

Lesson Plan

Day 1

Teacher: Theodore Davis	Subject: Science	Date:	Grade: 7 th Grade
Objective	Procedure	Materials	Evaluation
<p>RL 7, 1. Cite specific textual evidence to support analysis of science and textual text.</p> <p>The Teacher will give a brief introduction statement on heat. Heat is used and is produced when many kinds of work are done. For example, the teacher will state. When you shovel the snow from the sidewalk you give off heat. You probably know that heat and work are related, but what is the connection?</p> <p>The teacher will provide information that will aid the student in gaining a better understanding of heat and temperature.</p> <p>The teacher will provide information about how atoms and molecules move faster when they are heated and how they move slower when they are cooler. The teacher will model several drawings to illustrate the change in temperature of atoms and molecules.</p>	<p>The students will have to distinguish between heat and temperature.</p> <p>The students will define heat. The student will define temperature.</p> <p>The students will be asked to think about the movement of atoms and molecules as they are being heated and to make drawing.</p>	<p>Paper, pencil, pictorial images of two beakers, one larger than the other. Both nearly filled with water.</p> <p>Appendix (A) The picture of the beakers filled with water.</p> <p>Pictorial images of water being heated in two separate beakers. One beaker should be larger than the other</p>	<p>The students will be evaluated based on their oral participation in the class discussion on heat energy. And the drawings they will be asked to draw and turn in near the end of class.</p>

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Day 2

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Objective	Procedure	Materials	Evaluation
<p>RL7, 1 Cite specific textual evidence to support analysis of science and textual text. The teacher will give a brief introduction statement on the properties of thermal expansion. The teacher will define thermal expansion. Thermal expansion is the tendency of matter to change in volume in response to a change in temperature.</p> <p>The teacher will model an example of thermal expansion. For example the teacher will say</p> <p>When a substance is heated, its particles begin moving more and thus usually maintain a greater average separation. Materials which contract with increasing temperature are rare; this effect is limited in size, and only occurs within limited temperature.</p>	<p>The student will have to define and discuss the properties of thermal expansion.</p> <p>The students will need to read the section on kinetic energy. The student will need to be able to gather an understanding that kinetic energy of atoms and molecules is the same regardless of the size of the container that is holding the liquid. For example, two beakers of different sizes with water inside them being heated.</p> <p>The student will have to make the determination of the amount of time it will take to heat both containers of water.</p>	<p>Paper, pencil, 7th grade physical science book, pictorial images of two beakers, one larger than the other. Both nearly filled with water. A burner to provide the heat source.</p> <p>Appendix (A) The picture of the beakers filled with water.</p> <p>Pictorial images of water being heated in two separate beakers. One beaker should be larger than the other</p>	<p>The students will be evaluated based on their oral participation in the class discussion on heat energy. And the drawings they will be asked to draw and turn in near the end of class.</p>

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Day 3

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Objective	Procedure	Materials	Evaluation
<p>RL7, 1 Cite specific textual evidence to support analysis of science and textual text.</p> <p>The teacher will present the question to the class, What happens when molecules are heated?</p>	<p>Based on the two previous days of discussing energy and heat, the students will be expected to write a brief statement of the question asked of them. Some responses should be similar to the statement.</p> <p>Since molecules are particles of matter, it takes energy to move them. Heat is a form of energy.</p> <p>It causes molecules to bounce into each other separating them. As molecules separate, their density, the amount of matter found in a given volume or space, decreases. Therefore the molecules will spread and become partially flowful- Like the molecules in liquid.</p>	<p>Paper, pencil, 7th grade physical science book, pictorial images of two beakers, one larger than the other. Both nearly filled with water. A burner to provide the heat source.</p> <p>Appendix (A) The picture of the beakers filled with water.</p> <p>Pictorial images of water being heated in two separate beakers. One beaker should be larger than the other</p>	<p>The students will be evaluated based on their oral participation in the class discussion on heat energy. And the drawings they will be asked to draw and turn in near the end of class.</p>

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