

USD 469 Lesson Plan

Lesson Title	Graphing temperature change over time
Created by	Jennifer Kolb
Building	LMS
Grade Level	6 th grade
Subject Area	Science
Time <i>(Time frame for the lesson)</i>	2 periods
State Standards Addressed	<p>STANDARD 2: PHYSICAL SCIENCE – The student will apply process skills to develop an understanding of physical science including: properties, changes of properties of matter, motion and forces, and transfer of energy.</p> <p>Benchmark 2: The student will observe measure, infer, and classify changes in properties of matter.</p> <p>▲ measures and graphs the effects of temperature on matter.</p>
<p>Technology Equipment</p> <p><i>(list the equipment needed and what needs to be connected before the lesson begins. Also any instructions on connecting)</i></p>	Computers with Microsoft Excel, student computers with a printer.
<p>Tips</p> <p><i>(Special instructions or information that will help the instructor be successful using the equipment. What the students need to know BEFORE the lesson? What do the teachers need to know before the lesson?)</i></p>	This lesson involves observing a temperature change during a chemical reaction. Students should receive background information about the properties of matter and their changes. Students should also have some familiarity with plotting points on a graph. Some key vocabulary includes: x-axis and y-axis. In the Excel program students should know the difference between columns and rows.
<p>Activity Type</p> <p><i>(list all that apply- Group activity, Cooperative learning, Research, Hands on, etc...)</i></p>	Hands on activity, group activity, cooperative learning
<p>Activity Context</p> <p><i>(Briefly describe how the activity fits into the context of the lesson. What will precede the activity? What will follow the activity? What do you want to accomplish by using the activity in your classroom)</i></p>	During this lesson students will record temperature changes as a function of time. Every five seconds they will read their thermometer and record the new temperature. This activity will be preceded by a physical science unit that describes the properties of matter as well as the changes in the properties of matter. This activity will be followed by discussion of the changes of the properties of matter in terms of what happens during a chemical reaction (ex: rusting) and how we know this is happening (ex: temperature change). By having students graph their temperature changes in Excel they are able to see what this temperature change looks like as well as to gain experience creating charts using MS Excel.

Additional Materials/Resources <i>(Handouts)</i>	Students will receive a rubric detailing how they will be graded on this assignment. See attachment sheet # 2
Extension Activities/Follow up <i>(What do you do next? How do you know it was successful? Other activities to do.)</i>	After the graphs are completed students will turn them in as part of a lab packet. Success will be determined based on rubric score and feedback on lab. Extension activities include using excel to create charts to illustrate results from other labs.