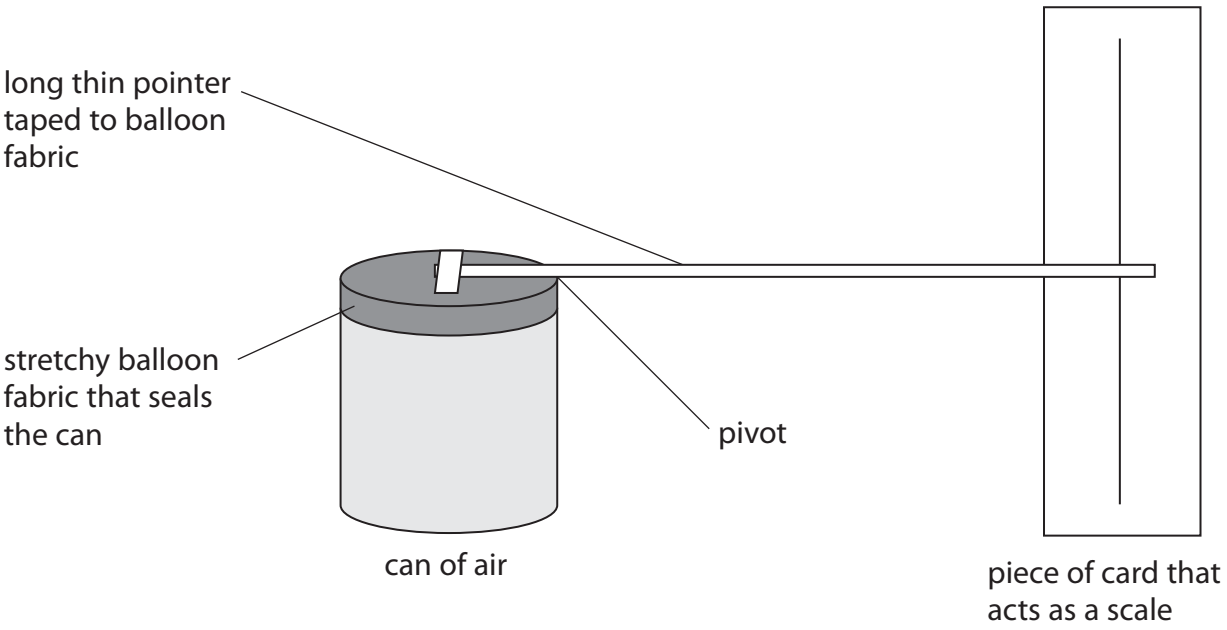
10 Aneroid barometers are used to measure air pressure.

A student makes a model aneroid barometer as shown.



(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)

(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)

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

(2)

1

2

(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)