



California State University of Bakersfield, Department of Chemistry

Instant Ice



Standards:

HS-PS1-4. Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.

5-PS1-3. Make observations and measurements to identify materials based on their properties.

Introduction:

Do you enjoy changing the states of matter? If you do then instant ice is for you! With just a few household items you can change liquid water into ice. The heat lost by the water causes it to cool to freezing point upon contact with the ice.

Materials:

- Unopened water bottle
- Ice cube
- Small beaker
- Freezer

Safety:

- Always have an adult with you to help you during your experiment.
- Always wear eye protection and gloves when doing chemistry experiments

Procedure:

1. Put unopened bottles of water in the freezer for anywhere between 90 to 115 minutes. Let the water get below freezing, but not actually freeze.
2. Flip the small beaker upside down and place the ice cube on top of it.
3. Take out the water bottle from the freezer and slowly pour it over the ice cube.
4. Watch as the water instantly turns into ice as it touches the ice.

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Data and Observations:

1. Record your observations in this space.

2. What was the optimum temperature of the water?

3. How long did the reaction last?

References:

1. How to Make Water Freeze into Ice Instantaneously. (n.d.). *Science Experiments RSS*. Retrieved July 29, 2014, from <http://science.wonderhowto.com/how-to/make-water-freeze-into-ice-instantaneously-0146879/>.