Name Period Date
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## **Unit 2 Worksheet 1**

- 1. You decide to boil water to cook noodles. You place the pan of water on the stove and turn on the burner.
  - a. How does the behavior of the water molecules change as the pan of water is heated?
  - b. How would your answer to (a) if there were more water in the pan?
- 2. a) What property of matter best describes the way a typical alcohol thermometer works?
  - b) Explain (in terms of energy transfer) why the alcohol level in the thermometer rises when the thermometer is in contact with warmer objects.

c) Explain (in terms of energy transfer) why the alcohol level in the thermometer falls when the thermometer is in contact with cold objects.

3. If you feel feverish, why can't you take your own temperature with your hand?

4. Your older brother announces that the lid to a jar of pickles from the refrigerator is "impossible" to loosen. You take the jar, hold the lid under the hot water from your sink's faucet for a few seconds, and calmly open the jar. Your brother, when faced with this blow to his pride, claims that he loosened it for you. What knowledge of materials have you applied in this situation that really explains how you were able to open the lid? Explain at particle level.

5. Describe how Anders Celsius devised the temperature scale that bears his name.

6. Which would feel warmer to the touch - a bucket of water at 50°C or a bathtub filled with water at 25°C? In which container do water molecules have higher average kinetic energy? Why?