use appropriate tools to analyze information, including calculators | TX2_USSSM030104 | Physical Properties (TX2_USSSM030104) | In the Activity Object, students use appropriate tools to analyze information, including calculators. | |
| 274 | tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxiii) use appropriate tools to analyze information, including calculators | TX2_USSSM160108 | The Surface Area-to-Volume Ratio in Organisms (TX2_USSSM160108) | In the Activity Object, students use appropriate tools to analyze information, including calculators. | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|--|-----------------|--|---|---|
| 275 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxiii) use appropriate tools to analyze information, including calculators | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | The Animation teaches how to analyze information with calculators. | The Question-Answer Sheet asks a question about the function of calculators to analyze information. |
| 276 | | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxiii) use appropriate tools to analyze information, including calculators | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | Investigation Sheet 1 shows students how to analyze information with calculators. | Investigation Sheet 1 assesses students' ability to analyze information with calculators. |
| 277 | | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxiii) use appropriate tools to analyze information, including calculators | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | Investigation Sheet 2 shows students how to analyze information with calculators. | Investigation Sheet 2 assesses students' ability to analyze information with calculators. |
| 278 | | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxiv) use appropriate tools to analyze information, including computers | TX2_USSSM010202 | | In the Activity Object, students use appropriate tools to analyze information, including computers. | |
| 279 | tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxiv) use appropriate tools to analyze information, including computers | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | The Animation teaches students how to analyze information with computers | The Question-Answer Sheet asks a question about the function of computers in analyzing information. |

| # | TEKS (Knowledge and Skills) Student Expectation Breakout Item Number Component Learning Component Description Assessment Component Description | | | | | | | | | |
|-----|---|--|--|-----------------|--|---|---|--|--|--|
| 280 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, | (xxxiv) use appropriate tools to analyze information, including computers | TX2_USSAN200120 | Computers and Calculators | Investigation Sheet 1 shows students how to analyze information with a computer. | Investigation Sheet 1 assesses students' ability to analyze information with a computer. | | | |
| 281 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxiv) use appropriate tools to analyze information, including computers | TX2_USSAN200120 | Computers and Calculators (TX2_USSAN200120) | Investigation Sheet 2 shows students how to analyze information with a computer. | Investigation Sheet 2 assesses students' ability to analyze information with a computer. | | | |
| | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxv) use appropriate tools to analyze information, including spectroscopes | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | The Lab Sheet contains an activity that teaches the use of a spectroscope to analyze information. | The Lab Sheet contains a question that requires the use of a spectroscope to analyze information. | | | |
| 283 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxvi) use appropriate tools to analyze information, including timing devices | TX2_USSXP160301 | Phototropism in Plants (TX2_USSXP160301) | In the Activity Object, students perform an experiment in which a stopwatch is used to analyze information. | | | | |
| 284 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (A) use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other equipment as needed to teach the curriculum | (xxxvi) use appropriate tools to analyze information, including timing devices | TX2_USSAN200111 | | In the Lab Sheet, students use a digital timer to analyze information during an investigation involving the measurement of pH for water samples. | Q6 of the Lab Sheet assesses the use of a digital timer to analyze information. | | | |

| | | | Drashaut | It a war Nie warde a w | 0 | | Assessment Osmussuret Description |
|----------|---|---|--------------------------------|--------------------------------|---|--|--|
| # 285 | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number TX2 USSSM030104 | Component Physical Properties (TX2, USSSM020104) | Learning Component Description | Assessment Component Description |
| | (4) Scientific investigation and reasoning. | (A) use appropriate tools to collect, | (xxxvii) use appropriate tools | 1X2_055510030104 | Physical Properties (TX2_USSSM030104) | | |
| | The student knows how to use a variety of | record, and analyze information, | to analyze information, | | | appropriate tools to analyze information, | |
| | tools and safety equipment to conduct | including lab journals/notebooks, | including other equipment as | | | including other equipment as needed, | |
| | science inquiry. The student is expected to: | beakers, meter sticks, graduated | needed | | | such as a scale to measure mass. A bulb, | |
| | | cylinders, anemometers, | | | | a voltage source, and wires are also used | |
| | | psychrometers, hot plates, test | | | | to analyze information with regard to | |
| | | tubes, spring scales, balances, | | | | electrical conductivity. | |
| | | microscopes, thermometers, | | | | | |
| | | calculators, computers, | | | | | |
| | | spectroscopes, timing devices, and | | | | | |
| | | other equipment as needed to teach | | | | | |
| | | the curriculum | | | | | |
| | | | | | | | |
| 286 | (4) Scientific investigation and reasoning. | (A) use appropriate tools to collect, | (xxxvii) use appropriate tools | TX2_USSXP110302 | Color Absorption and Reflection: Light into | In the Activity Object, students use | In the Activity Object, students analyze |
| | The student knows how to use a variety of | record, and analyze information, | to analyze information, | | Heat Energy (TX2_USSXP110302) | appropriate tools to analyze information, | information in order to provide responses |
| | tools and safety equipment to conduct | including lab journals/notebooks, | including other equipment as | | | including other equipment as needed, | with regard to the correct use of equipment, |
| | science inquiry. The student is expected to: | beakers, meter sticks, graduated | needed | | | such as light bulbs and thermometers. | such as the light bulb. Student responses |
| | | cylinders, anemometers, | needed | | | such as light babe and thermometers. | are assessed by the Activity Object |
| | | psychrometers, hot plates, test | | | | | software, which provides appropriate |
| | | tubes, spring scales, balances, | | | | | feedback as students work through the |
| | | microscopes, thermometers, | | | | | exercises. |
| | | calculators, computers, | | | | | 0.0.0.000. |
| | | spectroscopes, timing devices, and | | | | | |
| | | other equipment as needed to teach | | | | | |
| | | the curriculum | | | | | |
| | | | | | | | |
| | | | | | | | |
| | (4) Scientific investigation and reasoning. | (A) use appropriate tools to collect, | (xxxvii) use appropriate tools | TX2_USSXP040202 | Light Intensity and Distance from the | In this Activity Object, students use | In Part 2 of the Activity Object, students |
| | The student knows how to use a variety of | record, and analyze information, | to analyze information, | | Source (TX2_USSXP040202) | appropriate tools to analyze information, | analyze information in order to provide |
| | tools and safety equipment to conduct | including lab journals/notebooks, | including other equipment as | | | including other equipment as needed, | responses with regard to the correct use of |
| | science inquiry. The student is expected to: | beakers, meter sticks, graduated | needed | | | such as a light source and photovoltaic | equipment, such as a light source and |
| | | cylinders, anemometers, | | | | battery. | photovoltaic battery. Student responses are |
| | | psychrometers, hot plates, test | | | | | assessed by the Activity Object software, |
| | | tubes, spring scales, balances, | | | | | which provides appropriate feedback as |
| | | microscopes, thermometers, | | | | | students work through the exercises. |
| | | calculators, computers, | | | | | - |
| | | spectroscopes, timing devices, and | | | | | |
| | | other equipment as needed to teach | | | | | |
| | | the curriculum | | | | | |
| | | | | | | | |
| 288 | (4) Scientific investigation and reasoning. | (A) use appropriate tools to collect, | (xxxvii) use appropriate tools | TY2 LISSAN200111 | Water Test Kits (TX2_USSAN200111) | In the Lab Sheet, students are instructed | The Lab Sheet assesses the use of pH |
| | | | | 172_033AN200111 | $vvaler restricts(TAZ_USSAIN200111)$ | | |
| | The student knows how to use a variety of | record, and analyze information, | to analyze information, | | | to use a digital timer, pH test strips, | strips, markers, and tape (for making |
| | tools and safety equipment to conduct | including lab journals/notebooks, | including other equipment as | | | markers, tape, and beakers. Students | labels), beakers, and a digital timer, as well |
| | science inquiry. The student is expected to: | beakers, meter sticks, graduated | needed | | | analyze information obtained from these | as students' ability to analyze the data |
| | | cylinders, anemometers, | | | | tools while completing the activity. | obtained from observations. Finally, |
| | | psychrometers, hot plates, test | | | | | students form conclusions from their |
| | | tubes, spring scales, balances, | | | | | findings. |
| | | microscopes, thermometers, | | | | | |
| | | calculators, computers, | | | | | |
| | | spectroscopes, timing devices, and | | | | | |
| | | other equipment as needed to teach | | | | | |
| | | the curriculum | | | | | |
| | | | | | | | |
| 289 | (4) Scientific investigation and reasoning. | (B) use preventative safety | (i) use preventative safety | TX2 USSSM200101 | Laboratory Safety (TX2 USSSM200101) | In Part 2 of the Activity Object, students | In the Activity Sheet, students are assessed |
| | The student knows how to use a variety of | | equipment, including | | | are expected to use preventative safety | on the correct use of preventative safety |
| | tools and safety equipment to conduct | | chemical splash goggles | | | equipment, including chemical splash | equipment, including chemical splash |
| | science inquiry. The student is expected to: | prepared to use emergency safety | ononnoai apiaan yoyyica | | | goggles. | goggles. |
| | solonice inquiry. The student is expected to. | equipment, including an eye/face | | | | 9099103. | 9099100. |
| | | wash, a fire blanket, and a fire | | | | | |
| | | extinguisher | | | | | |
| | | Stangulorion | | | | | |
| | | | | | | 1 | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|----------|---|--|--|-----------------|---|---|---|
| # 290 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher | (i) use preventative safety equipment, including | TX2_USSSM200101 | | Enrichment Sheet 1 teaches the correct use of preventative safety equipment, including chemical splash goggles. | In Enrichment Sheet 1, students are assessed on the correct use of preventative safety equipment, including chemical splash goggles. |
| 291 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | equipment, including chemical splash | use preventative safety equipment, including chemical splash goggles | TX2_USSXP060101 | The Properties of Acids (TX2_USSXP060101) | In the Activity Object, students are instructed to use preventative safety equipment, including chemical splash goggles. | |
| 292 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher | | TX2_USSXP060102 | The Properties of Bases (TX2_USSXP060102) | In the Activity Object, students are instructed to use preventative safety equipment, including chemical splash goggles. | |
| 293 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher | | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | The Lab Sheet teaches students to use preventative safety equipment, including chemical splash goggles. | The Lab Sheet asks a question about the correct use of preventative safety equipment, including chemical splash goggles. |
| 294 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | equipment, including chemical splash | use preventative safety equipment, including chemical splash goggles | TX2_USSSM190106 | Interactions Among Organisms - Competition (TX2_USSSM190106) | The Lab Sheet teaches students to use preventative safety equipment, including chemical splash goggles. | The Lab Sheet asks a question about the correct use of preventative safety equipment, including chemical splash goggles. |
| 295 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher | use preventative safety equipment, including aprons | TX2_USSSM200101 | Laboratory Safety (TX2_USSSM200101) | In Part 2 of the Activity Object, students are instructed to use preventative safety equipment, including aprons. | In the Activity Sheet, students are asked about the correct use of preventative safety equipment, including aprons. |
| 296 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher | (ii) use preventative safety equipment, including aprons | TX2_USSSM200101 | Laboratory Safety (TX2_USSSM200101) | Enrichment Sheet 1 teaches the use of preventative safety equipment, including aprons. | In Enrichment Sheet 1, students are asked about the correct use of preventative safety equipment, including aprons. |
| 297 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher | (ii) use preventative safety equipment, including aprons | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | The Lab Sheet teaches students to use preventative safety equipment, including aprons. | The Lab Sheet asks a question about the correct use of preventative safety equipment, including aprons. |

| # | TEKS (Knowledge and Skills) | Student Expectation E | Breakout Item N | Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|---|------------------|---|--|---|
| 298 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct | | eventative safety TX2_USSS | SM190106 Interac | ctions Among Organisms - etition (TX2_USSSM190106) | The Lab Sheet teaches students to use preventative safety equipment, including aprons. | The Lab Sheet asks a question about the correct use of preventative safety equipment, including aprons. |
| 299 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher | eventative safety t, including gloves | SM200101 Labora | atory Safety (TX2_USSSM200101) | In Part 2 of the Activity Object, students are instructed to use preventative safety equipment, including gloves. | In the Activity Sheet, students are asked about the correct use of preventative safety equipment, including gloves. |
| 300 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | equipment, including chemical splash equipment, goggles, aprons, and gloves, and be | eventative safety TX2_USS5 t, including gloves | SM200101 Labora | atory Safety (TX2_USSSM200101) | Enrichment Sheet 1 teaches the use of preventative safety equipment, including gloves. | In Enrichment Sheet 1, students are asked about the correct use of preventative safety equipment, including gloves. |
| 301 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | | eventative safety t, including gloves | | and Abiotic Factors in Ecosystems USSAN190101) | The Lab Sheet teaches students to use preventative safety equipment, including gloves. | The Lab Sheet asks a question about the correct use of preventative safety equipment, including gloves. |
| 302 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | (B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher | eventative safety TX2_USSS t, including gloves | | tions Among Organisms - tititon (TX2_USSSM190106) | The Lab Sheet teaches students to use preventative safety equipment, including gloves. | The Lab Sheet asks a question about the correct use of preventative safety equipment, including gloves. |
| 303 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | equipment, including chemical splash emergency goggles, aprons, and gloves, and be equipment, | t, including an | SM200101 Labora | atory Safety (TX2_USSSM200101) | The Activity Object teaches students to be prepared to use emergency safety equipment, including an eye/face wash. | In the Activity Sheet, students are asked questions in order to assess their preparedness to use emergency safety equipment, including an eye/face wash. |
| 304 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | equipment, including chemical splash emergency | t, including an | SM200101 Labora | atory Safety (TX2_USSSM200101) | Enrichment Sheet 1 teaches the correct use of preventative safety equipment, including an eye/face wash. | |
| 305 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | equipment, including chemical splash emergency goggles, aprons, and gloves, and be equipment, | t, including an | | and Abiotic Factors in Ecosystems USSAN190101) | The Lab Sheet teaches students to be prepared to use emergency safety equipment, including an eye/face wash. | The Lab Sheet asks a question about the correct use of emergency safety equipment, including an eye/face wash. |

| 4 | TEKS (Knowledge and Skills) | Student Expectation | Breekeut | liem Number | Component | Learning Component Description | According to Component Description |
|----------|---|--|---|--------------------------------|--|--|---|
| # 306 | tools and safety equipment to conduct | | Breakout (iv) be prepared to use emergency safety equipment, including an eye/face wash | Item Number TX2_USSSM190106 | Component Interactions Among Organisms - Competition (TX2_USSSM190106) | Learning Component Description The Lab Sheet teaches students to be prepared to use emergency safety equipment, including an eye/face wash. | Assessment Component Description |
| 307 | tools and safety equipment to conduct | equipment, including chemical splash goggles, aprons, and gloves, and be | (v) be prepared to use emergency safety equipment, including a fire blanket | TX2_USSSM200101 | Laboratory Safety (TX2_USSSM200101) | The Activity Object teaches students to be prepared to use emergency safety equipment, including a fire blanket. | In the Activity Sheet, students are assessed on their preparedness to use emergency safety equipment, including a fire blanket. |
| 308 | tools and safety equipment to conduct | equipment, including chemical splash goggles, aprons, and gloves, and be | (v) be prepared to use emergency safety equipment, including a fire blanket | TX2_USSSM200101 | Laboratory Safety (TX2_USSSM200101) | Enrichment Sheet 1 teaches the correct use of preventative safety equipment, including a fire blanket. | Enrichment Sheet 1 assesses the correct use of emergency safety equipment, including a fire blanket |
| 309 | tools and safety equipment to conduct | (B) use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher | (v) be prepared to use emergency safety equipment, including a fire blanket | TX2_USSSM200101 | Laboratory Safety (TX2_USSSM200101) | Enrichment Sheet 2 teaches the correct use of preventative safety equipment, including a fire blanket. | Enrichment Sheet 2 assesses the correct use of emergency safety equipment, including a fire blanket. |
| 310 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | equipment, including chemical splash goggles, aprons, and gloves, and be | (v) be prepared to use emergency safety equipment, including a fire blanket | TX2_USSAN190103 | Competition in Ecosystems (TX2_USSAN190103) | The Lab Sheet teaches students to be prepared to use emergency safety equipment, including a fire blanket. | The Lab Sheet asks a question about the correct use of emergency safety equipment, including a fire blanket. |
| 311 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | equipment, including chemical splash goggles, aprons, and gloves, and be | (v) be prepared to use emergency safety equipment, including a fire blanket | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | The Lab Sheet teaches students to be prepared to use emergency safety equipment, including a fire blanket. | The Lab Sheet asks a question about the correct use of emergency safety equipment, including a fire blanket. |
| 312 | (4) Scientific investigation and reasoning. The student knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to: | equipment, including chemical splash | (vi) be prepared to use emergency safety equipment, including a fire extinguisher | TX2_USSAN190103 | Competition in Ecosystems (TX2_USSAN190103) | The Lab Sheet teaches students to be prepared to use emergency safety equipment, including a fire extinguisher. | The Lab Sheet asks a question about the correct use of emergency safety equipment, including a fire extinguisher. |
| 313 | tools and safety equipment to conduct | equipment, including chemical splash goggles, aprons, and gloves, and be | (vi) be prepared to use emergency safety equipment, including a fire extinguisher | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | The Lab Sheet teaches students to be prepared to use emergency safety equipment, including a fire extinguisher. | The Lab Sheet asks a question about the correct use of emergency safety equipment, including a fire extinguisher. |

| # | TEKS (Knowledge and Skills) Student Expectation Breakout Item Number Component Learning Component Description Assessment Component Description | | | | | | | | | | |
|----------|--|--|--|-----------------|--|---|---|--|--|--|--|
| # 314 | (5) Matter and energy. The student knows | (A) describe the structure of atoms, | (i) describe the structure of | TX2_USSSM010501 | Atomic Model History: From Ancient | In the Activity Object, students learn to | Assessment Component Description | | | | |
| | that matter is composed of atoms and has chemical and physical properties. The student is expected to: | including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | atoms, including the masses of protons in the nucleus | | Greece to Thomson ((TX2_USSSM010501) | describe the structure of atoms, including the masses of protons in the nucleus, according to the historical development of atomic models from ancient Greece to Thomson. | | | | | |
| 315 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (i) describe the structure of atoms, including the masses of protons in the nucleus | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | In the Activity Object, students learn to describe the structure of atoms, including the masses of protons in the nucleus, according to the historical development of atomic models from Rutherford to Bohr. | | | | | |
| 316 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | describe the structure of atoms, including the masses of protons in the nucleus | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Animation describes the structure of atoms, including the masses of protons in the nucleus. | | | | | |
| 317 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (i) describe the structure of atoms, including the masses of protons in the nucleus | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Enrichment Sheet teaches students about the mass of protons. | The Enrichment Sheet asks a question about the mass of protons. | | | | |
| 318 | chemical and physical properties. The | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (ii) describe the structure of atoms, including the masses of neutrons in the nucleus | TX2_USSSM010501 | Atomic Model History: From Ancient Greece to Thomson (TX2_USSSM010501) | In the Activity Object, students learn to describe the structure of atoms, including the masses of neutrons in the nucleus, according to the historical development of atomic models from ancient Greece to Thomson. | | | | | |
| 319 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (ii) describe the structure of atoms, including the masses of neutrons in the nucleus | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | In the Activity Object, students learn to describe the structure of atoms, including the masses of neutrons in the nucleus according to the historical development of atomic models from Rutherford to Bohr. | | | | | |
| 320 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (ii) describe the structure of atoms, including the masses of neutrons in the nucleus | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Animation describes the structure of atoms, including the masses of neutrons in the nucleus. | | | | | |
| 321 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (ii) describe the structure of atoms, including the masses of neutrons in the nucleus | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Enrichment Sheet teaches students about the mass of neutrons. | The Enrichment Sheet asks a question about the mass of neutrons. | | | | |
| 322 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (iii) describe the structure of atoms, including the masses of electrons in the electron cloud | TX2_USSSM010501 | Atomic Model History: From Ancient Greece to Thomson (TX2_USSSM010501) | In the Activity Object, students learn to describe the structure of atoms, including the masses of electrons in the electron cloud, according to the historical development of atomic models from ancient Greece to Thomson. | | | | | |
| 323 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (iii) describe the structure of atoms, including the masses of electrons in the electron cloud | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | In the Activity Object, students learn to describe the structures of atoms, including the masses of electrons in the electron cloud, according to the historical development of atomic models from Rutherford to Bohr. | | | | | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|--|--|--|-----------------|--|---|---|
| 324 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (iii) describe the structure of atoms, including the masses of electrons in the electron cloud | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Animation describes the structure of atoms, including the masses of electrons in the electron cloud. | Assessment component beschpion |
| 325 | that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (iii) describe the structure of atoms, including the masses of electrons in the electron cloud | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Enrichment Sheet teaches students about the mass of electrons. | The Enrichment Sheet asks a question about the mass of electrons. |
| 326 | that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (iv) describe the structure of atoms, including the electrical charges of protons in the nucleus | TX2_USSSM010501 | Atomic Model History: From Ancient Greece to Thomson (TX2_USSSM010501) | In the Activity Object, students learn to describe the structure of atoms, including the electrical charges of protons in the nucleus, according to the historical development of atomic models from ancient Greece to Thomson. | |
| 327 | that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (iv) describe the structure of atoms, including the electrical charges of protons in the nucleus | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | In the Activity Object, students learn to describe the structure of atoms, including the electrical charges of protons in the nucleus, according to the historical development of atomic models from Rutherford to Bohr. | |
| 328 | that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (iv) describe the structure of atoms, including the electrical charges of protons in the nucleus | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Animation describes the structure of atoms, including the electrical charges of protons in the nucleus. | Q2 of the Question-Answer Sheet asks students to indicate the charge and location of protons. |
| 329 | that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (iv) describe the structure of atoms, including the electrical charges of protons in the nucleus | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Enrichment Sheet teaches students the charge of protons. | The Enrichment Sheet asks a question about the charge of protons. |
| 330 | that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (v) describe the structure of atoms, including the electrical charges of neutrons in the nucleus | TX2_USSSM010501 | Atomic Model History: From Ancient Greece to Thomson (TX2_USSSM010501) | In the Activity Object, students learn to describe the structure of atoms, including the electrical charges of neutrons in the nucleus, according to the historical development of atomic models from ancient Greece to Thomson. | |
| 331 | that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (v) describe the structure of atoms, including the electrical charges of neutrons in the nucleus | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | In the Activity Object, students learn to describe the structure of atoms, including the electrical charges of neutrons in the nucleus, according to the historical development of atomic models from Rutherford to Bohr. | |
| 332 | that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (v) describe the structure of atoms, including the electrical charges of neutrons in the nucleus | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Animation describes the structure of atoms, including the electrical charges of neutrons in the nucleus. | Q2 of the Question-Answer Sheet asks students to indicate the charge of neutrons. |
| 333 | that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (v) describe the structure of atoms, including the electrical charges of neutrons in the nucleus | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Enrichment Sheet teaches students the charge of neutrons. | The Enrichment Sheet asks a question about the charge of neutrons. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|---------------------|--|--|---|-----------------|---|---|--|
| # 334 | (5) Matter and energy. The student knows | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (vi) describe the structure of atoms, including the electrical charges of electrons in the electron cloud | TX2_USSSM010501 | Component Atomic Model History: From Ancient Greece to Thomson (TX2_USSSM010501) | Learning Component Description In the Activity Object, students learn to describe the structure of atoms, including the electrical charges of electrons in the electron cloud, according to the historical development of atomic models from ancient Greece to Thomson. | |
| 335 | chemical and physical properties. The | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (vi) describe the structure of atoms, including the electrical charges of electrons in the electron cloud | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | In the Activity Object, students learn to describe the structure of atoms, including the electrical charges of electrons in the electron cloud, according to the historical development of atomic models from Rutherford to Bohr. | In the Activity Sheet, students are asked to indicate the charge of electrons in the electron cloud. |
| 336 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (vi) describe the structure of atoms, including the electrical charges of electrons in the electron cloud | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Animation describes the structure of atoms, including the electrical charges of electrons in the electron cloud. | Q3 of the Question-Answer Sheet asks students to indicate the charge of electrons and their location. |
| 337 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (vi) describe the structure of atoms, including the electrical charges of electrons in the electron cloud | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Enrichment Sheet teaches students the charge of electrons. | The Enrichment Sheet asks a question about the charge of electrons. |
| 338 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (vii) describe the structure of atoms, including the locations of protons in the nucleus | TX2_USSSM010501 | Atomic Model History: From Ancient Greece to Thomson (TX2_USSSM010501) | In the Activity Object, students learn to describe the structure of atoms, including the locations of protons in the nucleus, according to the historical development of the atomic model from ancient Greece to Thomson. | |
| 339 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (vii) describe the structure of atoms, including the locations of protons in the nucleus | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | In the Activity Object, students learn to describe the structure of atoms, including the locations of protons in the nucleus, according to the historical development of atomic models from Rutherford to Bohr. | In the Activity Sheet, students are asked to indicate the position of protons in the nucleus of an atom. |
| 340 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (vii) describe the structure of atoms, including the locations of protons in the nucleus | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | The Investigation Sheet teaches students the location of protons in the nucleus. | Q2 of the Investigation Sheet asks students to indicate the position of protons in the nucleus. |
| 341 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (vii) describe the structure of atoms, including the locations of protons in the nucleus | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Animation describes the structure of atoms, including the locations of protons in the nucleus. | Q2 of the Question-Answer Sheet asks students to indicate where protons are located in an atom. |
| 342 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (vii) describe the structure of atoms, including the locations of protons in the nucleus | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Enrichment Sheet teaches students the location of protons in the nucleus. | In the Enrichment Sheet, students are asked to indicate the position of protons in the nucleus of an atom. |
| 343 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud | (viii) describe the structure of atoms, including the locations of neutrons in the nucleus | TX2_USSSM010501 | Atomic Model History: From Ancient Greece to Thomson (TX2_USSSM010501) | In the Activity Object, students learn to describe the structure of atoms, including the locations of neutrons in the nucleus, according to the historical development of atomic models from ancient Greece to Thomson. | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|--|--|---|-----------------|--|--|---|
| 344 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (A) describe the structure of atoms, including the masses, electrical | (viii) describe the structure of atoms, including the locations of neutrons in the nucleus | | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | | In the Activity Sheet, students are asked to indicate the position of the neutrons in the nucleus of an atom. |
| 345 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | | (viii) describe the structure of atoms, including the locations of neutrons in the nucleus | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | | Q2 of the Investigation Sheet asks students to indicate the position of the neutrons in an atom. |
| 346 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | | (viii) describe the structure of atoms, including the locations of neutrons in the nucleus | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Animation describes the structure of atoms, including the locations of neutrons in the nucleus. | Q2 of the Question-Answer Sheet asks students to indicate where neutrons are located in an atom. |
| 347 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | | (viii) describe the structure of atoms, including the locations of neutrons in the nucleus | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Enrichment Sheet teaches students the locations of neutrons in the nucleus. | In the Enrichment Sheet, students are asked to indicate the position of the neutrons in the nucleus of an atom. |
| 348 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | charges, and locations, of protons | (ix) describe the structure of atoms, including the locations of electrons in the electron cloud | TX2_USSSM010501 | Atomic Model History: From Ancient Greece to Thomson (TX2_USSSM010501) | In the Activity Object, students learn to describe the structure of atoms, including the locations of electrons in the electron cloud, according to the historical development of atomic models from ancient Greece to Thomson. | |
| 349 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | | (ix) describe the structure of atoms, including the locations of electrons in the electron cloud | TX2_USSSM010502 | Atomic Model History: From Rutherford to Bohr (TX2_USSSM010502) | In the Activity Object, students learn to describe the structure of atoms, including the locations of electrons in the electron cloud, according to the historical development of atomic models from Rutherford to Bohr. | |
| 350 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | | (ix) describe the structure of atoms, including the locations of electrons in the electron cloud | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Animation describes the structure of atoms, including the locations of electrons in the electron cloud. | In the Question-Answer Sheet, students are asked to identify the locations of electrons in an atom. |
| 351 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | | (ix) describe the structure of atoms, including the locations of electrons in the electron cloud | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | The Enrichment Sheet teaches students the location of electrons in the electron cloud. | Q2 of the Enrichment Sheet assesses the ability of students to locate electrons in an atom. |
| 352 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (B) identify that protons determine an element's identity and valence electrons determine its chemical properties, including reactivity | (i) identify that protons determine an element's identity | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | In the Animation, students learn that protons determine an element's identity. | In the Question-Answer Sheet, students answer a question that asks them to identify protons as the objects that determine an element's identity. |
| 353 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (B) identify that protons determine an element's identity and valence electrons determine its chemical properties, including reactivity | (i) identify that protons determine an element's identity | TX2_USSAN010302 | Subatomic Particles (TX2_USSAN010302) | | In the Enrichment Sheet, students answer a question that asks them to identify protons as the objects that determine an element's identity. |
| 354 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (B) identify that protons determine an element's identity and valence electrons determine its chemical properties, including reactivity | (i) identify that protons determine an element's identity | TX2_USSSM010202 | Calculating Atomic Mass (TX2_USSSM010202) | In the Activity Object, students learn that protons determine an element's identity. | In the Question-Answer Sheet, students answer a question that asks them to identify protons as the objects that determine an element's identity. |

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|----------|--|---|--|--------------------------------|--|--|---|
| # 355 | that matter is composed of atoms and has chemical and physical properties. The student is expected to: | properties, including reactivity | electrons determine [an element's] chemical properties, including reactivity | Item Number TX2_USSSM010602 | Component Electron Configuration and the Tendency to Gain or Lose Electrons (TX2_USSSM010602) | Learning Component Description In the Activity Object, students learn that valence electrons determine an element's chemical properties, including reactivity. | Assessment Component Description The Activity Sheet asks students to identify that valence electrons determine the chemical properties of elements, including reactivity. |
| 356 | chemical and physical properties. The student is expected to: | (B) identify that protons determine an element's identity and valence electrons determine its chemical properties, including reactivity | (ii) identify that valence electrons determine [an element's] chemical properties, including reactivity | TX2_USSAN010601 | The Concept of Bonding (TX2_USSAN010601) | The Animation teaches students that valence electrons determine the chemical properties of elements, including reactivity. | |
| 357 | chemical and physical properties. The student is expected to: | properties, including reactivity | (ii) identify that valence electrons determine [an element's] chemical properties, including reactivity | TX2_USSAN010709 | Bonding and the Periodic Table(TX2_USSAN010709) | The Animation teaches students that valence electrons determine the chemical properties of elements, including reactivity. | |
| 358 | chemical and physical properties. The | (C) interpret the arrangement of the Periodic Table, including groups and periods, to explain how properties are used to classify elements | (i) interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements | TX2_USSAN010701 | General Structure of the Periodic Table (TX2_USSAN010701) | The Animation teaches students to interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements. An overview of the structure of the Periodic Table is provided. | The Question-Answer Sheet asks questions that require students to interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements. |
| 359 | chemical and physical properties. The | (C) interpret the arrangement of the Periodic Table, including groups and periods, to explain how properties are used to classify elements | interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements | TX2_USSAN010702 | Properties of s-Block Elements (TX2_USSAN010702) | The Animation teaches students to interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements. | The Question-Answer Sheet asks questions that require students to interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements. |
| 360 | chemical and physical properties. The | (C) interpret the arrangement of the Periodic Table, including groups and periods, to explain how properties are used to classify elements | (i) interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements | TX2_USSAN010707 | Properties of Group 7A Elements (TX2_USSAN010707) | The Animation teaches students to interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements. | The Question-Answer Sheet asks questions that require students to interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements. |
| 361 | chemical and physical properties. The | (C) interpret the arrangement of the Periodic Table, including groups and periods, to explain how properties are used to classify elements | (i) interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements | TX2_USSAN010708 | Properties of Group 8A Elements (TX2_USSAN010708) | The Animation teaches students to interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements. | The Question-Answer Sheet asks questions that require students to interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements. |
| 362 | chemical and physical properties. The | (C) interpret the arrangement of the Periodic Table, including groups and periods, to explain how properties are used to classify elements | interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements | TX2_USSAN010703 | Properties of Group 3A Elements (TX2_USSAN010703) | The Animation teaches students to interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements. | The Question-Answer Sheet asks questions that require students to interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements. |
| 363 | chemical and physical properties. The | periods, to explain how properties are used to classify elements | (i) interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements | TX2_USSAN010701 | General Structure of the Periodic Table (TX2_USSAN010701) | The Enrichment Sheet teaches students how to interpret the arrangement of the Periodic Table, including groups, to explain how properties are used to classify elements. | The Enrichment Sheet assesses students on their interpretations of the arrangement of the Periodic Table, including groups. Students are asked how properties are used to classify elements. |
| 364 | chemical and physical properties. The student is expected to: | periods, to explain how properties are used to classify elements | (ii) interpret the arrangement of the Periodic Table, including periods, to explain how properties are used to classify elements | TX2_USSAN010701 | General Structure of the Periodic Table (TX2_USSAN010701) | Table, including periods, to explain how properties are used to classify elements. | The Question-Answer Sheet asks students to interpret arrangement of the Periodic Table, including periods, to explain how properties are used to classify elements. |
| 365 | chemical and physical properties. The | periods, to explain how properties | (ii) interpret the arrangement of the Periodic Table, including periods, to explain how properties are used to classify elements | TX2_USSAN010701 | General Structure of the Periodic Table (TX2_USSAN010701) | The Enrichment Sheet teaches students how to interpret the arrangement of the Periodic Table, including periods, to explain how properties are used to classify elements. | The Enrichment Sheet assesses how students interpret the arrangement of the Periodic Table, including periods, to explain how properties are used to classify elements. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description | | | | |
|-----|--|---|---|-----------------|--|--|--|--|--|--|--|
| 366 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (D) recognize that chemical formulas are used to identify substances and determine the number of atoms of each element in chemical formulas containing subscripts | (i) recognize that chemical formulas are used to identify substances | TX2_USSSM010402 | A Musical Introduction to Chemical Formulas (TX2_USSSM010402) | The Activity Object teaches students to recognize that chemical formulas are used to identify substances. | In the Activity Sheet, students answer questions to demonstrate whether or not they recognize that chemical formulas are used to identify substances. | | | | |
| 367 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (D) recognize that chemical formulas are used to identify substances and determine the number of atoms of each element in chemical formulas containing subscripts | (i) recognize that chemical formulas are used to identify substances | TX2_USSSM010405 | Writing and Balancing Chemical Equations (TX2_USSSM010405) | The Activity Object teaches students to recognize that chemical formulas are used to identify substances. | In the Enrichment Sheet, students answer questions to demonstrate whether or not they recognize that chemical formulas are used to identify substances. | | | | |
| 368 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | | (ii) determine the number of atoms of each element in chemical formulas containing subscripts | | A Musical Introduction to Chemical Formulas (TX2_USSSM010402) | In the Activity Object, students determine the number of atoms of each element in chemical formulas containing subscripts. | In the Activity Sheet, students must determine the number of atoms of each element in chemical formulas containing subscripts. | | | | |
| 369 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | determine the number of atoms of | (ii) determine the number of atoms of each element in chemical formulas containing subscripts | TX2_USSSM010402 | A Musical Introduction to Chemical Formulas (TX2_USSSM010402) | | In Part 2 of the Activity Object, students must provide responses when asked to determine the number of atoms of each element in chemical formulas containing subscripts. Responses are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. | | | | |
| 370 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (E) investigate how evidence of chemical reactions indicate that new substances with different properties are formed | | TX2_USSSM030101 | Physical and Chemical Changes (TX2_USSSM030101) | In the Activity Object, students investigate how evidence of chemical reactions indicate that new substances with different properties are formed. | | | | | |
| 371 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (E) investigate how evidence of chemical reactions indicate that new substances with different properties are formed | | TX2_USSAN010401 | Elements and Compounds (TX2_USSAN010401) | The Animation teaches students to investigate how evidence of chemical reactions indicate that new substances with different properties are formed. | | | | | |
| 372 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (E) investigate how evidence of chemical reactions indicate that new substances with different properties are formed | | TX2_USSAN010401 | Elements and Compounds (TX2_USSAN010401) | The Enrichment Sheet investigates how evidence of chemical reactions indicates that new substances with different properties are formed. | In the Enrichment Sheet, students are asked a question in which they investigate how the evidence from chemical reactions indicates that new substances with different properties are formed. | | | | |
| 373 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (F) recognize whether a chemical equation containing coefficients is balanced or not and how that relates to the law of conservation of mass | (i) recognize whether a chemical equation containing coefficients is balanced or not | TX2_USSSM010405 | Writing and Balancing Chemical Equations (TX2_USSSM010405) | The Activity Object teaches students how to recognize whether or not a chemical equation containing coefficients is balanced. | The Activity Sheet asks students a question in which they must recognize whether or not a chemical equation containing coefficients is balanced. | | | | |
| 374 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (F) recognize whether a chemical equation containing coefficients is balanced or not and how that relates to the law of conservation of mass | (i) recognize whether a chemical equation containing coefficients is balanced or not | TX2_USSSM010405 | Writing and Balancing Chemical Equations (TX2_USSSM010405) | | At least one question of the Assessment in the Activity Object asks students to recognize whether or not a chemical equation containing coefficients is balanced. | | | | |
| 375 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (F) recognize whether a chemical equation containing coefficients is balanced or not and how that relates to the law of conservation of mass | (i) recognize whether a chemical equation containing coefficients is balanced or not | TX2_USSXP010404 | Conservation of Mass in Chemical Reactions (TX2_USSXP010404) | The Enrichment Sheet teaches students how to recognize whether or not a chemical equation containing coefficients is balanced. | The Enrichment Sheet asks a question in which students have to determine if a chemical equation containing coefficients is balanced. | | | | |
| 376 | (5) Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to: | (F) recognize whether a chemical equation containing coefficients is balanced or not and how that relates to the law of conservation of mass | (ii) recognize how [a balanced chemical equation] relates to the law of conservation of mass | TX2_USSXP010404 | Conservation of Mass in Chemical Reactions (TX2_USSXP010404) | In the Activity Object, students learn how to recognize how a balanced chemical equation relates to the law of conservation of mass. | The Activity Sheet asks students a question in which they need to recognize how a balanced chemical equation relates to the law of conservation of mass. | | | | |

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| # 377 | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number TX2_USSXP010404 | Component | Learning Component Description | Assessment Component Description |
| 3// | (5) Matter and energy. The student knows that matter is composed of atoms and has | (F) recognize whether a chemical | (ii) recognize how [a balanced chemical equation] | TX2_USSXP010404 | Conservation of Mass in Chemical | | At least one question in the Assessment of |
| | | equation containing coefficients is | | | Reactions (TX2_USSXP010404) | | the Activity Object requires students to |
| | chemical and physical properties. The student is expected to: | balanced or not and how that relates to the law of conservation of mass | relates to the law of conservation of mass | | | | recognize how a balanced chemical equation relates to the law of conservation |
| | student is expected to. | to the law of conservation of mass | conservation of mass | | | | • |
| | | | | | | | of mass. |
| 378 | (5) Matter and energy. The student knows | (F) recognize whether a chemical | (ii) recognize how [a | TX2_USSXP010404 | Conservation of Mass in Chemical | The Enrichment Sheet teaches students | The Enrichment Sheet assesses student |
| | that matter is composed of atoms and has | equation containing coefficients is | balanced chemical equation] | | Reactions (TX2_USSXP010404) | how a balanced chemical equation relates | understanding of how a balanced chemical |
| | chemical and physical properties. The | | relates to the law of conservation of mass | | | to the law of conservation of mass. | equation relates to the law of conservation |
| | student is expected to: | to the law of conservation of mass | conservation of mass | | | | of mass. |
| | | | | T) (0, 1, 10, 0) (5, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, | | | |
| 379 | | (A) demonstrate and calculate how | (i) demonstrate how | TX2_USSXP080102 | Balanced and Unbalanced Forces | The Activity Object demonstrates how | In Part 2 of the Activity Object, students are |
| | knows that there is a relationship between | unbalanced forces change the speed | the speed or direction of an | | (TX2_USSXP080102) | unbalanced forces change the speed or direction of an object's motion. | asked to perform an investigation to demonstrate how unbalanced forces |
| | force, motion, and energy. The student is expected to: | or direction of an object's motion | object's motion | | | direction of an object's motion. | change the speed or direction of an object |
| | expected to. | | object s motion | | | | motion. During the interaction, students |
| | | | | | | | provide responses that are assessed by th |
| | | | | | | | Activity Object software, which provides |
| | | | | | | | appropriate feedback as students work |
| | | | | | | | through the exercises. |
| | | | | | | | |
| 380 | (6) Force, motion, and energy. The student | (A) demonstrate and executors have | (i) demonstrate how | TX2 USSXP080102 | Balanced and Unbalanced Forces | l | In the Activity Sheet, students are asked to |
| 300 | knows that there is a relationship between | unbalanced forces change the speed | | 172_03375000102 | (TX2_USSXP080102) | | complete tables from their investigations. |
| | force, motion, and energy. The student is | or direction of an object's motion | the speed or direction of an | | (172_0337F080102) | | Students are assessed on how they use the |
| | expected to: | | object's motion | | | | data to demonstrate and explain how |
| | | | | | | | unbalanced forces change the speed or |
| | | | | | | | direction of an object's motion. |
| | | | | | | | |
| 381 | (6) Force, motion, and energy. The student | (A) demonstrate and calculate how | (i) demonstrate how | TX2 USSXP080101 | Newton's Second Law of Motion | The Activity Object demonstrates how | In the Activity Object, students are asked to |
| 001 | knows that there is a relationship between | unbalanced forces change the speed | | | (TX2_USSXP080101) | unbalanced forces change the speed or | perform an investigation to demonstrate |
| | force, motion, and energy. The student is | or direction of an object's motion | the speed or direction of an | | () | direction of an object's motion. | how unbalanced forces change the speed |
| | expected to: | | object's motion | | | | or direction of an object's motion. During |
| | | | | | | | the interaction, students provide responses |
| | | | | | | | that are assessed by the Activity Object |
| | | | | | | | software, which provides appropriate |
| | | | | | | | feedback as students work through the |
| | | | | | | | exercises. |
| | | | | | | | |
| 382 | | (A) demonstrate and calculate how | (i) demonstrate how | TX2_USSSM080106 | Friction (TX2_USSSM080106) | This Activity Object: demonstrates how an | |
| | knows that there is a relationship between | unbalanced forces change the speed | | | | object is affected by unbalanced forces | |
| | force, motion, and energy. The student is | or direction of an object's motion | the speed or direction of an | | | (including changes in the speed or | |
| | expected to: | | object's motion | | | direction of the object), explains when | |
| | | | | | | friction exists, and teaches the factors that | |
| | | | | | | affect friction. | |
| 0.000 | | | ////////////////////////////////////// | | | | |
| 383 | | (A) demonstrate and calculate how | (ii) calculate how unbalanced | 1X2_USSXP080102 | Balanced and Unbalanced Forces | In the Activity Object, students calculate | In the Activity Sheet, students are asked to |
| | knows that there is a relationship between | unbalanced forces change the speed | | | (TX2_USSXP080102) | the net force acting on objects and identify | calculate how unbalanced forces change |
| | force, motion, and energy. The student is | or direction of an object's motion | direction of an object's | | | how unbalanced forces change the speed | the speed or direction of an object's motion |
| | expected to: | | motion | | | or direction of an object's motion. | |
| 384 | (6) Earon motion and energy The student | (A) demonstrate and calculate how | (ii) calculate how unbalanced | | Solving Broblems with Newton's Same | In the Activity Object students sales | In Part 3 of the Activity Object, students are |
| 304 | (6) Force, motion, and energy. The student knows that there is a relationship between | (A) demonstrate and calculate now unbalanced forces change the speed | | 172_03331000105 | Solving Problems with Newton's Second Law (TX2_USSSM080105) | In the Activity Object, students calculate how unbalanced forces change the speed | asked to calculate how unbalanced forces |
| | force, motion, and energy. The student is | or direction of an object's motion | direction of an object's | | Law (172_00001000100) | or direction of an object's motion. | change the speed or direction of an object's |
| | expected to: | | motion | | | | motion. In order to do this, students provide |
| | | | | | | | responses that are assessed by the Activity |
| | | | | | | | Object software, which provides |
| | | | | | | | appropriate feedback as students work |
| | | | | | | | through the exercises. |
| | | | | | | | - |
| 385 | (6) Force, motion, and energy. The student | (A) demonstrate and calculate how | (ii) calculate how unbalanced | TX2 USSSM080105 | Solving Problems with Newton's Second | The Enrichment Sheet teaches students to | The Enrichment Sheet asks students to |
| | knows that there is a relationship between | unbalanced forces change the speed | | | Law (TX2_USSSM080105) | calculate how unbalanced forces change | calculate how unbalanced forces change |
| | force, motion, and energy. The student is | or direction of an object's motion | direction of an object's | | , | the speed or direction of an object's | the speed or direction of an object's motion |
| | expected to: | , | motion | | | motion. | |
| | | | | | | | |
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| <u>#</u> 386 | TEKS (Knowledge and Skills) (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | Student Expectation (B) differentiate between speed, velocity, and acceleration | Breakout | Item Number TX2_USSAN080201 | Component Speed, Velocity, and Acceleration (TX2_USSAN080201) | Learning Component Description The Animation teaches students how to differentiate between speed, velocity, and acceleration. | Assessment Component Description The Question-Answer Sheet asks students to differentiate between speed, velocity, and acceleration. |
|-----------------|--|---|--|--------------------------------|---|--|---|
| 387 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (B) differentiate between speed, velocity, and acceleration | | TX2_USSAN080201 | Speed, Velocity, and Acceleration (TX2_USSAN080201) | The Enrichment Sheet shows students how to differentiate between speed, velocity, and acceleration. | |
| 388 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (B) differentiate between speed, velocity, and acceleration | | TX2_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | Enrichment Sheet 1 shows students how to differentiate between speed, velocity, and acceleration. | Enrichment Sheet 1 contains assessment items that require students to differentiate between speed, velocity, and acceleration. |
| 389 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (B) differentiate between speed, velocity, and acceleration | | TX2_USSSM080105 | Solving Problems with Newton's Second Law (TX2_USSSM080105) | The Enrichment Sheet shows students how to differentiate between speed, velocity, and acceleration. | Q6 and Q7 of the Enrichment Sheet require students to differentiate between speed, velocity, and acceleration. |
| 390 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (i) investigate Newton's law of inertia | TX2_USSSM080101 | The Concept of Inertia (TX2_USSSM080101) | In Part 1 of the Activity Object, students investigate the history of the law of inertia. | The Activity Sheet asks questions that require students to investigate and have a deep understanding of Newton's law of inertia. |
| 391 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (i) investigate Newton's law of inertia | TX2_USSSM080101 | The Concept of Inertia (TX2_USSSM080101) | In Part 2 of the Activity Object, students investigate Newton's law of inertia through an interaction. | |
| 392 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (i) investigate Newton's law of inertia | TX2_USSSM080101 | The Concept of Inertia (TX2_USSSM080101) | In Part 3 of the Activity Object, students investigate Newton's law of inertia by watching an animation. | |
| 393 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (i) investigate Newton's law of inertia | TX2_USSSM080101 | The Concept of Inertia (TX2_USSSM080101) | In the Investigation Sheet, students investigate Newton's law of inertia. | The Investigation Sheet asks questions based on the students' investigations into inertia. |
| 394 | knows that there is a relationship between force, motion, and energy. The student is | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (i) investigate Newton's law of inertia | TX2_USSAN080104 | The Application of Newton's Laws of Motion (TX2_USSAN080104) | In the Investigation Sheet, students investigate Newton's law of inertia | The Investigation Sheet asks questions based on the students' investigations into inertia. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|---|--|-----------------|--|--|--|
| 395 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (ii) investigate Newton's law of force and acceleration | TX2_USSSM080105 | Solving Problems with Newton's Second Law (TX2_USSSM080105) | Is the Activity Object, students investigate Newton's law of force and acceleration (second law). | |
| 396 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (ii) investigate Newton's law of force and acceleration | TX2_USSSM080105 | Solving Problems with Newton's Second Law (TX2_USSSM080105) | | The Enrichment Sheet provides students with assessment items on problems that investigate Newton's law of force and acceleration (second law). |
| 397 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (ii) investigate Newton's law of force and acceleration | TX2_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | The Activity Object investigates Newton's law of force and acceleration (second law) with an experiment. | In Part 3 of the Activity Object, students investigate Newton's law of force and acceleration (second law) through an experiment in which they must provide responses. Student responses are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. |
| 398 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (ii) investigate Newton's law of force and acceleration | TX2_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | | The Investigation Sheet provides assessment items that test students on their understanding of Newton's law of force and acceleration (second law). |
| 399 | knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (iii) investigate Newton's law of action-reaction | TX2_USSSM080104 | | In Part 3 of the Activity Object, students investigate Newton's law of action-reaction (third law) through an interaction. | In Part 3 of the Activity Object, students investigate Newton's law of action-reaction (third law) through an interaction. During their investigation, students must provide responses. These responses are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. |
| 400 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (iii) investigate Newton's law of action-reaction | TX2_USSSM080104 | | In Part 4 of the Activity Object, students investigate Newton's law of action-reaction (third law) by watching an animation. | |
| 401 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (iii) investigate Newton's law of action-reaction | TX2_USSSM080103 | Newton's Third Law of Motion (TX2_USSSM080103) | The Activity Object investigates Newton's law of action-reaction (third law). | In Part 1 of the Activity Object, students investigate Newton's law of action-reaction (third law). During their investigation, students must provide responses. These responses are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|---|---|-----------------|---|--|---|
| 402 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | | (iii) investigate Newton's law of action-reaction | | Newton's Third Law of Motion (TX2_USSSM080103) | | In the Activity Sheet, students answer questions about the investigation they conducted in Part 1 of the Activity Object. |
| 403 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (iv) describe applications of Newton's law of inertia | TX2_USSSM080101 | The Concept of Inertia (TX2_USSSM080101) | The Activity Object describes applications of Newton's law of inertia. | The Activity Sheet asks students to describe applications of Newton's law of inertia. |
| 404 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (iv) describe applications of Newton's law of inertia | TX2_USSSM080101 | The Concept of Inertia (TX2_USSSM080101) | The Investigation Sheet describes Newton's law of inertia. | The Investigation Sheet asks students to describe how Newton's law of inertia applies to their investigations. |
| 405 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (iv) describe applications of Newton's law of inertia | TX2_USSAN080104 | The Application of Newton's Laws of Motion (TX2_USSAN080104) | The Animation describes applications of Newton's law of inertia (and other laws). | The Question-Answer Sheet asks students to describe applications of Newton's law of inertia (and other laws). |
| 406 | knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (iv) describe applications of Newton's law of inertia | TX2_USSAN080104 | The Application of Newton's Laws of Motion (TX2_USSAN080104) | The Investigation Sheet describes Newton's law of inertia (and other laws). | The Investigation Sheet asks students to describe how Newton's law of inertia applies to their investigations. |
| 407 | knows that there is a relationship between force, motion, and energy. The student is expected to: | inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | Newton's law of force and acceleration | TX2_USSSM080105 | Solving Problems with Newton's Second Law (TX2_USSSM080105) | The Activity Object describes applications of Newton's law of force and acceleration. | The Enrichment Sheet asks students to describe applications of Newton's law of force and acceleration. |
| 408 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (v) describe applications of Newton's law of force and acceleration | TX2_USSXP080101 | Newton's Second Law of Motion (TX2_USSXP080101) | The Activity Object describes applications of Newton's law of force and acceleration. | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|---|--|-----------------|---|--|---|
| 409 | (6) Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of | (v) describe applications of Newton's law of force and | TX2_USSAN080104 | The Application of Newton's Laws of Motion (TX2_USSAN080104) | The animation describes applications of Newton's law of force and acceleration. | The Question-Answer Sheet asks questions that require students to describe applications of Newton's law of force and acceleration. |
| 410 | knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (v) describe applications of Newton's law of force and acceleration | TX2_USSAN080104 | The Application of Newton's Laws of Motion (TX2_USSAN080104) | The Enrichment Sheet describes applications of Newton's law of force and acceleration. | The Enrichment Sheet asks students to answer a question about how Newton's second law applies to roller coasters. |
| 411 | knows that there is a relationship between force, motion, and energy. The student is expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (vi) describe applications of Newton's law of action- reaction | TX2_USSSM080104 | Newton's Third Law of Motion: The Physics of Rockets (TX2_USSSM080104) | The Activity Object describes applications of Newton's law of action-reaction. | The Activity Sheet asks a question in which students describe how rockets work, using Newton's third law (action-reaction). |
| 412 | expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (vi) describe applications of Newton's law of action- reaction | TX2_USSSM080103 | Newton's Third Law of Motion (TX2_USSSM080103) | The Activity Object describes applications of Newton's law of action-reaction. | The Activity Sheet asks a question in which students describe applications of Newton's law of action-reaction. |
| 413 | expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (vi) describe applications of Newton's law of action- reaction | TX2_USSAN080104 | The Application of Newton's Laws of Motion (TX2_USSAN080104) | The Animation describes applications of Newton's law of action-reaction. | The Question-Answer Sheet asks students to answer a question in which they must describe applications of Newton's law of action-reaction. |
| 414 | expected to: | (C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches | (vi) describe applications of Newton's law of action- reaction | TX2_USSAN080104 | The Application of Newton's Laws of Motion (TX2_USSAN080104) | The Enrichment Sheet describes applications of Newton's third law (action- reaction). | The Enrichment Sheet asks students to describe applications of Newton's law of action-reaction. |
| 415 | the effects resulting from cyclical movements of the Sun, Earth, and Moon. | (A) model and illustrate how the tilted Earth rotates on its axis, causing day and night, and revolves around the Sun causing changes in seasons | | TX2_USSAN150108 | The Effects of Earth's Rotation (TX2_USSAN150108) | The Animation models how the tilted Earth rotates on its axis, causing day and night. | In the Enrichment Sheet, students model how the tilted Earth rotates on its axis, causing day and night. |
| 416 | movements of the Sun, Earth, and Moon. | (A) model and illustrate how the tilted Earth rotates on its axis, causing day and night, and revolves around the Sun causing changes in seasons | | TX2_USSAN150108 | The Effects of Earth's Rotation (TX2_USSAN150108) | The Animation illustrates how the tilted Earth rotates on its axis, causing day and night. | The Question-Answer Sheet asks questions for which students must illustrate how the tilted Earth rotates on its axis, causing day and night. |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|---|-----------------------------------|-----------------|--|--|--|
| | (7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. | (A) model and illustrate how the tilted Earth rotates on its axis, causing day and night, and revolves around the | | TX2_USSAN150108 | The Effects of Earth's Rotation (TX2_USSAN150108) | The Investigation Sheet illustrates how the tilted Earth rotates on its axis, causing day and night. | The Investigation Sheet asks students to illustrate how the tilted Earth rotates on its axis, causing day and night. |
| | The student is expected to: | Sun causing changes in seasons | causing day and hight | | | and night. | axis, causing day and hight. |
| 418 | (7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. | (A) model and illustrate how the tilted Earth rotates on its axis, causing day and night, and revolves around the | | TX2_USSSM150101 | Formation of Seasons (TX2_USSSM150101) | Part 1 of the Activity Object models how the tilted Earth revolves around the sun, causing changes in seasons. | The Activity Sheet asks students to model how the tilted Earth revolves around the sun, causing changes in seasons. |
| | The student is expected to: | | seasons | | | causing changes in seasons. | sun, causing changes in seasons. |
| | (7) Earth and space. The student knows the effects resulting from cyclical | (A) model and illustrate how the tilted Earth rotates on its axis, causing day | Earth revolves around the | TX2_USSSM150101 | Formation of Seasons (TX2_USSSM150101) | Part 3 of the Activity Object models how the tilted Earth revolves around the sun, | |
| | movements of the Sun, Earth, and Moon. The student is expected to: | | Sun causing changes in seasons | | | causing changes in seasons. | |
| | (7) Earth and space. The student knows the effects resulting from cyclical | (A) model and illustrate how the tilted Earth rotates on its axis, causing day | Earth revolves around the | TX2_USSAN150107 | The Effects of Earth's Revolution around the Sun (TX2_USSAN150107) | The Animation models how the tilted Earth revolves around the sun, causing changes | |
| | movements of the Sun, Earth, and Moon. The student is expected to: | • • | Sun causing changes in seasons | | | in seasons. | |
| | (7) Earth and space. The student knows the effects resulting from cyclical | (A) model and illustrate how the tilted Earth rotates on its axis, causing day | Earth revolves around the | TX2_USSAN150108 | The Effects of Earth's Rotation (TX2_USSAN150108) | The Enrichment Sheet models how the tilted Earth revolves around the sun, | The Enrichment Sheet assesses students' ability to model how the tilted Earth |
| | movements of the Sun, Earth, and Moon. The student is expected to: | | Sun causing changes in seasons | | | causing changes in seasons. | revolves around the sun, causing changes in seasons. |
| | (7) Earth and space. The student knows the effects resulting from cyclical | (A) model and illustrate how the tilted Earth rotates on its axis, causing day | | TX2_USSAN150108 | The Effects of Earth's Rotation (TX2_USSAN150108) | The Investigation Sheet models how the tilted Earth revolves around the sun, | The Investigation Sheet assesses students' ability to model how the tilted Earth |
| | movements of the Sun, Earth, and Moon. The student is expected to: | 0 | Sun causing changes in seasons | | | causing changes in seasons. | revolves around the sun, causing changes in seasons. |
| | (7) Earth and space. The student knows the effects resulting from cyclical | (A) model and illustrate how the tilted Earth rotates on its axis, causing day | () | TX2_USSSM150101 | Formation of Seasons (TX2_USSSM150101) | Part 1 of the Activity Object utilizes an interaction to illustrate how the tilted Earth | |
| | movements of the Sun, Earth, and Moon. The student is expected to: | • • | Sun causing changes in seasons | | | revolves around the sun, causing changes in seasons. | |
| | (7) Earth and space. The student knows the effects resulting from cyclical | (A) model and illustrate how the tilted Earth rotates on its axis, causing day | Earth revolves around the | TX2_USSSM150101 | Formation of Seasons (TX2_USSSM150101) | Part 2 of the Activity Object utilizes an animation to illustrate how the tilted Earth | |
| | movements of the Sun, Earth, and Moon. The student is expected to: | • • | Sun causing changes in seasons | | | revolves around the sun, causing changes in seasons. | |
| | (7) Earth and space. The student knows the effects resulting from cyclical | (A) model and illustrate how the tilted Earth rotates on its axis, causing day | Earth revolves around the | TX2_USSSM150101 | Formation of Seasons (TX2_USSSM150101) | Part 3 of the Activity Object utilizes an interaction to illustrate how the tilted Earth | |
| | movements of the Sun, Earth, and Moon. The student is expected to: | | Sun causing changes in seasons | | | revolves around the sun, causing changes in seasons. | |
| 426 | (7) Earth and space. The student knows the effects resulting from cyclical | (A) model and illustrate how the tilted Earth rotates on its axis, causing day | Earth revolves around the | TX2_USSSM150101 | Formation of Seasons (TX2_USSSM150101) | Part 4 of the Activity Object uses an animation to illustrate how the tilted Earth | |
| | movements of the Sun, Earth, and Moon. The student is expected to: | | Sun causing changes in seasons | | | revolves around the sun, causing changes in seasons. | |
| | (7) Earth and space. The student knows the effects resulting from cyclical | (A) model and illustrate how the tilted Earth rotates on its axis, causing day | Earth revolves around the | TX2_USSAN150107 | The Effects of Earth's Revolution around the Sun (TX2_USSAN150107) | The Animation demonstrates the sequence of events in the lunar cycle. | |
| | movements of the Sun, Earth, and Moon. The student is expected to: | | Sun causing changes in seasons | | | | |
| 428 | (7) Earth and space. The student knows the effects resulting from cyclical | (A) model and illustrate how the tilted Earth rotates on its axis, causing day | | TX2_USSAN150108 | The Effects of Earth's Rotation (TX2_USSAN150108) | The Enrichment Sheet illustrates how the tilted Earth revolves around the sun, | The Enrichment Sheet assesses a student illustration of the tilted Earth revolving |
| | movements of the Sun, Earth, and Moon. The student is expected to: | | Sun causing changes in seasons | | | causing changes in seasons. | around the sun, causing changes in seasons. |
| | (7) Earth and space. The student knows the effects resulting from cyclical | (A) model and illustrate how the tilted Earth rotates on its axis, causing day | | TX2_USSAN150108 | The Effects of Earth's Rotation (TX2_USSAN150108) | The Investigation Sheet illustrates how the tilted Earth revolves around the sun, | The Investigation Sheet assesses a student illustration of the tilted Earth revolving |
| | movements of the Sun, Earth, and Moon. The student is expected to: | and night, and revolves around the | Sun causing changes in seasons | | | causing changes in seasons. | around the sun, causing changes in seasons. |
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| # 430 | TEKS (Knowledge and Skills) (7) Earth and space. The student knows | (B) demonstrate and predict the | Breakout (i) demonstrate the sequence | Item Number | Component The Phases of Earth's Moon | Learning Component Description The Animation demonstrates the | Assessment Component Description |
| 430 | the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to: | sequence of events in the lunar cycle | | TA2_035AN150111 | (TX2_USSAN150111) | sequence of events in the lunar cycle. | |
| 431 | (7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to: | (B) demonstrate and predict the sequence of events in the lunar cycle | (i) demonstrate the sequence of events in the lunar cycle | TX2_USSAN150111 | The Phases of Earth's Moon (TX2_USSAN150111) | The Enrichment Sheet demonstrates the sequence of events in the lunar cycle. | The Enrichment Sheet asks a question for which students must demonstrate the sequence of events in the lunar cycle. |
| 432 | (7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to: | (B) demonstrate and predict the sequence of events in the lunar cycle | (ii) predict the sequence of events in the lunar cycle | TX2_USSAN150111 | The Phases of Earth's Moon (TX2_USSAN150111) | In the Animation, students predict the sequence of events in the lunar cycle. | In the Question-Answer Sheet, students are asked a question for which they must predict the sequence of events in the lunar cycle. |
| 433 | (7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to: | (C) relate the position of the Moon and Sun to their effect on ocean tides | (i) relate the position of the Moon to [its] effect on ocean tides | TX2_USSAN080601 | Newton's Law of Universal Gravitation (TX2_USSAN080601) | The Animation relates the position of the moon to its effect on ocean tides. | The Question-Answer Sheet asks students a question for which they must relate the position of the moon to its effect on ocean tides. |
| 434 | 0, | (C) relate the position of the Moon and Sun to their effect on ocean tides | (i) relate the position of the Moon to [its] effect on ocean tides | TX2_USSAN080601 | Newton's Law of Universal Gravitation (TX2_USSAN080601) | The Enrichment Sheet relates the position of the moon to its effect on ocean tides. | Q5 of the Enrichment Sheet assesses the students' ability to relate the position of the moon to its effect on ocean tides. |
| 435 | (7) Earth and space. The student knows the effects resulting from cyclical | (C) relate the position of the Moon and Sun to their effect on ocean tides | (i) relate the position of the Moon to [its] effect on ocean tides | TX2_USSAN150105 | Tides (TX2_USSAN150105) | The Animation relates the position of the moon to its effect on ocean tides. | The Question-Answer Sheet asks students a question for which they must relate the position of the moon to its effect on ocean tides. |
| 436 | (7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to: | (C) relate the position of the Moon and Sun to their effect on ocean tides | (i) relate the position of the Moon to [its] effect on ocean tides | TX2_USSAN150105 | Tides (TX2_USSAN150105) | The Enrichment Sheet relates the position of the moon to its effect on ocean tides. | Q5 of the Enrichment Sheet assesses the students' ability to relate the position of the moon to its effect on ocean tides. |
| 437 | 0, | (C) relate the position of the Moon and Sun to their effect on ocean tides | (i) relate the position of the Moon to [its] effect on ocean tides | TX2_USSAN150111 | The Phases of Earth's Moon (TX2_USSAN150111) | The Enrichment Sheet relates the position of the moon to its effect on ocean tides. | The Enrichment Sheet contains questions that assess student understanding of the relationship of the position of the moon to its effect on ocean tides. |
| 438 | (7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to: | (C) relate the position of the Moon and Sun to their effect on ocean tides | (ii) relate the position of the Sun to [its] effect on ocean tides | TX2_USSAN150105 | Tides (TX2_USSAN150105) | The Animation relates the position of the sun to its effect on ocean tides. | The Question-Answer Sheet asks students to relate the position of the sun to its effect on ocean tides. |
| 439 | | (C) relate the position of the Moon and Sun to their effect on ocean tides | (ii) relate the position of the Sun to [its] effect on ocean tides | TX2_USSAN150105 | Tides (TX2_USSAN150105) | The Enrichment Sheet relates the position of the sun to its effect on ocean tides. | Q6 of the Enrichment Sheet assesses student understanding of the relationship between the position of the sun and its effect on ocean tides. |
| 440 | (7) Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. The student is expected to: | (C) relate the position of the Moon and Sun to their effect on ocean tides | (ii) relate the position of the Sun to [its] effect on ocean tides | TX2_USSAN080601 | Newton's Law of Universal Gravitation (TX2_USSAN080601) | The Enrichment Sheet relates the position of the sun to its effect on ocean tides. | Q6 of the Enrichment Sheet assesses student understanding of the relationship between the position of the sun and its effect on ocean tides. |
| 441 | | (C) relate the position of the Moon and Sun to their effect on ocean tides | (ii) relate the position of the Sun to [its] effect on ocean tides | TX2_USSAN150103 | The Sun: Our Closest Star (TX2_USSAN150103) | The Enrichment Sheet relates the position of the sun to its effect on ocean tides. | Q5 of the Enrichment Sheet Question 5 assesses student understanding of the relationship between the position of the sun and its effect on ocean tides. |
| 442 | (8) Earth and space. The student knows characteristics of the universe. The student is expected to: | (A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Herztsprung-Russell diagram for classification | describe components of the universe, including stars | TX2_USSAN150206 | Stars (TX2_USSAN150206) | The Animation describes components of the universe, including stars. | The Question-Answer Sheet asks students what a star is. |
| 443 | | (A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Herztsprung-Russell diagram for classification | (i) describe components of the universe, including stars | TX2_USSAN150214 | The Life Cycle of Stars (TX2_USSAN150214) | The Animation describes components of the universe, including stars. | The Question-Answer Sheet asks students what a star is. |

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| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
| 444 | characteristics of the universe. The student | (A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Herztsprung-Russell diagram for classification | describe components of the universe, including stars | TX2_USSAN150222 | Constellations (TX2_USSAN150222) | The Animation describes components of the universe, including stars. | |
| 445 | characteristics of the universe. The student | (A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Herztsprung-Russell diagram for classification | (ii) describe components of the universe, including nebulae | TX2_USSAN150214 | The Life Cycle of Stars (TX2_USSAN150214) | The Animation describes components of the universe, including nebulae. | The Question-Answer Sheet asks students what a nebula is. |
| 446 | characteristics of the universe. The student | (A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Herztsprung-Russell diagram for classification | (iii) describe components of the universe, including galaxies | TX2_USSAN150213 | Galaxies (TX2_USSAN150213) | The Animation describes components of the universe, including galaxies. | The Question-Answer Sheet asks students assessment items that require knowledge of galaxies. |
| 447 | characteristics of the universe. The student | (A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Herztsprung-Russell diagram for classification | (iii) describe components of the universe, including galaxies | TX2_USSAN150220 | The Milky Way Galaxy (TX2_USSAN150220) | The Animation describes components of the universe, including the Milky Way galaxy. | The Question-Answer Sheet asks students to describe the Milky Way galaxy. |
| 448 | | (A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Herztsprung-Russell diagram for classification | (iv) use models for classification [of components in the universe] | TX2_USSAN150204 | Classifying the Components of the Universe Using Models (TX2_USSAN150204) | | The Question-Answer Sheet asks students to classify stars using the Herztsprung- Russell diagram. |
| 449 | | (B) recognize that the Sun is a medium-sized star near the edge of a disc-shaped galaxy of stars and that the Sun is many thousands of times closer to Earth than any other star | (i) recognize that the Sun is a medium-sized star near the edge of a disc-shaped galaxy of stars | TX2_USSAN150103 | The Sun: Our Closest Star (TX2_USSAN150103) | The Animation teaches students to recognize that the sun is a medium-sized star near the edge of a disc-shaped galaxy of stars. | The Question-Answer Sheet asks a question to assess whether or not students recognize that the sun is a medium-sized star near the edge of a disc-shaped galaxy of stars. |
| 450 | | (B) recognize that the Sun is a medium-sized star near the edge of a disc-shaped galaxy of stars and that the Sun is many thousands of times closer to Earth than any other star | recognize that the Sun is a medium-sized star near the edge of a disc-shaped galaxy of stars | TX2_USSAN150103 | The Sun: Our Closest Star (TX2_USSAN150103) | The Enrichment Sheet teaches students that the sun is a medium-sized star near the edge of a disc-shaped galaxy of stars. | Q3 of the Enrichment Sheet assesses students on their ability to state that the sun is a medium-sized star near the edge of a disc-shaped galaxy of stars. |
| 451 | | (B) recognize that the Sun is a medium-sized star near the edge of a disc-shaped galaxy of stars and that the Sun is many thousands of times closer to Earth than any other star | (i) recognize that the Sun is a medium-sized star near the edge of a disc-shaped galaxy of stars | TX2_USSAN150206 | Stars (TX2_USSAN150206) | The Enrichment Sheet teaches students that the sun is a medium-sized star near the edge of a disc-shaped galaxy of stars. | Q1 and Q2 of the Enrichment Sheet assess students on their ability to state that that the sun is a medium-sized star near the edge of a disc-shaped galaxy of stars. |
| 452 | | (B) recognize that the Sun is a medium-sized star near the edge of a disc-shaped galaxy of stars and that the Sun is many thousands of times closer to Earth than any other star | (i) recognize that the Sun is a medium-sized star near the edge of a disc-shaped galaxy of stars | TX2_USSAN150207 | Observing Space (TX2_USSAN150207) | The Enrichment Sheet teaches students that the sun is a medium-sized star near the edge of a disc-shaped galaxy of stars. | Q1 of the Enrichment Sheet assesses students on their ability to state that the sun is a medium-sized star near the edge of a disc-shaped galaxy of stars. |
| 453 | | a disc-shaped galaxy of stars and | (ii) recognize that the Sun is many thousands of times closer to Earth than any other star | TX2_USSAN150103 | The Sun: Our Closest Star (TX2_USSAN150103) | | The Question-Answer Sheet asks a question that assesses whether or not students recognize that the sun is many thousands of times closer to Earth than any other star. |
| 454 | is expected to: | (B) recognize that the Sun is a medium-sized star near the edge of a disc-shaped galaxy of stars and that the Sun is many thousands of times closer to Earth than any other star | (ii) recognize that the Sun is many thousands of times closer to Earth than any other star | TX2_USSAN150103 | The Sun: Our Closest Star (TX2_USSAN150103) | The Enrichment Sheet teaches students that the sun is many thousands of times closer to Earth than any other star. | Q4 of the Enrichment Sheet assesses whether or not students recognize that the sun is many thousands of times closer to Earth than any other star. |

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| # 455 | TEKS (Knowledge and Skills) (8) Earth and space. The student knows characteristics of the universe. The student is expected to: | a disc-shaped galaxy of stars and that the Sun is many thousands of times closer to Earth than any other star | Breakout (ii) recognize that the Sun is many thousands of times closer to Earth than any other star | Item Number TX2_USSAN150206 | Component Stars (TX2_USSAN150206) | Learning Component Description The Enrichment Sheet teaches students that the sun is many thousands of times closer to Earth than any other star. | Assessment Component Description Q3 of the Enrichment Sheet assesses whether or not students recognize that the sun is many thousands of times closer to Earth than any other star. |
| 456 | (8) Earth and space. The student knows characteristics of the universe. The student is expected to: | a disc-shaped galaxy of stars and | (ii) recognize that the Sun is many thousands of times closer to Earth than any other star | TX2_USSAN150207 | Observing Space (TX2_USSAN150207) | The Enrichment Sheet teaches students that the sun is many thousands of times closer to Earth than any other star. | Q2 of the Enrichment Sheet assesses whether or not students recognize that the sun is many thousands of times closer to Earth than any other star. |
| 457 | (8) Earth and space. The student knows characteristics of the universe. The student is expected to: | waves are used to gain information about distances and properties of | (i) explore how different wavelengths of the electromagnetic spectrum are used to gain information about distances of components in the universe | TX2_USSAN150208 | The Formation of the Universe (TX2_USSAN150208) | The Enrichment Sheet explores how different wavelengths of the electromagnetic spectrum are used to gain information about distances of components in the universe. | The Enrichment Sheet asks students to explain how different wavelengths of the electromagnetic spectrum are used to gain information about distances of components in the universe. |
| 458 | (8) Earth and space. The student knows characteristics of the universe. The student is expected to: | spectrum such as light and radio waves are used to gain information about distances and properties of | (ii) explore how different wavelengths of the electromagnetic spectrum are used to gain information about properties of components in the universe | TX2_USSAN150207 | Observing Space (TX2_USSAN150207) | The Animation explores how different wavelengths of the electromagnetic spectrum are used to gain information about properties of components in the universe. | The Question-Answer Sheet asks questions that require students to understand how different wavelengths of the electromagnetic spectrum are used to gain information about properties of components in the universe. |
| 459 | (8) Earth and space. The student knows characteristics of the universe. The student is expected to: | spectrum such as light and radio waves are used to gain information about distances and properties of | (ii) explore how different wavelengths of the electromagnetic spectrum are used to gain information about properties of components in the universe | TX2_USSAN150207 | Observing Space (TX2_USSAN150207) | The Lab Sheet explores how different wavelengths of the electromagnetic spectrum are used to gain information about properties of components in the universe. | The Lab Sheet asks a question in which students explore (explain) how different wavelengths of the electromagnetic spectrum are used to gain information about properties of components in the universe |
| 460 | (8) Earth and space. The student knows characteristics of the universe. The student is expected to: | | | TX2_USSAN150206 | Stars (TX2_USSAN150206) | The Animation models how light years are used to measure distances in the universe. | The Enrichment Sheet asks students to model how light years are used to measure distances in the universe. |
| 461 | (8) Earth and space. The student knows characteristics of the universe. The student is expected to: | (D) model and describe how light years are used to measure distances and sizes in the universe | (ii) model how light years are used to measure sizes in the universe | TX2_USSAN150206 | Stars (TX2_USSAN150206) | The Animation models how light years are used to measure sizes in the universe. | The Enrichment Sheet asks students to model how light years are used to measure sizes in the universe. |
| 462 | (8) Earth and space. The student knows characteristics of the universe. The student is expected to: | (D) model and describe how light years are used to measure distances and sizes in the universe | (iii) describe how light years are used to measure distances in the universe | TX2_USSAN150206 | Stars (TX2_USSAN150206) | The Animation describes how light years are used to measure distances in the universe. | The Question-Answer Sheet asks students a question for which they must describe how light years are used to measure distances in the universe. |
| 463 | (8) Earth and space. The student knows characteristics of the universe. The student is expected to: | years are used to measure distances | (iv) describe how light years are used to measure sizes in the universe | TX2_USSAN150206 | Stars (TX2_USSAN150206) | The Animation describes how light years are used to measure sizes in the universe. | The Enrichment Sheet asks students a question for which they must describe how light years are used to measure sizes in the universe. |
| 464 | (8) Earth and space. The student knows characteristics of the universe. The student is expected to: | (E) research how scientific data are used as evidence to develop scientific theories to describe the origin of the universe | | TX2_USSAN150208 | The Formation of the Universe (TX2_USSAN150208) | The Animation explains how scientific data is used as evidence to develop scientific theories to describe the origin of the universe. | The Enrichment Sheet asks a question that requires students to research how scientific data are used as evidence to develop scientific theories to describe the origin of the universe. |
| 465 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (A) describe the historical development of evidence that supports plate tectonic theory | | TX2_USSSM130105 | Plate Tectonics: The Atlantic Ocean (TX2_USSSM130105) | Part 2 of the Activity Object describes the historical development of evidence that supports plate tectonic theory. | |
| 466 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (A) describe the historical development of evidence that supports plate tectonic theory | | TX2_USSSM130105 | Plate Tectonics: The Atlantic Ocean (TX2_USSSM130105) | Part 4 of the Activity Object describes the historical development of evidence that supports plate tectonic theory. | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
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| 467 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (A) describe the historical development of evidence that supports plate tectonic theory | | TX2_USSSM130109 | Pangaea: Image of Earth 250 Million Years Ago (TX2_USSSM130109) | Part 1 of the Activity Object describes the historical development of evidence that supports plate tectonic theory. | In the Activity Sheet, students are asked to describe evidence that Wegener originally used to support the Pangaea hypothesis. Students must also answer questions that describe the history of the theory. |
| 468 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (A) describe the historical development of evidence that supports plate tectonic theory | | TX2_USSSM130109 | Pangaea: Image of Earth 250 Million Years Ago (TX2_USSSM130109) | Part 2 of the Activity Object describes the historical development of evidence that supports plate tectonic theory. | |
| 469 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (A) describe the historical development of evidence that supports plate tectonic theory | | TX2_USSSM130109 | Pangaea: Image of Earth 250 Million Years Ago (TX2_USSSM130109) | Part 3 of the Activity Object describes the historical development of evidence that supports plate tectonic theory. | |
| 470 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (B) relate plate tectonics to the formation of crustal features | | TX2_USSSM130105 | Plate Tectonics: The Atlantic Ocean (TX2_USSSM130105) | The Activity Object relates plate tectonics to the formation of crustal features, such as the Atlantic Ocean. | |
| 471 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (B) relate plate tectonics to the formation of crustal features | | TX2_USSSM130103 | Plate Tectonics: The Hawaiian Islands (TX2_USSSM130103) | The Activity Object relates plate tectonics to the formation of crustal features, such as the Hawaiian Islands. | The Activity Sheet asks students a question that requires them to know how tectonic plates cause the formation of volcanoes. |
| 472 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (B) relate plate tectonics to the formation of crustal features | | TX2_USSSM130104 | Plate Tectonics: The Himalayas (TX2_USSSM130104) | The Activity Object relates plate tectonics to the formation of crustal features, such as the Himalayas. | The Activity Sheet asks students a question that requires them to know how tectonic plates cause various crustal features. |
| 473 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (B) relate plate tectonics to the formation of crustal features | | TX2_USSSM130109 | Pangaea: Image of Earth 250 Million Years Ago (TX2_USSSM130109) | The Activity Object relates plate tectonics to the formation of crustal features. | |
| 474 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (B) relate plate tectonics to the formation of crustal features | | TX2_USSAN130101 | Tectonic Plates (TX2_USSAN130101) | The Animation describes crustal features caused by the movement of tectonic plates. | |
| 475 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (B) relate plate tectonics to the formation of crustal features | | TX2_USSAN130101 | Tectonic Plates (TX2_USSAN130101) | The Enrichment Sheet describes crustal features caused by the movement of tectonic plates. | The Enrichment Sheet asks students a question that requires them to know the type of tectonic plates that can cause mountain ranges. |
| 476 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering | (i) interpret topographic maps to identify land features | TX2_USSSM130204 | Plotting Landforms on Topographic Maps (TX2_USSSM130204) | In the Activity Object, students interpret topographic maps to identify land features. | In Section 2 of the the Activity object students interpret topographic maps to identify land features. Correct identification is assessed by the software, and appropriate feedbacks are given. |
| 477 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering | (i) interpret topographic maps to identify land features | TX2_USSSM130204 | Plotting Landforms on Topographic Maps (TX2_USSSM130204) | | Question 3 of the assessment asks students to identify land features on a topographic map. |
| 478 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering | (i) interpret topographic maps to identify land features | TX2_USSAN130203 | Using Topographic Maps (TX2_USSAN130203) | The Animation teaches students how to interpret topographic maps to identify land features. | |
| 479 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering | (ii) interpret topographic maps to identify erosional features | TX2_USSAN130203 | Using Topographic Maps (TX2_USSAN130203) | The Animation teaches students how to interpret topographic maps to identify erosional features. | The Question-Answer Sheet asks questions about interpreting topographic maps to identify erosional features. |
| 480 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering | (ii) interpret topographic maps to identify erosional features | TX2_USSAN130209 | Using Satellite Images (TX2_USSAN130209) | | The Enrichment Sheet asks a question to assess student interpretation of satellite views to identify erosional features. |

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| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
| 481 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering | (iii) interpret satellite views to identify land features | | Using Satellite Images (TX2_USSAN130209) | In the Animation, students interpret satellite views/images to identify land features. | The Question-Answer Sheet asks a question to assess student interpretation of satellite views to identify land features. |
| 482 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering | (iii) interpret satellite views to identify land features | | Using Satellite Images (TX2_USSAN130209) | The Enrichment Sheet teaches students how to interpret satellite views to identify land features. | The Enrichment Sheet asks a question to assess student interpretation of satellite views to identify land features. |
| 483 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering | (iv) interpret satellite views to identify erosional features | TX2_USSAN130209 | Using Satellite Images (TX2_USSAN130209) | In the Animation, students interpret satellite views to identify erosional features. | The Enrichment Sheet asks a question to assess student interpretation of satellite views to identify erosional features. |
| 484 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering | (v) predict how [land] features may be reshaped by weathering | TX2_USSAN130201 | Erosion and Deposition of the Environment in Texas (TX2_USSAN130201) | In the Animation, students learn to predict how land features might be reshaped by weathering. | The Activity Sheet asks students a question for which they must predict how land features might be reshaped by weathering. |
| 485 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering | (v) predict how [land] features may be reshaped by weathering | TX2_USSAN130211 | How Wind Changes Earth's Surface (TX2_USSAN130211) | In the Animation, students learn to predict how land features might be reshaped by weathering. | The Activity Sheet asks students a question for which they must predict how land features might be reshaped by weathering. |
| 486 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering | (vi) predict how [erosional] features may be reshaped by weathering | TX2_USSAN130201 | Erosion and Deposition of the Environment in Texas (TX2_USSAN130201) | In the Animation, students learn how features such as sea cliffs can be reshaped into sea arches by weathering | The Activity Sheet asks students a question for which they must predict how erosional features might be reshaped by weathering. |
| 487 | (9) Earth and space. The student knows that natural events can impact Earth systems. The student is expected to: | (C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering | (vi) predict how [erosional] features may be reshaped by weathering | TX2_USSAN130211 | How Wind Changes Earth's Surface (TX2_USSAN130211) | In the Animation, students learn how features such as sandstone fins can be reshaped into arches by weathering | The Activity Sheet asks students questions for which they must predict how erosional features might be reshaped by weathering. |
| 488 | | (A) recognize that the Sun provides the energy that drives convection within the atmosphere and oceans, producing winds and ocean currents | (i) recognize that the Sun provides the energy that drives convection within the atmosphere producing winds | TX2_USSSM130401 | Sea and Land Breezes (TX2_USSSM130401) | The Animation teaches students to recognize that the sun provides the energy that drives convection within the atmosphere, producing winds. | The Activity Sheet asks students a question for which they must recognize that the sun provides the energy that drives convection within the atmosphere, producing winds. |
| 489 | | (A) recognize that the Sun provides the energy that drives convection within the atmosphere and oceans, producing winds and ocean currents | (i) recognize that the Sun provides the energy that drives convection within the atmosphere producing winds | TX2_USSAN130202 | Ocean Currents (TX2_USSAN130202) | The Animation teaches students to recognize that the sun provides the energy that drives convection within the atmosphere, producing winds. | The Question-Answer Sheet asks students a question for which they must recognize that the sun provides the energy that drives convection within the atmosphere, producing winds. |
| | ocean, and weather systems. The student is expected to: | (A) recognize that the Sun provides the energy that drives convection within the atmosphere and oceans, producing winds and ocean currents | (ii) recognize that the Sun provides the energy that drives convection within the oceans, producing ocean currents | TX2_USSAN130210 | Effect of Sun on Ocean Current (TX2_USSAN130210) | The Animation teaches students to recognize that the sun provides the energy that drives convection within the oceans, producing ocean currents. | The Question-Answer Sheet asks a question that requires students to indicate that the sun provides the energy that drives convection within the oceans, producing ocean currents. |
| | that climatic interactions exist among Earth, ocean, and weather systems. The student is expected to: | local weather using weather maps that show high and low pressures and fronts | (i) identify how global patterns of atmospheric movement influence local weather using weather maps that show high and low pressures | | Weather Prediction (TX2_USSSM130404) | global patterns of atmospheric movement influence local weather, by using weather maps that show high and low pressures. | |
| 492 | that climatic interactions exist among Earth, | (B) identify how global patterns of atmospheric movement influence local weather using weather maps that show high and low pressures and fronts | (i) identify how global patterns of atmospheric movement influence local weather using weather maps that show high and low pressures | TX2_USSAN130405 | Atmospheric Movement and Pressure (TX2_USSAN130405) | The Animation identifies how global patterns of atmospheric movement influence local weather, by using weather maps that show high and low pressures. | The Question-Answer Sheet asks a question that requires students to identify how global patterns of atmospheric movement influence local weather, by using weather maps that show high and low pressures. |

| 4 | TEKS (Knowledge and Skills) | Student Expectation | Breakout | liens Number | Component | Learning Component Description | Accomment Commencent Description |
|----------|--|--|---|--------------------------------|--|---|---|
| # 493 | ocean, and weather systems. The student is expected to: | Student Expectation (B) identify how global patterns of atmospheric movement influence local weather using weather maps that show high and low pressures and fronts | (ii) identify how global patterns of atmospheric movement influence local weather using weather maps that show fronts | Item Number TX2_USSSM130404 | Component Weather Prediction (TX2_USSSM130404) | Learning Component Description In the Activity Object, students identify how global patterns of atmospheric movement influence local weather, by using weather maps that show fronts. | Assessment Component Description In Part 2 and Part 3 of the Activity Object, students must predict how atmospheric movement will influence local weather by using weather maps that show fronts. Student responses/predictions are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. |
| 494 | ocean, and weather systems. The student is expected to: | (B) identify how global patterns of atmospheric movement influence local weather using weather maps that show high and low pressures and fronts | (ii) identify how global patterns of atmospheric movement influence local weather using weather maps that show fronts | TX2_USSSM130404 | Weather Prediction (TX2_USSSM130404) | | In the Activity Sheet, students must predict how atmospheric movement will influence local weather, by using weather maps that show fronts. |
| 495 | | (B) identify how global patterns of atmospheric movement influence local weather using weather maps that show high and low pressures and fronts | (ii) identify how global patterns of atmospheric movement influence local weather using weather maps that show fronts | TX2_USSAN130401 | Atmospheric Movement and Fronts (TX2_USSAN130401) | The Animation identifies how global patterns of atmospheric movement influence local weather, by using weather maps that show fronts. | |
| 496 | | (C) identify the role of the oceans in the formation of weather systems such as hurricanes | (i) identify the role of the oceans in the formation of weather systems | TX2_USSSM130401 | Sea and Land Breezes (TX2_USSSM130401) | In the Activity Object, students identify the role of the oceans in the formation of weather systems. | In the Activity Sheet, students describe the role of the oceans in producing winds. |
| 497 | ocean, and weather systems. The student is expected to: | (C) identify the role of the oceans in the formation of weather systems such as hurricanes | (i) identify the role of the oceans in the formation of weather systems | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | In this Activity Object, students identify the role of the oceans in the formation of weather systems, such as hurricanes. | In the Activity Sheet, students are asked to identify he role of the oceans in the formation of weather systems, such as hurricanes. |
| 498 | ocean, and weather systems. The student is expected to: | (C) identify the role of the oceans in the formation of weather systems such as hurricanes | (i) identify the role of the oceans in the formation of weather systems | TX2_USSSM130406 | Hurricane Formation (TX2_USSSM130406) | | The Investigation Sheet asks a question about the effects that sea/ocean temperature and humidity have on hurricane formation/severity. |
| 499 | among living systems and the environment | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (i) describe producer/consumer relationships as they occur in food webs within marine ecosystems | TX2_USSAN190107 | Producer and Consumer Relationships in Ecosystems (TX2_USSAN190107) | The Animation describes producer/consumer relationships as they occur in food webs within marine ecosystems. | In the Question-Answer Sheet, students are asked to describe producer/consumer relationships as they occur in food webs within marine ecosystems. |
| 500 | | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (i) describe producer/consumer relationships as they occur in food webs within marine ecosystems | TX2_USSAN190107 | Producer and Consumer Relationships in Ecosystems (TX2_USSAN190107) | | In the Enrichment Sheet, students are asked to describe producer/consumer relationships as they occur in food webs within marine ecosystems. |
| 501 | among living systems and the environment | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (i) describe producer/consumer relationships as they occur in food webs within marine ecosystems | TX2_USSAN190107 | Producer and Consumer Relationships in Ecosystems (TX2_USSAN190107) | Enrichment Sheet 1 describes producer/consumer relationships as they occur in food webs within marine ecosystems. | Q5 of Enrichment Sheet 1 assesses student understanding of producer/consumer relationships as they occur in food webs within marine ecosystems. |
| 502 | among living systems and the environment and that human activities can affect these | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (i) describe producer/consumer relationships as they occur in food webs within marine ecosystems | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | The Enrichment Sheet describes producer/consumer relationships as they occur in food webs within marine ecosystems | Q5 of the Enrichment Sheet assesses student understanding of producer/consumer relationships as they occur in food webs within marine ecosystems. |

| 4 | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|----------|--|---|--|-----------------|--|---|---|
| # 503 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment | (A) describe producer/consumer, | (i) describe producer/consumer relationships as they occur in food webs within marine ecosystems | TX2_USSAN190106 | (TX2_USSAN190106) | Learning Component Description | Q7 of Enrichment Sheet 1 assesses student understanding of producer/consumer relationships as they occur in food webs within marine ecosystems. |
| 504 | student knows that interdependence occurs among living systems and the environment | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (i) describe producer/consumer relationships as they occur in food webs within marine ecosystems | TX2_USSAN190106 | Predation in Ecosystems (TX2_USSAN190106) | | Q1 of Enrichment Sheet 2 assesses student understanding of producer/consumer relationships as they occur in food webs within marine ecosystems. |
| 505 | among living systems and the environment | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (ii) describe predator/prey relationships as they occur in food webs within marine ecosystems | TX2_USSAN190106 | Predation in Ecosystems (TX2_USSAN190106) | The Animation describes predator/prey relationships as they occur in food webs within marine ecosystems. | In the Question-Answer Sheet, students are asked to describe predator/prey relationships as they occur in food webs within marine ecosystems. |
| 506 | among living systems and the environment and that human activities can affect these | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | describe predator/prey relationships as they occur in food webs within marine ecosystems | TX2_USSAN190106 | Predation in Ecosystems (TX2_USSAN190106) | | Q4 of Enrichment Sheet 1 assesses student understanding of predator/prey relationships as they occur in food webs within marine ecosystems. |
| 507 | among living systems and the environment | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (ii) describe predator/prey relationships as they occur in food webs within marine ecosystems | TX2_USSAN190106 | Predation in Ecosystems (TX2_USSAN190106) | | Q1 of Enrichment Sheet 2 assesses student understanding of predator/prey relationships as they occur in food webs within marine ecosystems. |
| 508 | among living systems and the environment | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (ii) describe predator/prey relationships as they occur in food webs within marine ecosystems | TX2_USSAN190107 | Producer and Consumer Relationships in Ecosystems (TX2_USSAN190107) | Enrichment Sheet 2 describes predator/prey relationships as they occur in food webs within marine ecosystems. | Q4 of Enrichment Sheet 2 assesses student understanding of predator/prey relationships as they occur in food webs within marine ecosystems. |
| 509 | among living systems and the environment | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | describe predator/prey relationships as they occur in food webs within marine ecosystems | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | The Enrichment Sheet describes predator/prey relationships as they occur in food webs within marine ecosystems. | Q6 of the Enrichment Sheet assesses student understanding of predator/prey relationships as they occur in food webs within marine ecosystems. |
| 510 | among living systems and the environment and that human activities can affect these systems. The student is expected to: | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (iii) describe parasite/host relationships as they occur in food webs within marine ecosystems | TX2_USSAN190105 | Parasitism in Ecosystems (TX2_USSAN190105) | The Animation describes parasite/host relationships as they occur in food webs within marine ecosystems. | In the Question-Answer Sheet, the student is asked to describe parasite/host relationships as they occur in food webs within marine ecosystems. |
| 511 | among living systems and the environment and that human activities can affect these | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (iii) describe parasite/host relationships as they occur in food webs within marine ecosystems | TX2_USSAN190105 | Parasitism in Ecosystems (TX2_USSAN190105) | | Q4 of the Enrichment Sheet assesses student understanding of parasite/host relationships as they occur in food webs within marine ecosystems. |

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|----------|--|---|---|--------------------------------|--|--|---|
| # 512 | student knows that interdependence occurs among living systems and the environment | relationships as they occur in food | Breakout (iii) describe parasite/host relationships as they occur in food webs within marine ecosystems | Item Number TX2_USSSM190105 | Component Parasitism (TX2_USSSM190105) | Learning Component Description The Activity Object describes parasite/host relationships as they occur in food webs within marine ecosystems. | Assessment Component Description |
| 513 | | relationships as they occur in food | (iii) describe parasite/host relationships as they occur in food webs within marine ecosystems | TX2_USSAN190107 | Producer and Consumer Relationships in Ecosystems (TX2_USSAN190107) | food webs within marine ecosystems. | Q6 of Enrichment Sheet 2 assesses student understanding of parasite/host relationships as they occur in food webs within marine ecosystems. |
| 514 | among living systems and the environment | | (iii) describe parasite/host relationships as they occur in food webs within marine ecosystems | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | | Q7 of the Enrichment Sheet assesses student understanding of parasite/host relationships as they occur in food webs within marine ecosystems. |
| 515 | among living systems and the environment and that human activities can affect these | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (iv) describe producer/consumer relationships as they occur in food webs within freshwater ecosystems | TX2_USSAN190107 | Producer and Consumer Relationships in Ecosystems (TX2_USSAN190107) | The Animation describes producer/consumer relationships as they occur in food webs within freshwater ecosystems. | In the Question-Answer Sheet, students are asked to describe producer/consumer relationships as they occur in food webs within freshwater ecosystems. |
| 516 | among living systems and the environment and that human activities can affect these | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (iv) describe producer/consumer relationships as they occur in food webs within freshwater ecosystems | TX2_USSAN190107 | Producer and Consumer Relationships in Ecosystems (TX2_USSAN190107) | Enrichment Sheet 1 describes producer/consumer relationships as they occur in food webs within freshwater ecosystems. | Q6 of Enrichment Sheet 1 assesses producer/consumer relationships in food webs within freshwater ecosystems. |
| 517 | among living systems and the environment | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (iv) describe producer/consumer relationships as they occur in food webs within freshwater ecosystems | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | The Enrichment Sheet describes producer/consumer relationships as they occur in food webs within freshwater ecosystems. | Q2 of the Enrichment Sheet assesses student understanding of producer/consumer relationships as they occur in food webs within freshwater ecosystems. |
| 518 | among living systems and the environment | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (iv) describe producer/consumer relationships as they occur in food webs within freshwater ecosystems | TX2_USSAN190106 | Predation in Ecosystems (TX2_USSAN190106) | | Q8 of Enrichment Sheet 1 assesses student understanding of producer/consumer relationships in food webs within freshwater ecosystems. |
| 519 | among living systems and the environment | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (v) describe predator/prey relationships as they occur in food webs within freshwater ecosystems | TX2_USSAN190106 | Predation in Ecosystems (TX2_USSAN190106) | The Animation describes predator/prey relationships as they occur in food webs within freshwater ecosystems. | In the Question-Answer Sheet, students are asked to describe predator/prey relationships as they occur in food webs within freshwater ecosystems. |
| 520 | among living systems and the environment | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (v) describe predator/prey relationships as they occur in food webs within freshwater ecosystems | TX2_USSAN190106 | Predation in Ecosystems (TX2_USSAN190106) | | Q5 of Enrichment Sheet 1 assesses student understanding of predator/prey relationships as they occur in food webs within freshwater ecosystems. |

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| # 521 | student knows that interdependence occurs | Student Expectation (A) describe producer/consumer, predator/prey, and parasite/host | Breakout (v) describe predator/prey relationships as they occur in | Item Number TX2_USSAN190106 | Component Predation in Ecosystems (TX2_USSAN190106) | Learning Component Description | Assessment Component Description Q2 of Enrichment Sheet 2 assesses student understanding of predator/prey |
| | | relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | food webs within freshwater ecosystems | | | | relationships as they occur in food webs within freshwater ecosystems. |
| 522 | student knows that interdependence occurs | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (v) describe predator/prey relationships as they occur in food webs within freshwater ecosystems | TX2_USSAN190107 | Producer and Consumer Relationships in Ecosystems (TX2_USSAN190107) | Enrichment Sheet 2 describes predator/prey relationships as they occur in food webs within freshwater ecosystems. | Q3 of Enrichment Sheet 2 assesses student understanding of predator/prey relationships as they occur in food webs within freshwater ecosystems. |
| 523 | | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (v) describe predator/prey relationships as they occur in food webs within freshwater ecosystems | TX2_USSSM190201 | | The Enrichment Sheet describes predator/prey relationships as they occur in food webs within freshwater ecosystems. | Q2 of the Enrichment Sheet assesses student understanding of predator/prey relationships as they occur in food webs within freshwater ecosystems. |
| 524 | student knows that interdependence occurs among living systems and the environment | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (vi) describe parasite/host relationships as they occur in food webs within freshwater ecosystems | TX2_USSAN190105 | Parasitism in Ecosystems (TX2_USSAN190105) | The Animation describes parasite/host relationships as they occur in food webs within freshwater ecosystems. | In the Question-Answer Sheet, students are asked to describe parasite/host relationships as they occur in food webs within freshwater ecosystems. |
| 525 | student knows that interdependence occurs among living systems and the environment | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (vi) describe parasite/host relationships as they occur in food webs within freshwater ecosystems | TX2_USSAN190105 | Parasitism in Ecosystems (TX2_USSAN190105) | The Enrichment Sheet describes parasite/host relationships as they occur in food webs within freshwater ecosystems | Q6 of the Enrichment Sheet assesses student understanding of parasite/host relationships as they occur in food webs within freshwater ecosystems. |
| 526 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (vi) describe parasite/host relationships as they occur in food webs within freshwater ecosystems | TX2_USSSM190105 | Parasitism (TX2_USSSM190105) | The Activity Object describes parasite/host relationships as they occur in food webs within freshwater ecosystems. | |
| 527 | among living systems and the environment and that human activities can affect these systems. The student is expected to: | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (vi) describe parasite/host relationships as they occur in food webs within freshwater ecosystems | TX2_USSAN190107 | Ecosystems (TX2_USSAN190107) | food webs within freshwater ecosystems. | Q5 of Enrichment Sheet 2 assesses student understanding of parasite/host relationships as they occur in food webs within freshwater ecosystems. |
| 528 | among living systems and the environment and that human activities can affect these systems. The student is expected to: | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (vi) describe parasite/host relationships as they occur in food webs within freshwater ecosystems | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | The Enrichment Sheet describes parasite/host relationships as they occur in food webs within freshwater ecosystems. | Q9 of the Enrichment Sheet assesses student understanding of parasite/host relationships as they occur in food webs within freshwater ecosystems. |
| 529 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems | (vii) describe producer/consumer relationships as they occur in food webs within terrestrial ecosystems | TX2_USSAN190107 | Producer and Consumer Relationships in Ecosystems (TX2_USSAN190107) | The Animation describes producer/consumer relationships as they occur in food webs within terrestrial ecosystems. | In the Question-Answer Sheet, students are asked to describe producer/consumer relationships as they occur in food webs within terrestrial ecosystems. |
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| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|--|-------------------------------------|--------------------------------|---------------------|--|---|---|
| 530 | (11) Organisms and environments. The | (A) describe producer/consumer, | (vii) describe | TX2_USSAN190107 | Producer and Consumer Relationships in | Enrichment Sheet 1 describes | Q7 of Enrichment Sheet 1 assesses |
| | | predator/prey, and parasite/host | producer/consumer | | Ecosystems (TX2_USSAN190107) | producer/consumer relationships as they | student understanding of |
| | among living systems and the environment | relationships as they occur in food | relationships as they occur in | | | occur in food webs within terrestrial | producer/consumer relationships in food |
| | and that human activities can affect these | webs within marine, freshwater, and | food webs within terrestrial | | | ecosystems. | webs within terrestrial ecosystems. |
| | systems. The student is expected to: | terrestrial ecosystems | ecosystems | | | | |
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| | | | | | | | |
| 531 | (11) Organisms and environments. The | (A) describe producer/consumer, | (vii) describe | TX2 USSSM190201 | The Energy Flow from Producers to | The Activity Object describes | |
| 001 | | predator/prey, and parasite/host | producer/consumer | 1742_00000001000201 | Consumers (TX2_USSSM190201) | producer/consumer relationships as they | |
| | among living systems and the environment | relationships as they occur in food | relationships as they occur in | | | occur in food webs within terrestrial | |
| | and that human activities can affect these | webs within marine, freshwater, and | food webs within terrestrial | | | ecosystems. | |
| | systems. The student is expected to: | terrestrial ecosystems | ecosystems | | | coosystems. | |
| | | | coodystemis | | | | |
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| 532 | (11) Organisms and environments. The | (A) describe producer/consumer, | (vii) describe | TX2_USSSM190201 | The Energy Flow from Producers to | The Enrichment Sheet describes | The Enrichment Sheet asks students to |
| | | predator/prey, and parasite/host | producer/consumer | | Consumers (TX2_USSSM190201) | producer/consumer relationships as they | describe producer/consumer relationships |
| | among living systems and the environment | relationships as they occur in food | relationships as they occur in | | | occur in food webs within terrestrial | as they occur in food webs within terrestrial |
| | and that human activities can affect these | webs within marine, freshwater, and | food webs within terrestrial | | | ecosystems. | ecosystems. |
| | systems. The student is expected to: | terrestrial ecosystems | ecosystems | | | | |
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| | | | | | | | |
| 533 | (11) Organisms and environments. The | (A) describe producer/consumer, | (vii) describe | TX2_USSAN190201 | Food Chains and Food Webs | The Animation describes | |
| | student knows that interdependence occurs | predator/prey, and parasite/host | producer/consumer | | (TX2_USSAN190201) | producer/consumer relationships as they | |
| | among living systems and the environment | relationships as they occur in food | relationships as they occur in | | · · · · · · · · · · · · · · · · · · · | occur in food webs within terrestrial | |
| | and that human activities can affect these | webs within marine, freshwater, and | food webs within terrestrial | | | ecosystems. | |
| | systems. The student is expected to: | terrestrial ecosystems | ecosystems | | | | |
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| | | | | | | | |
| 534 | (11) Organisms and environments. The | (A) describe producer/consumer, | (vii) describe | TX2 USSAN190106 | Predation in Ecosystems | | Q6 of Enrichment Sheet 1 assesses |
| 554 | | predator/prey, and parasite/host | producer/consumer | 172_000AN130100 | (TX2_USSAN190106) | | student understanding of |
| | among living systems and the environment | relationships as they occur in food | relationships as they occur in | | (1/2_000/11/00/00) | | producer/consumer relationships in food |
| | and that human activities can affect these | webs within marine, freshwater, and | food webs within terrestrial | | | | webs within terrestrial ecosystems. |
| | | | | | | | webs within terrestillar ecosystems. |
| | systems. The student is expected to: | terrestrial ecosystems | ecosystems | | | | |
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| 505 | | | | | Desideties in Francisco | | In the Owentian Annual Object students and |
| 535 | (11) Organisms and environments. The | (A) describe producer/consumer, | (viii) describe predator/prey | TX2_USSAN190106 | Predation in Ecosystems | The Animation describes predator/prey | In the Question-Answer Sheet, students are |
| | | predator/prey, and parasite/host | relationships as they occur in | | (TX2_USSAN190106) | relationships as they occur in food webs | asked to describe predator/prey |
| | among living systems and the environment | relationships as they occur in food | food webs within terrestrial | | | within terrestrial ecosystems. | relationships as they occur in food webs |
| | and that human activities can affect these | webs within marine, freshwater, and | ecosystems | | | | within terrestrial ecosystems. |
| | systems. The student is expected to: | terrestrial ecosystems | | | | | |
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| 536 | (11) Organisms and environments. The | (A) describe producer/consumer, | (viii) describe predator/prey | TX2_USSAN190106 | Predation in Ecosystems | | Q3 of Enrichment Sheet 1 assesses |
| | | predator/prey, and parasite/host | relationships as they occur in | | (TX2_USSAN190106) | | student understanding of predator/prey |
| | among living systems and the environment | relationships as they occur in food | food webs within terrestrial | | | | relationships in food webs within terrestrial |
| | and that human activities can affect these | webs within marine, freshwater, and | ecosystems | | | | ecosystems. |
| | systems. The student is expected to: | terrestrial ecosystems | | | | | |
| | | | | | | | |
| | | | | | | | |
| 537 | (11) Organisms and environments. The | (A) describe producer/consumer, | (viii) describe predator/prey | TX2_USSAN190107 | Producer and Consumer Relationships in | Enrichment Sheet 2 describes | Q1 of Enrichment Sheet 2 assesses |
| 1 | student knows that interdependence occurs | predator/prey, and parasite/host | relationships as they occur in | | Ecosystems (TX2_USSAN190107) | predator/prey relationships as they occur | student understanding of predator/prey |
| | among living systems and the environment | relationships as they occur in food | food webs within terrestrial | | | in food webs within terrestrial ecosystems. | relationships as they occur in food webs |
| | and that human activities can affect these | webs within marine, freshwater, and | ecosystems | | | | within terrestrial ecosystems. |
| | systems. The student is expected to: | terrestrial ecosystems | | | | | |
| | | | | | | | |
| | | | | | | | |
| 538 | (11) Organisms and environments. The | (A) describe producer/consumer, | (viii) describe predator/prey | TX2 USSSM190201 | The Energy Flow from Producers to | The Enrichment Sheet describes | Q4 of the Enrichment Sheet assesses |
| | | predator/prey, and parasite/host | relationships as they occur in | | Consumers (TX2_USSSM190201) | predator/prey relationships as they occur | student understanding of predator/prey |
| | among living systems and the environment | relationships as they occur in food | food webs within terrestrial | | | in food webs within terrestrial ecosystems. | relationships as they occur in food webs |
| | and that human activities can affect these | webs within marine, freshwater, and | ecosystems | | | | within terrestrial ecosystems. |
| | systems. The student is expected to: | terrestrial ecosystems | | | | | |
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| | 1 | 1 | 1 | | 1 | 1 | 1 |

| 4 | TEKS (Knowledge and Skills) Student Expectation Breakout Item Number Component Learning Component Description Assessment Component Description | | | | | | | | | |
|----------|--|---|--|--------------------------------|--|---|--|--|--|--|
| # 539 | TEKS (Knowledge and Skills) (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (A) describe producer/consumer, predator/prey, and parasite/host | Breakout (ix) describe parasite/host relationships as they occur in food webs within terrestrial ecosystems | Item Number TX2_USSAN190105 | Component Parasitism in Ecosystems (TX2_USSAN190105) | Learning Component Description The Animation describes parasite/host relationships as they occur in food webs within terrestrial ecosystems. | Assessment Component Description In the Question-Answer Sheet, students are asked to describe parasite/host relationships as they occur in food webs within terrestrial ecosystems. | | | |
| 540 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | relationships as they occur in food | (ix) describe parasite/host relationships as they occur in food webs within terrestrial ecosystems | TX2_USSAN190105 | Parasitism in Ecosystems (TX2_USSAN190105) | | Q5 of the Enrichment Sheet assesses student understanding of parasite/host relationships as they occur in food webs within terrestrial ecosystems. | | | |
| 541 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | relationships as they occur in food | (ix) describe parasite/host relationships as they occur in food webs within terrestrial ecosystems | TX2_USSAN190107 | Producer and Consumer Relationships in Ecosystems (TX2_USSAN190107) | Enrichment Sheet 2 describes parasite/host relationships as they occur in food webs within terrestrial ecosystems. | Q7 of Enrichment Sheet 2 assesses student understanding of parasite/host relationships as they occur in food webs within terrestrial ecosystems. | | | |
| 542 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | | (ix) describe parasite/host relationships as they occur in food webs within terrestrial ecosystems | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | The Enrichment Sheet describes parasite/host relationships as they occur in food webs within terrestrial ecosystems. | Q8 of the Enrichment Sheet assesses student understanding of parasite/host relationships as they occur in food webs within terrestrial ecosystems. | | | |
| 543 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | | investigate how organisms in an ecosystem depend on biotic factors | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | The Animation investigates how organisms in an ecosystem depend on biotic factors. | In the Question-Answer Sheet, students are asked to investigate and explain how organisms in an ecosystem depend on biotic factors. | | | |
| 544 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | | (i) investigate how organisms in an ecosystem depend on biotic factors | TX2_USSSM190105 | Parasitism (TX2_USSSM190105) | In the Activity Object, students investigate how organisms in an ecosystem depend on biotic factors. | | | | |
| 545 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | | (i) investigate how organisms in an ecosystem depend on biotic factors | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | In the Activity Object, students investigate how organisms in an ecosystem depend on biotic factors. | During the Activity Object, students investigate how organisms in an ecosystem depend on biotic factors. During their investigations, students are asked to give responses that are assessed by the Activity Object software, which provides appropriate feedback as students work through the exercises. | | | |
| 546 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | | (i) investigate how organisms in an ecosystem depend on biotic factors | TX2_USSAN160206 | Photoperiodism in Plants (TX2_USSAN160206) | The Animation investigates how organisms in an ecosystem depend on biotic factors. | | | | |
| 547 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | | investigate how organisms in an ecosystem depend on biotic factors | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | In the Lab Sheet, students investigate how organisms in an ecosystem depend on biotic factors. | The Lab Sheet contains questions that assess students on the topic of how organisms in an ecosystem depend on biotic factors. | | | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|---|-----------------|--|--|--|
| 548 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | investigate how organisms an ecosystem depend on otic factors | TX2_USSAN190103 | Competition in Ecosystems (TX2_USSAN190103) | In the Lab Sheet, students investigate how organisms in an ecosystem depend on biotic factors. | The Lab Sheet contains questions that assess students on the topic of how organisms in an ecosystem depend on biotic factors. |
| 549 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | populations in an ecosystem depend in | investigate how organisms an ecosystem depend on otic factors | TX2_USSSM190106 | Interactions Among Organisms - Competition (TX2_USSSM190106) | In the Lab Sheet, students investigate how organisms in an ecosystem depend on biotic factors. | The Lab Sheet contains questions that assess students on the topic of how organisms in an ecosystem depend on biotic factors. |
| 550 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | populations in an ecosystem depend po |) investigate how opulations in an ecosystem apend on biotic factors | TX2_USSSM190106 | Interactions Among Organisms - Competition (TX2_USSSM190106) | The Animation investigates how populations in an ecosystem depend on biotic factors. | In the Question-Answer Sheet, students are asked to investigate and explain how populations in an ecosystem depend on biotic factors. |
| 551 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | populations in an ecosystem depend po |) investigate how opulations in an ecosystem opend on biotic factors | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | In the Lab Sheet, students investigate how populations in an ecosystem depend on biotic factors. | The Lab Sheet contains questions that assess students on the topic of how populations in an ecosystem depend on biotic factors. |
| 552 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | populations in an ecosystem depend po |) investigate how opulations in an ecosystem opend on biotic factors | TX2_USSAN190103 | Competition in Ecosystems (TX2_USSAN190103) | In the Lab Sheet, students investigate how populations in an ecosystem depend on biotic factors. | The Lab Sheet contains questions that assess students on the topic of how populations in an ecosystem depend on biotic factors. |
| 553 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | populations in an ecosystem depend po |) investigate how opulations in an ecosystem opend on biotic factors | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | In the Activity Object, students investigate how populations in an ecosystem depend on biotic factors. | |
| 554 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | populations in an ecosystem depend po |) investigate how opulations in an ecosystem epend on biotic factors | TX2_USSAN160206 | Photoperiodism in Plants (TX2_USSAN160206) | The Animation investigates how populations in an ecosystem depend on biotic factors. | |
| 555 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | populations in an ecosystem depend po |) investigate how opulations in an ecosystem spend on biotic factors | TX2_USSSM190106 | Interactions Among Organisms - Competition (TX2_USSSM190106) | | The Lab Sheet contains questions that assess students on the topic of how populations in an ecosystem depend on biotic factors. |
| 556 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | populations in an ecosystem depend or or on and may compete for biotic and may | i) investigate how ganisms in an ecosystem ay compete for biotic ctors | TX2_USSAN190103 | Competition in Ecosystems (TX2_USSAN190103) | | In the Question-Answer Sheet, students are asked to explain their investigations into how organisms in an ecosystem may compete for biotic factors. |

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|----------|---|--|--|--------------------------------|---|---|--|
| # 557 | | Student Expectation (B) investigate how organism and populations in an ecosystem depend | Breakout (iii) investigate how organisms in an ecosystem | Item Number TX2_USSAN190103 | Component Competition in Ecosystems (TX2_USSAN190103) | Learning Component Description In the Lab Sheet, students investigate how organisms in an ecosystem may compete | Assessment Component Description The Lab Sheet contains questions that assess students on the topic of how |
| | and that human activities can affect these systems. The student is expected to: | on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | may compete for biotic factors | | | for biotic factors. | organisms in an ecosystem may compete for biotic factors. |
| 558 | | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (iii) investigate how organisms in an ecosystem may compete for biotic factors | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | The Animation investigates how organisms in an ecosystem may compete for biotic factors. | |
| 559 | | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (iii) investigate how organisms in an ecosystem may compete for biotic factors | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | In the Lab Sheet, students investigate how organisms in an ecosystem may compete for biotic factors. | The Lab Sheet contains questions that assess students on the topic of how organisms in an ecosystem may compete for biotic factors. |
| 560 | | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (iii) investigate how organisms in an ecosystem may compete for biotic factors | TX2_USSSM190106 | Interactions Among Organisms - Competition (TX2_USSSM190106) | In the Activity Object, students investigate how organisms in an ecosystem may compete for biotic factors. | |
| 561 | among living systems and the environment | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (iii) investigate how organisms in an ecosystem may compete for biotic factors | TX2_USSSM190106 | Interactions Among Organisms - Competition (TX2_USSSM190106) | In the Lab Sheet, students investigate how organisms in an ecosystem may compete for biotic factors. | The Lab Sheet contains questions that assess students on the topic of how organisms in an ecosystem may compete for biotic factors. |
| 562 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (iv) investigate how populations in an ecosystem may compete for biotic factors | TX2_USSAN190103 | Competition in Ecosystems (TX2_USSAN190103) | The Animation investigates how populations in an ecosystem may compete for biotic factors. | In the Question-Answer Sheet, students are asked how populations in an ecosystem may compete for biotic factors. |
| | among living systems and the environment and that human activities can affect these systems. The student is expected to: | on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (iv) investigate how populations in an ecosystem may compete for biotic factors | TX2_USSAN190103 | Competition in Ecosystems (TX2_USSAN190103) | In the Lab Sheet, students investigate how populations in an ecosystem may compete for biotic factors. | The Lab Sheet contains questions that assess students on the topic of how populations in an ecosystem may compete for biotic factors. |
| | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (iv) investigate how populations in an ecosystem may compete for biotic factors | TX2_USSSM190106 | Interactions Among Organisms - Competition (TX2_USSSM190106) | In the Activity Object, students investigate how populations in an ecosystem may compete for biotic factors. | |
| 565 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (iv) investigate how populations in an ecosystem may compete for biotic factors | TX2_USSSM190106 | Interactions Among Organisms - Competition (TX2_USSSM190106) | In the Lab Sheet, students investigate how populations in an ecosystem may compete for biotic factors. | The Lab Sheet contains questions that assess students on the topic of how populations in an ecosystem may compete for biotic factors. |
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| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|--|-----------------|---|---|--|
| 566 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (iv) investigate how populations in an ecosystem may compete for biotic factors | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | The Animation investigates how populations in an ecosystem may compete for biotic factors. | |
| 567 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (iv) investigate how populations in an ecosystem may compete for biotic factors | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | In the Lab Sheet, students investigate how populations in an ecosystem may compete for biotic factors. | The Lab Sheet contains questions that assess students on the topic of how populations in an ecosystem may compete for biotic factors. |
| 568 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (v) investigate how organisms in an ecosystem depend on abiotic factors | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | The Animation investigates how organisms in an ecosystem depend on abiotic factors. | |
| 569 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (v) investigate how organisms in an ecosystem depend on abiotic factors | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | In the Lab Sheet, students investigate how organisms in an ecosystem depend on abiotic factors. | The Lab Sheet contains questions that assess students on the topic of how organisms in an ecosystem depend on abiotic factors. |
| 570 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (v) investigate how organisms in an ecosystem depend on abiotic factors | TX2_USSSM190106 | Interactions Among Organisms - Competition (TX2_USSSM190106) | In the Lab Sheet, students investigate how organisms in an ecosystem depend on abiotic factors. | The Lab Sheet contains questions that assess students on the topic of how organisms in an ecosystem depend on abiotic factors. |
| 571 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (v) investigate how organisms in an ecosystem depend on abiotic factors | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | In the Activity Object, students investigate how organisms in an ecosystem depend on abiotic factors. | |
| 572 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (v) investigate how organisms in an ecosystem depend on abiotic factors | TX2_USSAN180105 | The Effects of Natural Disasters on Ecosystems (TX2_USSAN180105) | The Animation investigates how organisms in an ecosystem depend on abiotic factors. | |
| 573 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (v) investigate how organisms in an ecosystem depend on abiotic factors | TX2_USSAN190103 | Competition in Ecosystems (TX2_USSAN190103) | In the Lab Sheet, students investigate how organisms in an ecosystem depend on abiotic factors. | The Lab Sheet contains questions that assess students on the topic of how organisms in an ecosystem depend on abiotic factors. |
| 574 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | vi) investigate how populations in an ecosystem depend on abiotic factors | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | In the Activity Object, students investigate how populations in an ecosystem depend on abiotic factors. | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|--|--|--|-----------------|---|--|--|
| 575 | (11) Organisms and environments. The | | investigate how | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems | The Animation investigates how | |
| | student knows that interdependence occurs among living systems and the environment | | pulations in an ecosystem pend on abiotic factors | | | populations in an ecosystem depend on abiotic factors. | |
| | and that human activities can affect these | abiotic factors such as quantity of | pend on abiolic factors | | | abiolic factors. | |
| | systems. The student is expected to: | light, water, range of temperatures, | | | | | |
| | systems. The student is expected to. | or soil composition. | | | | | |
| | | or son composition. | | | | | |
| 576 | (11) Organisms and environments. The | (B) investigate how organism and vi) i | investigate how | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems | In the Lab Sheet, students investigate how | The Lab Sheet contains questions that |
| 570 | | | pulations in an ecosystem | 172_033AN190101 | | populations in an ecosystem depend on | assess students on the topic of how |
| | among living systems and the environment | | pend on abiotic factors | | | | populations in an ecosystem depend on |
| | and that human activities can affect these | abiotic factors such as quantity of | | | | | abiotic factors. |
| | systems. The student is expected to: | light, water, range of temperatures, | | | | | |
| | | or soil composition. | | | | | |
| | | | | | | | |
| 577 | (11) Organisms and environments. The | (B) investigate how organism and vi) i | investigate how | TX2_USSAN190103 | Competition in Ecosystems | In the Lab Sheet, students investigate how | The Lab Sheet contains questions that |
| - | | populations in an ecosystem depend pop | pulations in an ecosystem | | (TX2_USSAN190103) | populations in an ecosystem depend on | assess students on the topic of how |
| | among living systems and the environment | | pend on abiotic factors | | , | abiotic factors. | populations in an ecosystem depend on |
| | and that human activities can affect these | abiotic factors such as quantity of | | | | | abiotic factors. |
| | systems. The student is expected to: | light, water, range of temperatures, | | | | | |
| | | or soil composition. | | | | | |
| | | | | | | | |
| 578 | (11) Organisms and environments. The | | investigate how | | Interactions Among Organisms - | In the Lab Sheet, students investigate how | The Lab Sheet contains questions that |
| | student knows that interdependence occurs | | pulations in an ecosystem | | Competition (TX2_USSSM190106) | populations in an ecosystem depend on | assess students on the topic of how |
| | among living systems and the environment | | pend on abiotic factors | | | abiotic factors. | populations in an ecosystem depend on |
| | and that human activities can affect these | abiotic factors such as quantity of | | | | | abiotic factors. |
| | systems. The student is expected to: | light, water, range of temperatures, | | | | | |
| | | or soil composition. | | | | | |
| 570 | | | | TY0 110001000 | | | |
| 579 | (11) Organisms and environments. The student knows that interdependence occurs | | investigate how pulations in an ecosystem | TX2_USSSM180105 | Biological Adaptations: Bird Beaks (TX2_USSSM180105) | In the Activity Object, students investigate how populations in an ecosystem depend | |
| | among living systems and the environment | | pend on abiotic factors | | (1/2_03351/180105) | on abiotic factors. | |
| | and that human activities can affect these | abiotic factors such as quantity of | pend on abiolic factors | | | on abiolic factors. | |
| | systems. The student is expected to: | light, water, range of temperatures, | | | | | |
| | | or soil composition. | | | | | |
| | | | | | | | |
| 580 | (11) Organisms and environments. The | (B) investigate how organism and vi) i | investigate how | TX2_USSAN180105 | The Effects of Natural Disasters on | The Animation investigates how | |
| | student knows that interdependence occurs | populations in an ecosystem depend pop | pulations in an ecosystem | | Ecosystems (TX2_USSAN180105) | populations in an ecosystem depend on | |
| | among living systems and the environment | on and may compete for biotic and dep | pend on abiotic factors | | | abiotic factors. | |
| | and that human activities can affect these | abiotic factors such as quantity of | | | | | |
| | systems. The student is expected to: | light, water, range of temperatures, | | | | | |
| | | or soil composition. | | | | | |
| | | | | TV/2 11001 | | | |
| 581 | (11) Organisms and environments. The | | investigate how | TX2_USSAN180103 | Factors Affecting Population Growth | The Animation investigates how | |
| | student knows that interdependence occurs | | pulations in an ecosystem | | | populations in an ecosystem depend on | |
| | among living systems and the environment and that human activities can affect these | | pend on abiotic factors | | | abiotic factors. | |
| | systems. The student is expected to: | abiotic factors such as quantity of light, water, range of temperatures, | | | | | |
| | systems. The student is expected to. | or soil composition. | | | | | |
| | | | | | | | |
| 582 | (11) Organisms and environments. The | (B) investigate how organism and (vii) | i) investigate how | TX2 USSAN190103 | Competition in Ecosystems | The Animation investigates how | In the Question-Answer Sheet, students are |
| 002 | student knows that interdependence occurs | | ganisms in an ecosystem | | (TX2_USSAN190103) | organisms in an ecosystem may compete | asked to investigate how organisms in an |
| | among living systems and the environment | | ay compete for abiotic | | | for abiotic factors. | ecosystem may compete for abiotic factors. |
| | and that human activities can affect these | | ctors | | | | |
| | systems. The student is expected to: | light, water, range of temperatures, | | | | | |
| | | or soil composition. | | | | | |
| | | | | | | | |
| 583 | (11) Organisms and environments. The | | i) investigate how | TX2_USSAN190103 | Competition in Ecosystems | In the Enrichment Sheet, students | In the Enrichment Sheet, students are |
| | | | ganisms in an ecosystem | | | investigate how organisms in an | asked to explain how organisms in an |
| | among living systems and the environment | | ay compete for abiotic | | | ecosystem may compete for abiotic | ecosystem may compete for abiotic factors. |
| | and that human activities can affect these | | ctors | | | factors. | |
| | systems. The student is expected to: | light, water, range of temperatures, or soil composition. | | | | | |
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| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assossment Component Description |
|----------|---|--|---|------------------|---|---|---|
| # 584 | | (B) investigate how organism and | (vii) investigate how | TX2 USSAN190103 | Component Competition in Ecosystems | Learning Component Description In the Lab Sheet, students investigate how | Assessment Component Description The Lab Sheet contains questions that |
| 504 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | | (vii) investigate how organisms in an eccosystem may compete for abiotic factors | 172-000AIN130103 | (TX2_USSAN190103) | for the Lab Sheet, suderns investigate how organisms in an ecosystem may compete for abiotic factors. | assess students on the topic of how organisms in an ecosystem may compete for abiotic factors. |
| 585 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (vii) investigate how organisms in an ecosystem may compete for abiotic factors | TX2_USSAN160305 | Thigmotropism in Plants (TX2_USSAN160305) | The Animation teaches students about how organisms in an ecosystem may compete for abiotic factors. | |
| 586 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (vii) investigate how organisms in an ecosystem may compete for abiotic factors | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | The Animation investigates how organisms in an ecosystem may compete for abiotic factors. | |
| 587 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (vii) investigate how organisms in an ecosystem may compete for abiotic factors | TX2_USSSM190106 | Interactions Among Organisms - Competition (TX2_USSSM190106) | In the Lab Sheet, students investigate how organisms in an ecosystem may compete for abiotic factors. | The Lab Sheet contains questions that assess students on the topic of how organisms in an ecosystem may compete for abiotic factors. |
| 588 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | on and may compete for biotic and | (vii) investigate how organisms in an ecosystem may compete for abiotic factors | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | In the Lab Sheet, students investigate how organisms in an ecosystem may compete for abiotic factors. | The Lab Sheet contains questions that assess students on the topic of how organisms in an ecosystem may compete for abiotic factors. |
| 589 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (viii) investigate how populations in an ecosystem may compete for abiotic factors | TX2_USSAN190103 | Competition in Ecosystems (TX2_USSAN190103) | The Animation investigates how populations in an ecosystem may compete for abiotic factors. | In the Question-Answer Sheet, students are asked to investigate how populations in an ecosystem may compete for abiotic factors. |
| 590 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | on and may compete for biotic and | (viii) investigate how populations in an ecosystem may compete for abiotic factors | TX2_USSAN190103 | Competition in Ecosystems (TX2_USSAN190103) | In the Enrichment Sheet, students investigate how populations in an ecosystem may compete for abiotic factors. | In the Enrichment Sheet, students are asked to explain how populations in an ecosystem may compete for abiotic factors. |
| | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (viii) investigate how populations in an ecosystem may compete for abiotic factors | TX2_USSAN190103 | Competition in Ecosystems (TX2_USSAN190103) | In the Lab Sheet, students investigate how populations in an ecosystem may compete for abiotic factors. | The Lab Sheet contains questions that assess students on the topic of how populations in an ecosystem may compete for abiotic factors. |
| 592 | student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (viii) investigate how populations in an ecosystem may compete for abiotic factors | TX2_USSSM190106 | Interactions Among Organisms - Competition (TX2_USSSM190106) | In the Activity Object, students investigate how populations in an ecosystem may compete for abiotic factors. | |

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|----------|--|---|---|--------------------------------|--|---|---|
| # 593 | and that human activities can affect these systems. The student is expected to: | Student Expectation (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | Breakout (viii) investigate how populations in an ecosystem may compete for abiotic factors | Item Number TX2_USSSM190106 | Component Interactions Among Organisms - Competition (TX2_USSSM190106) | Learning Component Description In the Lab Sheet, students investigate how populations in an ecosystem may compete for abiotic factors. | Assessment Component Description The Lab Sheet contains questions that assess students on the topic of how populations in an ecosystem may compete for abiotic factors. |
| 594 | among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (viii) investigate how populations in an ecosystem may compete for abiotic factors | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | The Animation investigates how populations in an ecosystem may compete for abiotic factors. | |
| 595 | among living systems and the environment and that human activities can affect these systems. The student is expected to: | (B) investigate how organism and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition. | (viii) investigate how populations in an ecosystem may compete for abiotic factors | TX2_USSAN190101 | Biotic and Abiotic Factors in Ecosystems (TX2_USSAN190101) | | The Lab Sheet contains questions that assess students on the topic of how populations in an ecosystem may compete for abiotic factors. |
| 596 | among living systems and the environment | (C) explore how short- and long-term environmental changes affect organisms and traits in subsequent populations | (i) explore how short-term environmental changes affect organisms | TX2_USSXP190101 | Environmental Factors that Affect the Growth of Molds (TX2_USSXP190101) | The Activity Object explores how short- term environmental changes affect organisms, and specifically the growth of molds. | |
| 597 | among living systems and the environment | (C) explore how short- and long-term environmental changes affect organisms and traits in subsequent populations | (i) explore how short-term environmental changes affect organisms | TX2_USSXP190101 | Environmental Factors that Affect the Growth of Molds (TX2_USSXP190101) | In the lab sheet, students carry out an investigation on the effects of short term exposure to colored light on germination of seeds. | The lab sheet asks a question about how short term exposure to light affects seed germination. |
| 598 | | | (i) explore how short-term environmental changes affect organisms | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | The Activity Object explores how short- term environmental changes affect organisms, including plants and animals. | |
| 599 | | (C) explore how short- and long-term environmental changes affect organisms and traits in subsequent populations | (ii) explore how long-term environmental changes affect organisms | TX2_USSAN180104 | Mass Extinction (TX2_USSAN180104) | The Animation explores how long-term environmental changes affect organisms, by explaining mass extinctions. | |
| 600 | | | (ii) explore how long-term environmental changes affect organisms | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | | investigate how organisms in an ecosystem depend on biotic factors. Based on the student choices, the system evaluate their learnings and guide them to learn more. |
| 601 | and that human activities can affect these systems. The student is expected to: | environmental changes affect organisms and traits in subsequent populations | (ii) explore how long-term environmental changes affect organisms | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | In the Activity object students can explore how long-term environmental changes affect the populations of organisms in an ecosystem | The Activity sheet asks a question about the long-term effect of too much water in an ecosystem. |
| 602 | | | (ii) explore how long-term environmental changes affect organisms | TX2_USSAN180102 | Ecological Succession (TX2_USSAN180102) | The Animation explores how long-term environmental changes affect organisms by explaining ecological succession. | |

| # | TEKS (Knowledge and Skills) | Student Expectation | Breakout | Item Number | Component | Learning Component Description | Assessment Component Description |
|-----|---|--|--|-----------------|--|--|--|
| 603 | (11) Organisms and environments. The student knows that interdependence occurs | (C) explore how short- and long-term environmental changes affect | (iii) explore how long-term environmental changes affect organisms | TX2_USSAN180102 | Ecological Succession (TX2_USSAN180102) | The Enrichment sheet explores how long- term environmental changes affect organisms by explaining ecological succession. | The Enrichment sheet assesses how long- term environmental changes affect organisms. |
| 604 | | | (iii) explore how short-term environmental changes affect traits in subsequent populations | TX2_USSXP190101 | Environmental Factors that Affect the Growth of Molds (TX2_USSXP190101) | The Activity Object explores how short- term environmental changes affect traits in subsequent populations, and specifically populations of molds. | The Lab sheet Sheet asks students to explain how short-term environmental changes affect traits in subsequent populations. |
| 605 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | environmental changes affect organisms and traits in subsequent | (iii) explore how short-term environmental changes affect traits in subsequent populations | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | The Activity Object explores how short- term environmental changes affect traits in subsequent populations, including populations of plants and animals. | |
| 606 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | environmental changes affect organisms and traits in subsequent | (iv) explore how long-term environmental changes affect traits in subsequent populations | TX2_USSSM190201 | The Energy Flow from Producers to Consumers (TX2_USSSM190201) | The Activity Object explores how long-term environmental changes affect traits in subsequent populations, including populations of plants and animals. | The Question-Answer Sheet asks students to explain how long-term environmental changes affect traits in subsequent populations. |
| 607 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | environmental changes affect organisms and traits in subsequent | (iv) explore how long-term environmental changes affect traits in subsequent populations | TX2_USSAN180104 | Mass Extinction (TX2_USSAN180104) | The Animation explores how long-term environmental changes affect traits in subsequent populations by the example of mass extinction. | |
| 608 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | environmental changes affect | (iv) explore how long-term environmental changes affect traits in subsequent populations | TX2_USSAN180102 | Ecological Succession (TX2_USSAN180102) | The Animation explores how long-term environmental changes affect traits in subsequent populations, through the example of ecological succession. | |
| 609 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | environmental changes affect organisms and traits in subsequent | (iv) explore how long-term environmental changes affect traits in subsequent populations | TX2_USSAN180105 | The Effects of Natural Disasters on Ecosystems (TX2_USSAN180105) | The Animation explores how long-term environmental changes affect traits in subsequent populations by explaining the effects of natural disasters on ecosystems. | The Question-Answer Sheet asks students to explain how long-term environmental changes affect traits in subsequent populations. |
| 610 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (D) recognize human dependence on ocean systems and explain how human activities such as runoff, artificial reefs, or use of resources have modified these systems | (i) recognize human dependence on ocean systems | TX2_USSAN190104 | The Importance of Oceans (TX2_USSAN190104) | The Animation teaches students to recognize human dependence on ocean systems. | In the Question-Answer Sheet, students are asked questions that require them to recognize human dependence on ocean systems. |
| 611 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (D) recognize human dependence on ocean systems and explain how human activities such as runoff, artificial reefs, or use of resources have modified these systems | (i) recognize human dependence on ocean systems | TX2_USSAN190104 | The Importance of Oceans (TX2_USSAN190104) | The Enrichment Sheet teaches students about human dependence on ocean systems. | The Enrichment Sheet asks questions to assess student knowledge on human dependence on ocean systems. |
| 612 | (11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: | (D) recognize human dependence on ocean systems and explain how human activities such as runoff, artificial reefs, or use of resources have modified these systems | (iii) explain how human activities have modified [ocean] systems | TX2_USSAN190304 | How Humans Affect the Ocean (TX2_USSAN190304) | The Animation explains how human activities can affect ocean systems, and the potential consequences. | In the Question-Answer Sheet, students are asked to explain how human activities can modify ocean systems, and how this can affect humans moving forward. |