

## Lesson 5.1

Name \_\_\_\_\_

### Activity Sheet

### Changes Caused by Heating and Cooling

Date \_\_\_\_\_

#### ACTIVITY

##### Question to Investigate:

How does butter change when you warm and cool it?

##### Materials

- Small plastic cup with  $\frac{1}{4}$  teaspoon of butter in it
- 2 Popsicle sticks
- Cup for hot water
- Cup for ice water

##### Procedure

1. Carefully push your plastic cup with the butter a little way into the hot water cup.
2. Use the popsicle stick to move the butter around in the bottom of the cup. If the butter gets stuck on the popsicle stick, use the other popsicle stick to push the butter back down into the cup.
3. Keep the cup in the hot water and keep stirring until you see a change in the butter. Keep stirring until the butter doesn't change any more.



#### Heating and Cooling Butter

1. The butter in the cup that was heated got a lot softer and then changed into a liquid.
2. The butter in the cup your teacher kept at room temperature got a bit softer but not it didn't melt to become a liquid like the butter that was heated.
3. We observed that when butter is heated, it  
(circle the correct answer)
  - A. changes from a liquid to a solid.
  - B. changes from a solid to a liquid.
  - C. remained as a liquid.
  - D. remained as a solid.

4. Take the cup out of the hot water and place it in the cup of ice water. Do not stir the liquid butter this time.
5. Keep the cup in the ice water and gently touch the butter with your Popsicle stick. If the butter seems hard, scrape some up with the Popsicle stick.



4. We observed that when liquid butter is cooled, it  
(circle the correct answer)

- A. changes from a liquid to a solid.
- B. changes from a solid to a liquid.
- C. remained as a liquid.
- D. remained as a solid.