

Sun Effects

Procedure

1. **Collaborate** Work in a small group. Use the chart below to record your observations. **Safety:** Wear goggles.

Model of Sun and Earth	Starting Temperature	Final Temperature
Sand		
Soil		
Water		

2. Half fill a bowl with sand. Half fill a second bowl with soil. Half fill a third bowl with water.
 3. **Measure** Place a thermometer in each bowl. The bulb of each thermometer should be covered the same amount. Wait 2 minutes. Then check and record the temperature in each bowl.
 4. **Predict** Place the three bowls close together under a lamp. The light should hit all three bowls equally. Predict how the temperature of each material will change after 30 minutes.
Safety: Do not touch the light bulb. It may be very hot.
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5. **Measure** After 30 minutes, read the thermometers. Record in your chart the temperature of each material.

Conclusion

Write the answers to the questions below.

1. **Compare** Which material is warmest after 30 minutes? How did your results compare with your predictions?

2. **Infer** Would a light-colored or a dark-colored material heat faster in sunlight?

3. **Use Models** What can you infer from your model about how the Sun affects sand, water, and soil on Earth?

Investigate More!

Be an Inventor Design a doghouse that is heated by sunlight. Choose materials for the doghouse that heat up quickly in sunlight. Describe how you would build it and where it should be placed.