8 A cooling tower is designed to transfer thermal energy away from a power station.

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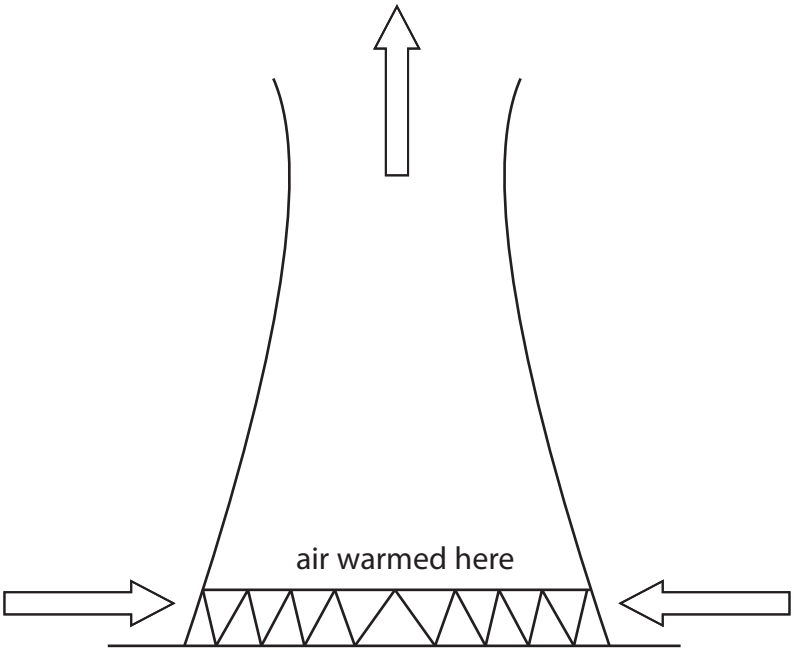
(a) Thermal energy from the power station warms the air inside the cooling tower.

Air enters through holes at the bottom of the cooling tower and leaves through the top.



Explain why the air moves as shown by the arrows.

(4)

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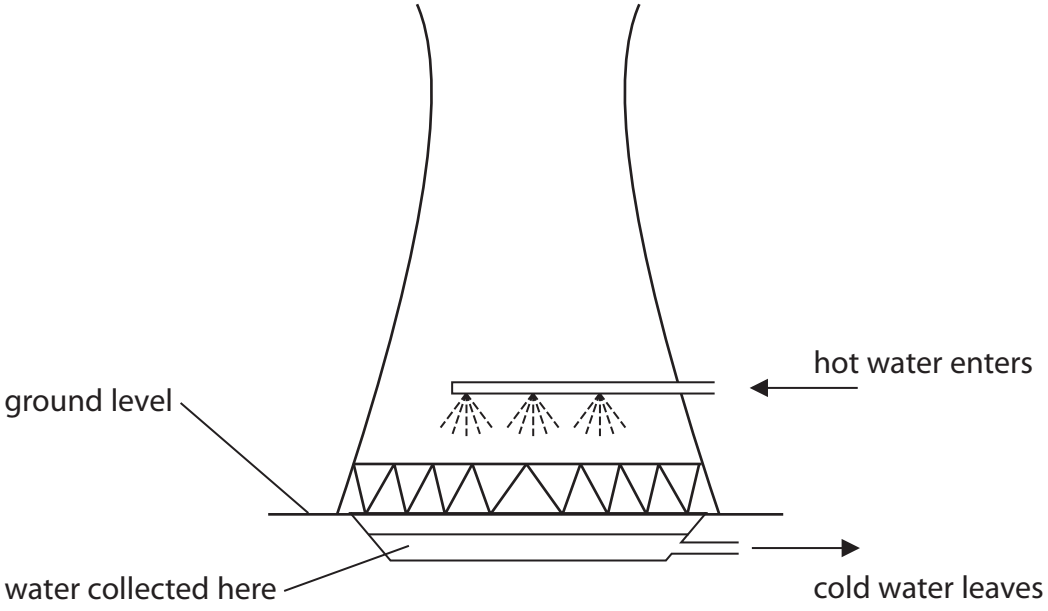
(b) Hot water from the power station is sprayed into the cooling tower, as shown.

As it falls through the air, some of the hot water evaporates.

The rest of the water is collected and returned as cold water to the power station.



Explain how evaporation cools the water.

(3)

(Total for Question 8 = 7 marks)

TOTAL FOR PAPER = 60 MARKS