

**CONCEPTUAL Physics** PRACTICE PAGEChapter 15 Temperature, Heat, and Expansion  
Measuring Temperatures

1. Complete the table:

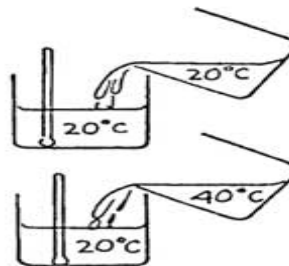
TEMPERATURE OF MELTING ICE	°C	32 °F	K
TEMPERATURE OF BOILING WATER	°C	212 °F	K

2. Suppose you apply a flame and heat one liter of water, raising its temperature 10°C. If you transfer the same heat energy to two liters, how much will the temperature rise? For three liters? Record your answers on the blanks in the drawing at the right.



3. A thermometer is in a container half-filled with 20°C water.

- a. When an equal volume of 20°C water is added, the temperature of the mixture is  
(10°C) (20°C) (40°C)
- b. When instead an equal volume of 40°C water is added, the temperature of the mixture will be  
(20°C) (30°C) (40°C)
- c. When instead a small amount of 40°C water is added, the temperature of the mixture will be  
(20°C) (between 20°C and 30°C) (30°C) (more than 30°C)



4. A red-hot piece of iron is put into a bucket of cool water. Mark the following statements true (T) or false (F). (Ignore heat transfer to the bucket.)

- a. The decrease in iron temperature equals the increase in the water temperature. \_\_\_\_\_
- b. The quantity of heat lost by the iron equals the quantity of heat gained by the water. \_\_\_\_\_
- c. The iron and water both will reach the same temperature. \_\_\_\_\_
- d. The final temperature of the iron and water is halfway between the initial temperatures of each. \_\_\_\_\_



Draw it!