Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**FREEZE-OUT WORKSHEET**

1. Water temperature before putting in the freezer\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2. Temperature of liquid wax\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3. Temperature of water when wax is hard\_\_\_\_\_\_\_\_\_\_\_\_.

4. Temperature of freezer\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

5. After one hour in the freezer, what do you see?

6. What does freezing point mean?

7. Which changes to a solid at a higher temperature water or wax? Explain?

8. What do the results of this experiment tell you about freezing points?

9. Are freezing points necessarily cold? Explain?

10. The following items have a freezing point higher or lower then water:

a) a rock\_\_\_\_\_\_\_\_.

b) salt water\_\_\_\_\_\_.

c) butter\_\_\_\_\_\_\_\_\_\_.

d) sugar\_\_\_\_\_\_\_\_\_\_\_.

e) ice cream\_\_\_\_\_\_\_\_.

11. How would different freezing points affect the storage of foods, such as ice cream and butter?

12. Can you think of other cold-blooded animals?

13. What other states of matter beside liquid and solid do you know?

**You Are The Scientist**

**Go to:** http://www.fossweb.com/modulesK-2/SolidsandLiquids/activities/changeit.html

**First make a hypothesis:**

Think about ice (a solid) and water (a liquid).

After heating, a solid may change to a \_\_\_\_\_\_\_\_\_\_.

After freezing, a liquid may change to a \_\_\_\_\_\_\_\_\_\_.

**Then run the experiment using the interactive website:**

Note your observations in the charts below.

**Put in the Oven:**

|  |  |  |
| --- | --- | --- |
|  | state **before** heating | state **after** heating |
| ice |  |  |
| rock |  |  |
| ice cream |  |  |
| bone |  |  |
| wax candle |  |  |

**Put in the Freezer:**

|  |  |  |
| --- | --- | --- |
|  | state **before** freezing | state **after** freezing |
| water |  |  |
| boot |  |  |
| orange juice |  |  |
| oatmeal |  |  |
| brick |  |  |

**Look for a pattern in your findings. Was your hypothesis correct?**

|  |  |
| --- | --- |
| |  | | --- | | **Solid Lesson Plan Rubric**  Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CATEGORY | **4** | **3** | **2** | **1** |
| **Requirements** | All requirements are met and exceeded. | All requirements are met. | One requirement was not completely met. | More than one requirement was not completely met. |
| **Content** | Covers topic in-depth with details and examples. Subject knowledge is excellent. | Includes essential knowledge about the topic. Subject knowledge appears to be good. | Includes essential information about the topic but there are 1-2 factual errors. | Content is minimal OR there are several factual errors. |
| **Mechanics** | No misspellings or grammatical errors. | Three or fewer misspellings and/or mechanical errors. | Four misspellings and/or grammatical errors. | More than 4 errors in spelling or grammar. |