

4 Fig. 4.1 shows a heater used to warm the air in a room.

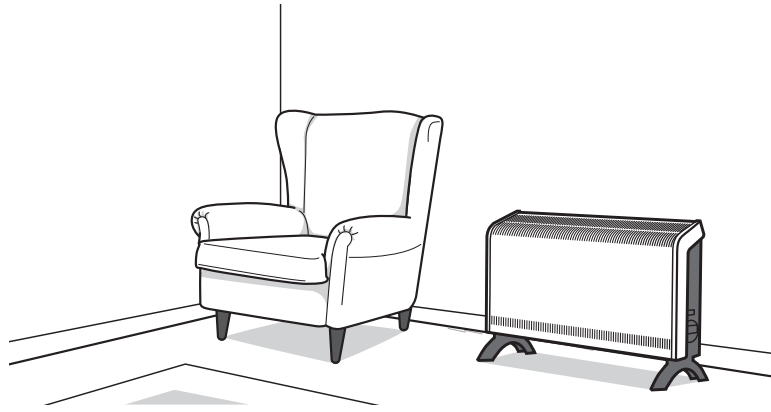


Fig. 4.1

(a) (i) State the main method of thermal energy transfer throughout the air in the room.

..... [1]

(ii) Explain how the heater warms **all** the air in the room.

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..... [3]

(b) The power of the heater is 2.0 kW when it is connected to the mains supply with an e.m.f. of 230 V.

(i) Show that the current in the heater is approximately 8.7 A.

[2]

(ii) The plug connecting the heater to the mains supply is fitted with a fuse.

Fuse ratings of 3 A, 5 A, 10 A and 13 A are available.

State which fuse is used. Explain your answer.

fuse .....

explanation .....  
.....  
..... [2]