

The Melting Point

Procedure

1. **Collaborate** Work in a small group. Record your observations in the chart below. **Safety:** Be careful when using hot water.

| Sample | Placement | Melting Time |
|--------|----------------|--------------|
| 1 | end of rod | |
| 2 | 8 cm from end | |
| 3 | 16 cm from end | |

2. **Use Variables** Use the plastic knife to cut three equal pats of butter. Use the ruler to measure distances along the metal rod. Place the first pat of butter at one end of the rod. Place the second pat 8 cm from that end, and place the third pat 16 cm from the same end.
3. **Experiment** Fill the bowl to a height of 3 cm with hot tap water. As one group member holds the bowl in place, carefully slide the unbuttered end of the metal rod into the bowl. Cover as much of the rod as possible with water, but keep the butter out of the water. Start the stopwatch when the rod enters the water.
4. **Observe** Time how long it takes for each butter pat to begin to melt and slide off the rod.
5. **Record Data** Record the times in your chart.

Conclusion

Write the answers to the questions below.

1. **Infer** Why did the butter pats begin to melt at different times?

2. **Use Variables** What part of the experiment could you change to test your inference?

Investigate More!

Design an Experiment Will using cardboard, plastic, or cloth melt a butter pat as quickly as using a metal rod? Form a hypothesis, then test it with an experiment.

