

Year 4 Spring 1- Changing state- Is water always a liquid?

Key Vocabulary

<p>Solids</p> 	<p>These are materials that keep their shape unless a force is applied to them. They can be hard, soft or even squashy. Solids take up the same amount of space no matter what has happened to them.</p>
<p>Liquids</p> 	<p>Liquids take the shape of their container. They can change shape but do not change the amount of space they take up. They can flow or be poured.</p>
<p>Gases</p> 	<p>Gases can spread out to completely fill the container or room they are in. They do not have any fixed shape but they do have a mass</p>
<p>States of matter</p> 	<p>Materials can be one of three states: solids, liquids or gases. Some materials can change from one state to another and back again</p>
<p>Melt</p> 	<p>This is when a solid changes to a liquid.</p>
<p>Freeze</p> 	<p>Liquid turns to a solid during the freezing process.</p>
<p>Evaporate</p> 	<p>Turn a liquid into a gas</p>
<p>Condense</p> 	<p>Turn a gas into a liquid.</p>
<p>Precipitation</p> 	<p>Liquid or solid particles that fall from a cloud as rain, sleet, hail or snow.</p>
<p>Water cycle</p> 	<p>The continuous journey of water from oceans and lakes, to clouds, to rain, to streams, to rivers and back into the ocean again.</p>

Prior knowledge

In Year 2, during the topic ' Uses of Materials' and 'Changing shape' we:

- Identified and compared the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper, and cardboard for particular uses
- Found out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching

Properties of Materials

 <p>wood: hard, stiff, strong, opaque, can be carved into any shape.</p>	 <p>glass: waterproof, transparent, hard, smooth.</p>
 <p>plastic: waterproof, strong, can be made to be flexible or stiff, smooth or rough.</p>	 <p>metal: strong, hard, easy to wash.</p>
 <p>paper: lightweight, flexible.</p>	 <p>cardboard: strong, light, stiff.</p>
 <p>fabric: soft, flexible, hard-wearing, can be stretchy, warm, absorbent.</p>	 <p>rubber: hard-wearing, elastic, flexible, strong.</p>

Knowledge and Assessment

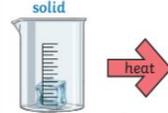
- Compare and group materials together, according to whether they are solids, liquids or gases.
- Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C).
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Sticky Knowledge

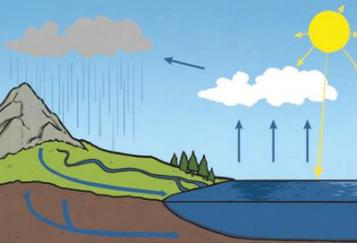
There are three states of matter.

<p>Solid</p> 	<p>Liquid</p> 	<p>Gas</p> 
<p>Particles in a solid are close together and cannot move. They can only vibrate.</p>	<p>Particles in a liquid are close together but can move around each other easily.</p>	<p>Particles in a gas are spread out and can move around very quickly in all directions.</p>

When water and other **liquids** reach a certain temperature, they change state into a **solid** or a **gas**. The temperatures that these changes happen at are called the boiling, **melting** or **freezing** point.

<p>solid</p> 	<p>liquid</p> 
<p>If a solid is heated to its melting point, it melts and changes to a liquid. This is because the particles start to move faster and faster until they are able to move over and around each other.</p>	<p>When freezing occurs, the particles in the liquid begin to slow down as they get colder and colder. They can then only move gently on the spot, giving them a solid structure.</p>

<p>Evaporation</p> 	<p>Condensation</p> 
<p>Evaporation occurs when water turns into water vapour. This happens very quickly when the water is hot, like in a kettle, but it can also happen slowly, like a puddle evaporating in the warm air.</p>	<p>Condensation is when water vapour is cooled down and turns into water. You can see this when droplets of water form on a window. The water vapour in the air cools when it touches the cold surface.</p>



1. Water from lakes, puddles, rivers and seas is **evaporated** by the sun's heat, turning it into **water vapour**.
2. This **water vapour** rises, then cools down to form water droplets in clouds (**condensation**).
3. When the droplets get too heavy, they fall back to the earth as rain, sleet, hail or snow (**precipitation**).

Tudors: Were the Tudors really terrible?

Subject Specific Vocabulary

Heir	A person who will inherit the throne when the current King or Queen dies.
Monarch	A person who rules over a place, usually a King or Queen
Reign	To rule over a country as a monarch.
Throne	The position of a King or Queen.
The Age of Exploration	A time when European nations began exploring the world. This was from the 1400s to the 1600s.
Bias	The act of supporting or opposing a person or thing in an unfair way.
Ruffs	An item of clothing worn around your neck.
Breeches	An item of clothing covering the body from the waist down
Doublet	A doublet is a man's snug fitting jacket that is shaped and fitted to the man's body.



Sticky Knowledge about the Tudors

- Henry VII was the first Tudor Monarch after defeating Richard III at the Battle of Bosworth Field in 1485.
- The Tudor Rose was designed to signify the uniting of the Houses of Lancaster and York.
- Henry VIII was married six times. Their names were; Catherine of Aragon, Anne Boleyn, Jane Seymour, Anne of Cleves, Catherine Howard and Catherine Parr.
- Tudor clothing was lavish. Wealthy Tudors' clothes would be decorated with gold and jewels.
- Food was also seen as a sign of wealth.
- Water was not safe to drink so people, including children would drink a weak ale.
- Elizabeth I never had any children, the Tudor era ended with her death in 1603.



Prior knowledge

I have learnt about the life of Elizabeth I.

I know that the English navy defeated the Spanish Armada.

I have learnt about the history of Britain from the Stone Age to the Norman invasion.

This period of time started 419 years after the Norman invasion.

This period ended 63 years before the Great Fire of London.

This period ended 2 years before the Gunpowder plot.

