CIE Physics GCSE

Topic 2.1 - Simple Kinetic Molecular Model of Matter

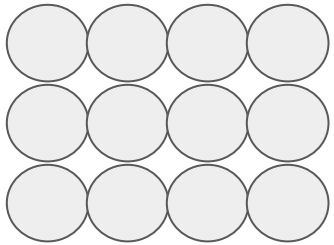
Flashcards

Describe the particle arrangement of a solid.

Describe the particle arrangement of a solid.

Tightly packed in a regular arrangement.

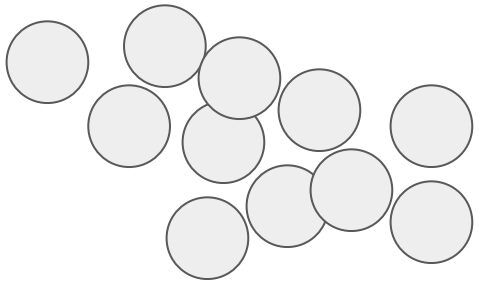
Particles cannot move, but vibrate on the spot.



Describe the particle arrangement of a liquid.

Describe the particle arrangement of a liquid.

Close together, but irregular arrangement. They can flow past each other.

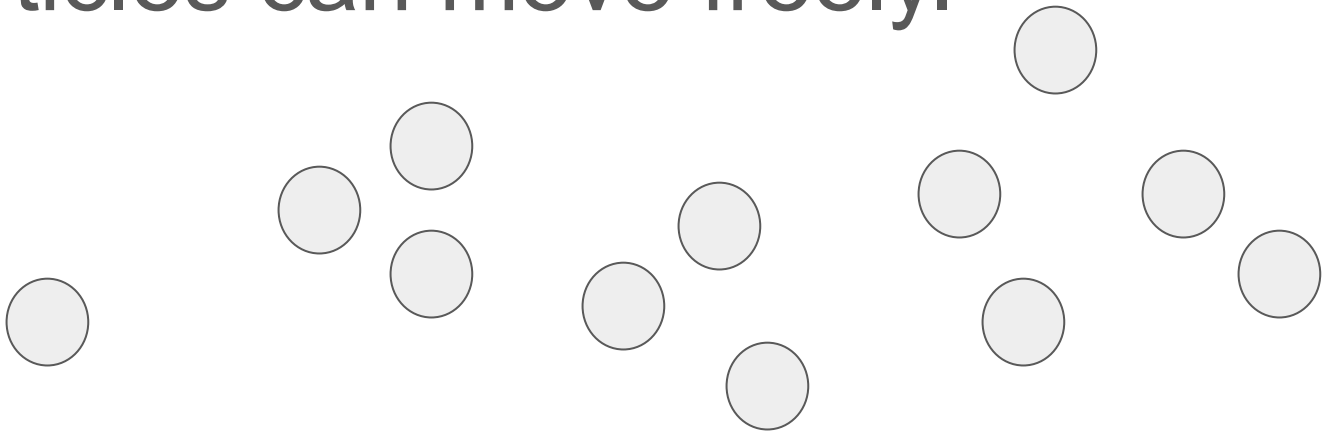


Describe the particle arrangement of a gas.

Describe the particle arrangement of a gas.

Separated, with no regular arrangement.

Particles can move freely.



How does density compare in solids, liquids and gases?

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Solids are the most dense, then liquids, then gases

How does temperature affect the motion of particles?

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As temperature increases, particles have more kinetic energy, so vibrate/move more.

What is Brownian motion?

What is Brownian motion?

The constant and random movement of particles in a fluid, resulting from collisions between the particles.

What is evaporation?

What is evaporation?

The escape of higher-energy particles from the surface of a liquid to form a gas.

What happens when gases cool?

What happens when gases cool?

They lose energy and condense back into a liquid.

What happens if the volume of a fluid is decreased?

What happens if the volume of a fluid is decreased?

The pressure increases (if temperature is constant).

What happens if the temperature of a gas is increased? (at a constant volume)

What happens if the temperature of a gas is increased? (at a constant volume)

The pressure will increase.

Give an equation relating pressure and volume at a constant temperature (supplement)

Give an equation relating pressure and volume at a constant temperature (supplement)

$$pV = \text{constant}$$

Where…

p = pressure, Pa

V = volume, m^3