1. What occurs when a 35-gram aluminum cube at 100°C is placed in 90. grams of water at 25°C in an insulated cup?

   A) Heat is transferred from the aluminum to the water, and the temperature of the water decreases.
   B) Heat is transferred from the aluminum to the water, and the temperature of the water increases.
   C) Heat is transferred from the water to the aluminum, and the temperature of the water decreases.
   D) Heat is transferred from the water to the aluminum, and the temperature of the water increases.

2. Object A at 40ºC and object *B* at 80ºC are placed in contact with each other. Which statement describes the heat flow between the objects?

   A) Heat flows from object *A* to object *B*.
   B) Heat flows from object *B* to object *A*.
   C) Heat flows in both directions between the objects.
   D) No heat flow occurs between the objects.

3. In a laboratory where the air temperature is 22°C, a steel cylinder at 100.°C is submerged in a sample of water at 40.°C. In this system, heat flows from

   A) both the air and the water to the cylinder
   B) both the cylinder and the air to the water
   C) the air to the water and from the water to the cylinder
   D) the cylinder to the water and from the water to the air

4. A person with a body temperature of 37°C holds an ice cube with a temperature of 0°C in a room where the air temperature is 20°C. The direction of heat flow is

   A) from the person to the ice, only
   B) from the person to the ice and air, and from the air to the ice
   C) from the ice to the person, only
   D) from the ice to the person and air, and from the air to the person