



Name _____ Class _____ Roll no. _____ Date _____ Marks _____ / 37

1 Key words**[4]**

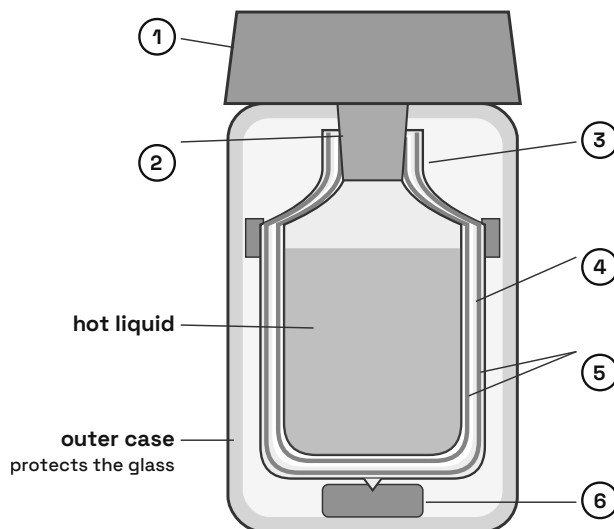
Fill in the blanks with words from the box. Two words in the box are not needed. Each blank carries 0.5 mark.

conduction convection greenhouse effect insulation insulators land breeze
mechanical radiation thermal conductivity transmission of heat

The flow of heat from a hotter body to a colder one is called the _____. The transfer of heat through a solid from particle to particle, without the particles leaving their places, is _____. Materials such as wood, wool and air, which hardly let heat pass through them, are _____. How quickly or slowly a material conducts heat is told by its _____. The transfer of heat in a liquid or a gas by the actual movement of its particles is _____, and the transfer of heat without any material medium is _____. Sound needs a medium to travel, so it is a _____ wave. The warming of the Earth's surface because some gases in the air absorb the heat given out by the Earth is the _____.

2 Label the diagram**[3]**

The diagram shows a thermos flask cut in half. Write the names of the parts numbered 1 to 6. Each carries 0.5 mark.



1. _____

2. _____

3. _____

4. _____

5. _____

6. _____



[5]

Choose the correct option for each of the following questions.

- i. What is the transfer of heat by the actual movement of molecules called? [1]
 - a. conduction
 - b. convection
 - c. radiation
 - d. temperature
- ii. How is heat transferred through a vacuum? [1]
 - a. by conduction
 - b. by convection
 - c. by radiation
 - d. by transpiration
- iii. In which of these is heat transferred by radiation? [1]
 - a. a spoon kept in sunlight gets hot
 - b. a spoon dipped in a cup of tea gets hot
 - c. a spoon held above a spirit lamp gets hot
 - d. water gets hot when a hot iron rod is put in it
- iv. Which would you choose for the bottom of a pan that should heat food quickly and evenly? [1]
 - a. stainless steel only
 - b. copper or aluminium
 - c. glass
 - d. wood
- v. In a thermos, which part mainly stops heat escaping by radiation? [1]
 - a. the vacuum
 - b. the cork stopper
 - c. the silvered surfaces
 - d. the plastic case

[3]

Write very short answers to the following questions.

- a. Write the names of any two greenhouse gases. [1]
-
-
- b. At what speed do electromagnetic waves travel through a vacuum? [1]
-
-
- c. Without the natural greenhouse effect, what would the Earth's average temperature be? [1]

[8]

Write short answers to the following questions.

- a. Give a reason: mud houses are cooler in summer and warmer in winter. [2]



b. Give a reason: ventilators are put in the upper part of a wall or above a door. [2]

c. Give a reason: we prefer light-colored clothes in summer. [2]

d. Write any two differences between a sea breeze and a land breeze. [2]

6 Long answers [8]

Write long answers to the following questions.

a. What is convection? Write any three of its uses in daily life. [4]

b. What is the greenhouse effect? Write any three points about its importance. [4]



[4]

Solve the following problems. Show your working.

- a. A packet of biscuits gives 450 kcal of energy. How many joules is this? (1 kcal = 1000 calories, 1 calorie $\approx$ 4.2 J)

Answer:

- b. Light from the Sun takes 8 minutes and 20 seconds to reach the Earth, traveling at 3×10^8 m/s. How far away is the Sun?

Answer:

8 Think

Think, then answer.

On Earth a candle flame is pointed, but on the International Space Station, where nothing floats or sinks, it is a small, round ball. Why?

9 Activity: Which box gets hottest? (Activity 7.6)

(not marked)

Put a white box, a black box and a shiny box, each with a thermometer through its lid, in the sun for half an hour, and fill in the table.

Box	Temperature at the start (°C)	Temperature after 30 minutes (°C)	Rise in temperature (°C)
white			
black			
shiny			

