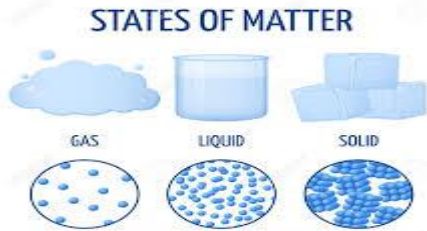


St Mary's C of E Primary School, Writhlington  
'Inspiring Learning Together'  
Scheme of Work + Knowledge Organiser

States of Matter



**National Curriculum Outcomes**

**Pupils should be taught to:**

- Sort materials into solids, liquids and gases
- Explain that heating causes melting and cooling causes freezing
- Identify the melting and freezing point of water
- Describe evaporation and condensation using practical examples
- Describe the effect of temperature on evaporation referring to their investigation
- Identify the stages of the water cycle
- Predict what will happen in an investigation and make observations

GAS: particles far apart and randomly arranged/move around  
LIQUID: particles close but randomly arranged/ move around  
SOLID: particles very close together / vibrate around a fixed position

**The Learning Journey:**

**1) LQ - Can I sort and describe different types of materials?**

Children will explore, compare and group a variety of different materials into solid, liquids or gasses. Materials will include sand foam, rocks, washing up liquid, water, honey, salt, soil and plastic blocks.

**2) LQ - Can I investigate materials as they change state?**

Children to discuss and identify materials that change state when they are heated or cooled. They will measure and research at what temperature this occurs.

**3) LQ - Can I investigate how water evaporates?**

Children will identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

**4) LQ - Can I identify and describe the different stages of the water cycle?**

Children will investigate the part played by evaporation and condensations in the water cycle and associate the rate of evaporation with temperature.

**5) LQ - Can I investigate gasses and explain their properties?**

Children will compare and group materials together by investigating gasses and their uses.

**6) LQ - Can I explore how water changes state?**

Children will investigate how water changes state through experiments and measure at what temperature this happens.

**7) LQ - Can I investigate the properties of a solid material?**

Children will investigate the different types of solid materials and looks at shape, structure and volume.

**8) LQ - Can I explain the behaviour of particles in solids, liquids and gases?**

Children will explore and investigate the behaviour of particles in solids, liquids and aases recordina their findinas.

**Wider Curriculum:** Class Literacy Topic: The Emperors Egg/DT/Maths

**Key Vocabulary:**

**Matter** - Matter is everything around you. There are only three states of matter.

**Solids** - A solid has very close together particles, is rigid and has a fixed shape and fixed volume.

**Liquids** - A liquid has close particles but loosely arranged, is not rigid, has no fixed shape but a fixed volume.

**Gases** - A gas has particles far apart and randomly arranged and that move around, has not fixed shape and no volume.

**Melting** - If ice (solid) is heated, it changes to water (liquid). This change is called melting.

**Boiling** - Water boils at 100 °c

**Evaporation** - Water (liquid) can change to water vapour (gas). This is called evaporation

**Water Vapour** - When a liquid water evaporates it changed to water vapour (gas).

**Condensation** - When water vapour (gas) cools it changes to condensation (liquid).

**Water Cycle** - The continual cycle of water around the world

**Run Off** - Water that runs from high places to low places due to gravity