

Heat Homework 4

1. On bonfire night many people enjoy standing around the bonfire and feeling the heat it gives off.



Does the heat reach the people by conduction, convection or radiation?

Explain your choice

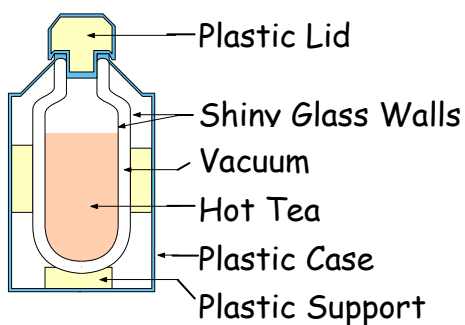
(3)

2. A black test-tube of hot water was left to cool. The temperature of the water was taken every 2 minutes for 20 minutes and a table of results filled in.

Time / Minutes	0	2	4	6	8	10	12	14	16	18	20
Temperature of water in tube / °C	80	70	61	53	46	40	35	31	28	26	25

- (a) On graph paper plot a **line graph** showing the relationship between time and the temperature of the water in the black tube. (3)
- (b) On the same graph draw another line to estimate how the temperature of water in a silver test-tube would have varied with time. Assume the temperature starts at 80 °C too. (1)

- 3.



The design of a flask helps to prevent a hot drink from cooling quickly. On the back of this sheet write down one factor that prevents heat loss by conduction and explain how it works. Repeat for convection and radiation. (3)