

SCIENCE KNOWLEDGE
ORGANISER Year 9 Gas Pressure

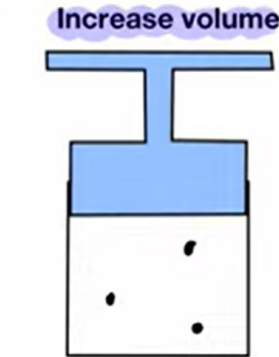
Key term	Definition
Pressure	The force applied per unit area. The formula for calculating pressure is: pressure = force / area.
Boyle's Law	For a fixed mass of a gas at a constant temperature the pressure is inversely proportional to the volume.
Internal Energy	The total kinetic and potential energy of all of the particles that make up a system.

Specific Heat Capacity	The amount of energy required to raise the temperature of 1kg of a substance by 1°C.
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Specific Latent Heat of Fusion	The amount of energy required to change the state of 1kg, with no change of temperature, from a solid to a liquid or a liquid to a solid.
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QR Code/link to revision

Pressure in Gases

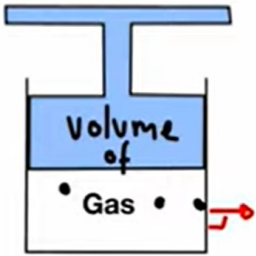


Larger distance between molecules.

More distance for molecules to travel
→ less force

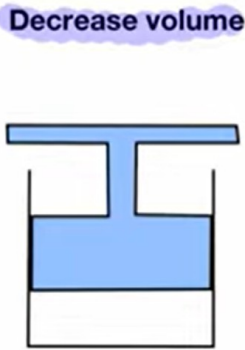
Less collisions per given area.

Lower pressure



Pressure ← per area

- Caused by molecules impacting the walls.
- Net force at right angles to the surface



Less distance between molecules.

Less distance for molecules to travel

More collisions per given area.

Higher pressure

Increasing Pressure in Gases HIGHER

→ work is done...

Slow compression - no change in temperature

→ increase in temp.

Rapid compression

- Work is done on the gas, by a force
→ energy transferred →
- Internal energy increases

→ Average kinetic energy of the particles increases (increase in temperature)

