

**2** In cold countries, radiators are used to heat buildings.

Radiators are made of metal and have hot water flowing through them.

The diagram shows three radiators that are the same size but painted different colours.



white



black



silver

(a) Explain why radiators are made of metal.

(2)

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(b) Explain which colour is best at radiating thermal energy.

(2)

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(c) A radiator also transfers thermal energy by convection.

(i) Explain how convection heats a room.

You may draw a diagram to help your answer.

(4)

(ii) Suggest how a radiator can be designed to help maximise heat transfer by convection.

(1)

(Total for Question 2 = 9 marks)



P 4 8 0 8 6 A 0 7 3 6