

The Particle Model of Matter

Central concept: **Particle Model of Matter**

Connections

- Particle Model of Matter (includes) -> Basic Ideas
- Basic Ideas (describes) -> Solids
- Basic Ideas (describes) -> Liquids
- Basic Ideas (describes) -> Gases
- Particle Model of Matter (involves) -> Attractive Forces
- Attractive Forces (strongest in) -> Solids
- Attractive Forces (weakest in) -> Gases
- Particle Model of Matter (explains) -> Physical Properties
- Physical Properties (includes) -> Mass
- Physical Properties (includes) -> Volume
- Physical Properties (includes) -> Density
- Physical Properties (includes) -> Compressibility
- Mass (compares to volume) -> Density
- Volume (compares to mass) -> Density
- Particle Model of Matter (investigated by) -> Investigation Skills
- Investigation Skills (measures) -> Mass
- Investigation Skills (measures) -> Volume
- Investigation Skills (compares) -> Density

Notes

- **Particle Model of Matter:** Explains the behaviour of particles in matter. [Understanding](#), [PDF p.1](#)
- **Basic Ideas:** All matter is made of small particles that are always moving and have spaces between them. [Knowledge](#), [PDF p.1](#)
- **Solids:** Particles are close together and vibrate in place. [Knowledge](#), [Resource](#)
- **Liquids:** Particles have spaces and can slide past each other. [Knowledge](#), [Resource](#)
- **Gases:** Particles have large spaces and move in all directions. [Knowledge](#), [Resource](#)
- **Attractive Forces:** Strongest in solids, weakest in gases.
- **Physical Properties:** Include state, mass, volume, density, and compressibility. [Knowledge](#), [Understanding](#)
- **Mass:** Amount of matter, measured in grams and kilograms. [Knowledge](#), [Skills](#)
- **Volume:** Amount of space matter takes up, measured in millilitres and litres. [Knowledge](#), [Skills](#)
- **Density:** Compares mass to volume; objects that are less dense than a fluid will float.
- **Compressibility:** Ability of a liquid or gas to reduce in volume under pressure. [Knowledge](#), [Skills](#)
- **Investigation Skills:** Represent solids, liquids, and gases using the particle model of matter; relate particle movement and arrangement to the state of matter.

