YEAR 08

Physics Homework

Section 8Ia **Hot stuff**

p. 120 Questions: 1 to 5

*1. a. What is the difference between heat energy and temperature?*

*b. What units are used to measure them?*

a. Temperature describes how hot or cold an object is, Heat is a form of energy (also called **thermal energy**).

b. Temperature is measured in **degrees Celsius (oC)**

Heat is measured in **Joules (J)**.

*2. Why don’t you get burned by the sparks from a sparkler?*

Because do **not** have **enough heat energy** to burn your hand.

*3. Look at drawing* ***B****.*

*a. Which contains the greatest mass of water: the kettle or the water tank?*

*b. Is the water in the kettle or tank storing the greatest amount of energy? Explain your answer.*

*c. Why do you thinf it takes longer to heat the water in the tank to 60oC?*

a. Off course the greater amount of water is in the water tank.

b. The greatest amount of energy is stored in the tank cause the mass of the water in the tank is much greater than the mass of water in the kettle.

c. Heat energy is proportional to the mass. The greater the mass, the longer it gets heated up and the greater amount of energy is needed for that purpose.

*4. Look at photo E. Will heat flow from the drink into Jenna’s hand, or from her hand to the drink? Explain your answer.*

Heat always flows from HOT to COLD. So in our case the heat will flow from Jenna’s hand to the drink.

*5. Explain your answers to these questions.*

*a. What happens to the temperature of a drink when you put an ice cube into it?*

*b. What happens to the temperature of the ice cube?*

*c. What will happen to the temperature of the drink if you leave it standing in the kitchen for a whole day?*

a. The temperature of the drink will fall so the drink will chill.

b. The temperature of the ice cube will rise so the ice cube will melt.

c. The temperature of the drink will rise cause it will take heat from the surrounding hotter air and eventually after a whole day, its temperature will match the kitchen temperature.