

Conduction Experiments

Always have an adult help with your experiment. Be safe and have fun!

Butter Melt #1

Materials

2 slices of cold butter
A metal knife
A plastic knife
A glass of warm/hot water from the faucet (not boiling)

Procedure:

1. Poke each knife into a piece of butter.
2. Put the handles of the knives into the glass of warm water with the butter slices sticking up in the air, and wait. Watch to see which butter slice melts off first.
3. What happened and why?



Experiment and Graphic from:

http://pbskids.org/dragonflytv/superdoit/conduction_countdown.html

The Almost Witches Pot #2

Materials

Wooden ladle
Plastic ladle
Metal ladle
Boiling Water
Hot plate
Pot - that is shorter than the ladles.
Thermometer
Glove

DON'T GET HURT/WATCH OUT!

This experiment requires proper laboratory equipment. Do not try this if you do not have the proper equipment. **Always have an adult help with your experiment. Be safe and have fun!**

- You will be working with very hot water.
- You will need goggles, an apron and heat mittens to protect your eyes, body, and hands.
- Make sure that the pot is safe to heat
- Use a thermometer that can withstand heat. It should read at least 212 degrees F or 110 degrees C

- Be careful and use a glove when measuring with thermometer. Refrain from using a thermometer with mercury.
- Take the necessary precautions to prevent being burned by the heat source: Do not touch it, etc.
- Be careful with the steam - it can burn too.
- Make sure the ladles can withhold heat (e.g. don't want plastic to melt)

CONDUCTION EXPERIMENT PROCEDURE

1. What would happen if you stir up a boiling liquid with a plastic, wooden, or metal ladle? Hypothesize which ladle would get hotter and why? Write it down here.

2. Obtain materials.

3. Pour water half way into pot and place on hot plate.

4. Set temperature high and bring water to a boil. When you see large bubbles rumbling in the pot insert the thermometer. Water boils at 212 degrees F or 100 degrees C. To read thermometer, remove it from the pot with a gloved hand.

5. Once the water is boiling remove the thermometer and turn heat off. (large bubbles rumbling in pot)

For Steps # 6-10, let go of ladle if it gets hot. Remove it from water with a glove. Do not put hand or glove in the water.

6. Place plastic ladle into boiling water and begin stirring for about 1 minute.

7. Document how the plastic ladle feels (cold, warm, or hot) to the touch. _____

8. Place wooden ladle into boiling water and begin stirring for about 1 minute.

9. Document how the wooden ladle feels (cold, warm or hot) to the touch. _____

10. Place metal ladle into boiling water and begin stirring for about 1 minute.

11. Document how the metal ladle feels (cold, warm or hot) to the touch. _____

12. Go back to question #1 and check to see if your hypothesis was correct. If it was, great prediction! If it wasn't, rewrite your hypothesis and provide an explanation for the change.
