

How does salt affect ice water?

name: _____ per: _____

Data Table

Instructions

1. Obtain 2 beakers. Fill them with ice. Decide which will be “fresh-water” and which will be “salt-water”. Don’t get them mixed up! Determine the mass of each beaker of ice and record this on the data table on the other side of this sheet.

2. Add yellow salty water to one, and green fresh-water to the other (near the brim).

3. Put a thermometer in each beaker. The one with yellow salty water will be the **experiment** and the other will be the **control**. Let them sit for 1 minute, and then record the temperatures in the “1” slots on the data table above (in Celsius). Gently stir each with the thermometer for 5-10 seconds.

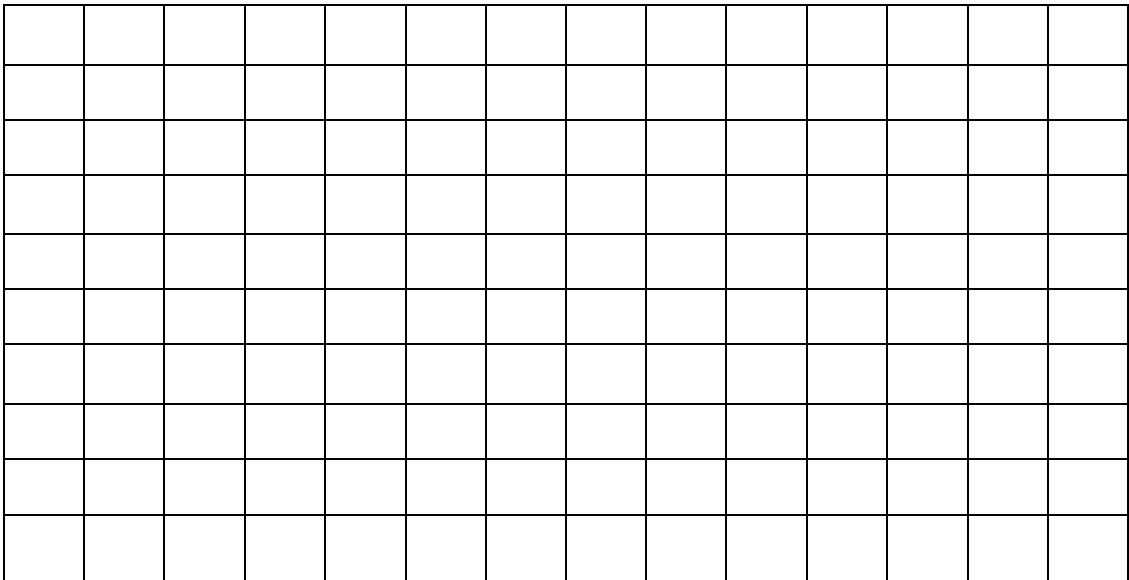
4. Start the stopwatch. After another minute record the temperatures of the experiment and the control on the data table. Gently stir each with the thermometer for 5-10 seconds. Repeat until you have reached the 7-minute mark.

5. As you are waiting, begin graphing the data on the grid below. Use a separate line (and color) for the control and the experiment. Colored pencils are available on the counter.

Time	Temp. of Experiment	Temp. of Control
1		
2		
3		
4		
5		
6		
7		

Temp.
(Celsius)

0



Time

1. KEEP THE ICE, but get rid of the water. Take the thermometers out of the beakers and hold your fingers over the beakers as you pour the water into a sink. Do NOT let any of the ice pour into the sink. Next determine the mass of the beakers of ice and record this on the data table below.
2. Determine how much ice was lost to melting during the time the ice was soaking in water. Record this on the data table below.

Data Table

	salt-water	fresh-water
Mass of beaker + ice before	_____	_____
Mass of beaker + ice after	_____	_____
Mass of ice lost to melting	_____	_____

3. Based on your results, which type of water caused more ice to melt? (Circle one)
 - a. the salt-water
 - b. the fresh-water?
4. Which beaker of icewater got colder during the 7 minutes? (Circle one)
 - a. the salt-water
 - b. the fresh-water?
5. What is the normal freezing point of water in degrees C? _____ In degrees F? _____
6. Did either sample of water become “super-cooled” during the course of the experiment? Explain. (You may use your electronic device to find out what “super-cooled means.”)
7. A big part of thinking scientifically, is asking questions. Come up with two good questions related to the activity that you have just completed. Both questions must begin with the word “why”.

Why _____

Why _____
