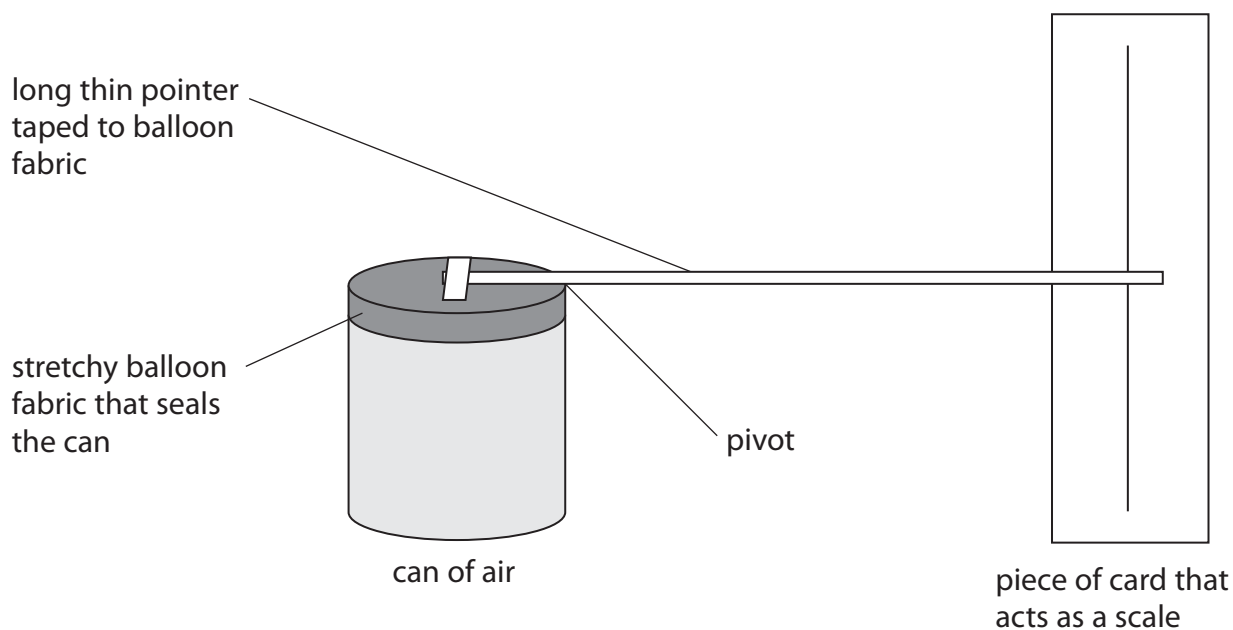**10** Aneroid barometers are used to measure air pressure.

A student makes a model aneroid barometer as shown.

long thin pointer
taped to balloon
fabric

stretchy balloon
fabric that seals
the can

pivot

can of air

piece of card that
acts as a scale

(a) (i) The balloon fabric is attached to the can to stop the air escaping.

Explain how the air inside the can causes a pressure on the balloon fabric.

(3)

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(ii) The balloon fabric is tight and flat.
The pointer is horizontal as shown.

Explain what happens to the different parts of the model when the atmospheric pressure increases. [You may assume that the temperature remains constant.]

(4)

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(iii) Suggest two ways that the model could be altered to increase its sensitivity to changes in atmospheric pressure.

(2)

1 ....

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2 ....

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(b) The student heats the air in her can by placing the can in a water bath.

   (i)   State how this affects the reading shown by the pointer.

   (1)

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   (ii) Explain why this happens.

   (2)

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(Total for Question 10 = 12 marks)