

## FACT SHEET

For more information contact:

Dina S. Harvey

Sebit, LLC

408-884-1859

dina.harvey@adaptivecurriculum.com

## Classroom Examples

### First Example: Class Lesson on Graphical Representations of Data

Mrs. Angela, a 6th grade mathematics teacher, planned to present a Data Analysis and Probability Standard lesson on the selection, creation and use of appropriate graphical representations of data to her class. She decided that a review of bar graphs would be beneficial before introducing histograms, box plots and scatterplots. Before starting the lesson, Mrs. Angela completed the following preparations. First, she logged into *Adaptive Curriculum* and accessed her *MyAdaptiveSpace*. She read the notes she had written at home while preparing for her class, accessed the window listing her lesson plans and selected the lesson on bar graphs. Lastly, she clicked on the first activity listed in her lesson plan.

To begin the lesson, Mrs. Angela introduced the concept of graphical representations of data by showing an example of a bar graph. She then asked questions such as “If any of you have seen a bar graph before, do you remember where you have seen it?” and “What do you think a bar graph is, and where do you think it is used?” Proceeding with the related *Adaptive Curriculum Activity Object* called “Drawing Bar Graphs,” she used the projector to display the *Activity Object* to the entire class. The *Adaptive Curriculum Activity Object* included both animated and interactive parts. For the animated parts, she paused, and asked questions or discussed the points she wanted to review and emphasize about bar graphs. The interactive parts offered more than one path to follow, so she graphed some of the Mathematics Achievement data incorrectly and asked the class to correct the errors. Then Mrs. Angela invited students to help her complete the bar graph for Atmospheric Carbon Dioxide (CO<sub>2</sub>) Concentrations. She also asked her students to complete an *Adaptive Curriculum* activity sheet as a component of a formative assessment.

At the end of the lesson, Mrs. Angela assigned the “Drawing Bar Graphs” activity assessment to every student. She monitored their performance on the assessment questions and gave extra practice to students if needed. Allowing for differentiated instruction, she assigned *Adaptive Curriculum Activity Objects* “Interpreting Bar Graphs” and “Double Bar Chart” to students who required additional practice.

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**Second Example: Science Experiments in Class**

Mr. Verde was concerned. He needed to teach his students about the important concept of photosynthesis, but he wasn't sure how best to approach it. The concept of photosynthesis is very abstract – almost too abstract for his adolescent students. Simple memorization didn't seem to be the right solution. Mr. Verde knew that activity-based learning would be ideal, yet the cost and complexity of the materials, and the amount of class time required, prevented him from conducting a hands-on experiment for this topic.

Mr. Verde was just about ready to resign himself to another boring, and perhaps fruitless, photosynthesis lesson when he discovered the *Adaptive Curriculum Activity Object* called “Plants’ Need for Photosynthesis.” He quickly linked to the activity on the Internet, and within minutes, Mr. Verde was able to project the activity for his class. The students stopped all conversations and focused on the three-dimensional graphics. They watched an animation about a starch test to see if a leaf was performing photosynthesis. Mr. Verde showed the class they could give the plant any combination of light, water, oxygen, and carbon dioxide and then conduct the starch test. They tried different combinations and saw their choices appear in the data table. At the end of all the combinations, students concluded that plants need light, water and carbon dioxide to conduct photosynthesis. Mr. Verde smiled as he thought about next week’s lesson; “I’ll bring my students to the computer lab and have them work individually to complete the *Activity Object* ‘Factors Affecting Photosynthesis (2).’ They’ll have the opportunity to see how changing the light intensity and the amount of carbon dioxide influences the rate of photosynthesis. Then we’ll hold a class discussion to review the results of the experiment, to ensure everyone develops a concrete understanding of photosynthesis.” Using the Note Tool in *MyAdaptiveSpace*, Mr. Verde took notes for next week’s lesson and looked forward to the opportunity to teach a difficult topic effectively, with the help of *Adaptive Curriculum*.

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