Lesson Plan - Week Feb 04, 2019

DATE	*TOPIC*	*INSTRUCTOR*
2/04/2019	MELTING ICE EXPERIMENT	MS. KRISTY

OVERVIEW/PURPOSE	***STANDARDS ADDRESSED***
MELTING RATE OF ICE	MOLECULAR THERMODYNAMICS

Objectives: (Skills/information that will be learned)	➢ Learn about chemical reactions between ice and a substance. ➢ Explore how salt and sugar affect the melting rate of ice. ➢ Learn about melting point and freezing point	*MATERIALS NEEDED:* ➢ 6 ice cubes ➢ water ➢ salt ➢ sugar ➢ scissors
Information: (Demonstration or lesson details)	Adding salt to ice activates two complex ,and contradictory, chemical reactions. The salt and/or sugar disrupts the equilibrium creating a solution no longer at its freezing point. Solid molecules travel into the liquid phase, thus melting the ice	
Activity: (Activity/demonstration to reinforce lesson)	Instructor will go over the concept of thermodynamics and equilibrium. Students will discuss expected results. They will observe and record their observations every 5-15 minutes. They will compare the different variables to the control.	
Verification: (Students understand the lesson objectives)	1. Which variable will cause ice to melt faster? 2. Why does salt melt ice faster than sugar?	
Summary: (Expected Observations)	Salt and sugar absorb heat energy faster than ice. Because of this, water molecules are moving faster, resulting in ice melting. Salt absorb heat even more so than sugar, making the overall melting rate decrease faster. In terms of melting ice in water, the larger the surface area the more heat it absorbs, thus ice will melt faster than the control.	Additional Notes: Equilibrium – a state in which opposing forces are balanced.