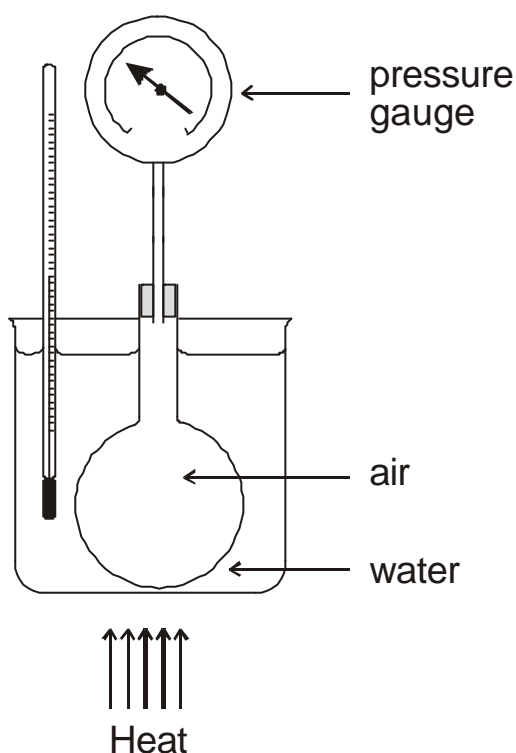


Experiment to verify the “Pressure Law” and find the Absolute Zero of Temperature

- Preparation:**
 - Learn the law.
 - Make sure that you know how to use the kinetic theory to explain why the pressure of a gas increases with temperature.
- Using the apparatus shown below, measure the pressure of the air in the flask for as wide a range of temperatures as possible.



- To obtain a wide range of temperatures, start by adding ice to the water. Explain why you should keep the temperature of the water constant for a few minutes before taking each result.
- Analysis of the results.

EITHER

Plot a graph of pressure against temperature using a temperature scale which will allow you to extrapolate below 0°C to find an estimate for the absolute zero of temperature

OR (better)

Plot a graph of pressure against temperature using the biggest scales possible. Draw the best fit line and measure its slope.

The equation of the line has the form $y = ax + b$, and you are trying to find the value of x which makes $y = 0$.

Using the slope and the co-ordinates of any point *on the best fit line*, calculate a value for the constant, b . When b is known, the value of absolute zero can be found.

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