

OCR (B) Physics GCSE

Topic 6.2 - How does the particle model
explain the effects of heating?

Flashcards

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What is conserved during a change of state?



What is conserved during a change of state?

Mass



What type of change is a change of state?



What type of change is a change of state?

A physical change (chemical properties are retained).



What is pressure?



What is pressure?

Pressure is the force exerted on a surface per unit area.



How is pressure exerted by gases on a container?



How is pressure exerted by gases on a container?

- Particles are in constant random motion.
- Particles collide with the walls and experience a change in momentum.
- The rate of change of momentum = force exerted.
- Pressure is force per unit area.



Give the equation for pressure



Give the equation for pressure

$$\text{pressure (Pa)} = \text{force (N)} \div \text{area (m}^2\text{)}$$



Describe the movement of particles in a
solid vs. gas



Describe the movement of particles in a solid vs. gas

In a solid, particles vibrate about fixed positions but remain in contact with each other.

In a gas, particles move freely in random directions.



How does heating affect gas pressure?



How does heating affect gas pressure?

It increases pressure, as particles have more kinetic energy so collide more frequently with the container.

