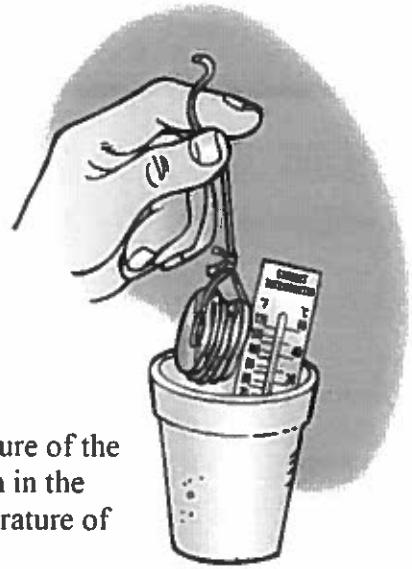


Heat, Temperature and Conduction Activity Sheet

Question to Investigate: _____

Materials for each group

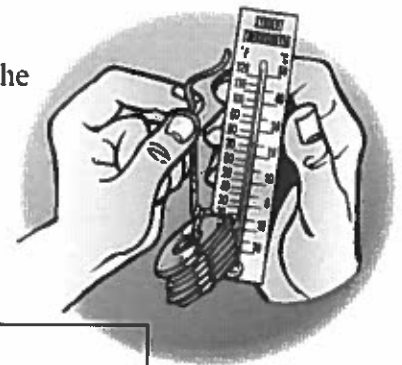
- 2 sets of large washers on a string
- Styrofoam cup filled with hot water
- Room - temperature water
- 2 thermometers
- Graduated cylinder or beaker



Procedure

Room- temperature washers placed in hot water

1. Place a thermometer in your cup to measure the initial temperature of the water. Record the temperature of the water in the "Before" column in the chart on the activity sheet. Be sure to also record the initial temperature of the water in the control cup.
2. Use another thermometer to measure the temperature of the washers. Record this in the "Before" column.
3. With the thermometer still in the water, hold the string and lower the metal washers all the way into the water.
4. Observe any change in the temperature of the water. Leave the washers in the water until the temperature stops changing. Record the temperature of the water in each cup in the "After" column.
5. Remove the washers from the water. Then take and record the temperature of the washers in the "After" column.
6. Empty the cup in a waste container or sink.

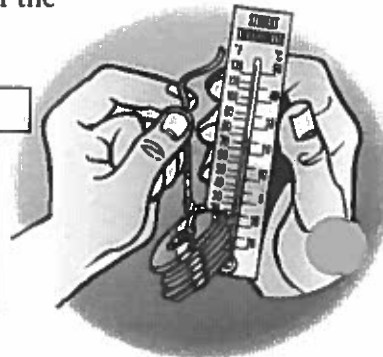
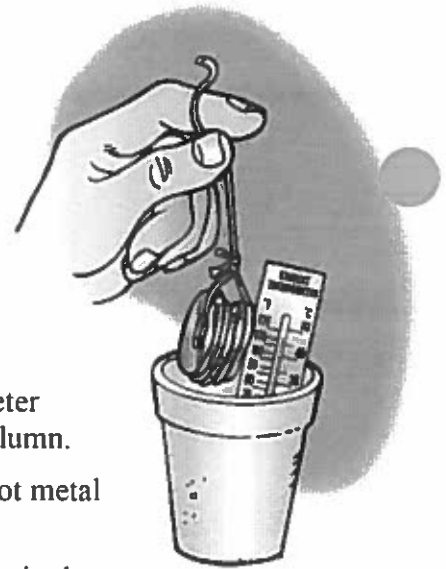


Room - temperature washers placed in hot water		
Temperature of	Before	After
Water in your cup		
Water in the control cup		
Metal washers		

Why do you think the temperature of the water in your cup changes more than the water in the control cup?

Hot washers placed in room- temperature water

1. Pour about 30 milliliters of room - temperature water into your Styrofoam cup.
2. Place the thermometer into the water and record the temperature of the water in each cup in the "Before" column in the chart below.
3. Get a set of hot washers from your teacher and quickly use a thermometer to measure the temperature of the washer. Record this in the "Before" column.
4. With the thermometer still in the water, hold the string and lower the hot metal washers all the way into the water.
5. Observe any change in the temperature of the water. Leave the washers in the water until the temperature stops changing. Record the temperature of the water in the "After" column in the chart. Also record the temperature of the water in the control cup.
6. Remove the washers from the water. Then take and record the temperature of the washers.



Room - temperature washers placed in hot water		
Temperature of	Before	After
Water in your cup		
Water in the control cup		
Metal washers		

Conclusions:

1. Touch your metal chair or desk leg and then touch your plastic desk top. Which is colder, the metal or the plastic? _____ Explain why one feels colder even though it is the same temperature (room temperature) as the other one. Hint: Certain materials are better at conducting heat than others. _____

2. Let's say that you put a cup of cold water in one room and a cup of hot water in another room. Both rooms are room - temperature. Why does the cold water get warmer and the hot water get cooler? _____
