
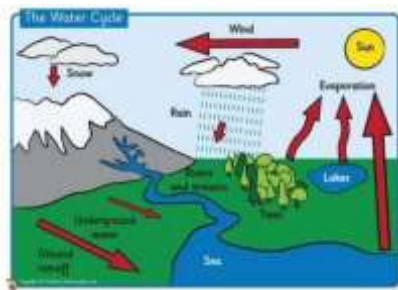


- Materials can either be a solid, liquid or gas.
  - Solids retain their shape and can be held. Sometimes solids can behave like liquids if they are made up of lots of small parts, for example sand or sugar. However, these are still solids as the individual grains of each retain their shapes.
  - Liquids take on the shape of the container they are in and can be poured.
  - Gases are often invisible. They spread out to fill the space or container they are in.
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- The diagram illustrates the three states of matter. On the left, a stack of blue ice cubes is labeled 'SOLID'. In the center, a blue liquid is shown in a flask and a beaker, labeled 'LIQUID'. On the right, a cloud-like shape is labeled 'GAS'. Each state is represented by a circular inset showing the arrangement of particles: a regular grid for solid, random close packing for liquid, and widely spaced random distribution for gas.



## Did you know?

- Solids can become liquids through heating; this process is called melting.
- Liquids can become gases through heating; this process is called evaporation.
- Gases can become liquids through cooling; this process is called condensation.
- Liquids can become solids through cooling; this process is called solidification or freezing.
- Water freezes at 0 degrees and boils at 100 degrees.



## Working Scientifically Skills



- asking questions
- making predictions
- setting up tests
- observing and measuring
- recording data
- interpreting and communicating results
- evaluating

Children will persist in developing the above working scientifically skills throughout our sessions. In each lesson, a particular skill will be the focal point as they engage in their investigations. Our emphasis will be on demonstrating and modelling so that the children develop these skills further, for example interpret data and communicate results effectively.

**Exciting books / web links:**

States of matter - KS2 Science - BBC Bitesize

<https://youtu.be/02gBuige7ql>


## States of Matter • ABCya!



**Key words:**

heating	transferring thermal energy from something of a higher temperature to a lower temperature object.
cooling	causing an object to decrease in temperature.
melting	this is when a solid changes to a liquid.
melting point	the point a solid changes to a liquid.
boiling	the action of bringing a liquid to the temperature at which it bubbles.
boiling point	the point where the liquid turns to vapour.
condensation	when a gas turns into a liquid.
freezing	liquid turns to a solid during the freezing process.
evaporation	when a liquid turns into a gas.
temperature	the degree of heat present in a substance or object.

Parents as partners:
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- Test different materials to see which would make the best insulator to slow down the melting of an ice cube.
  - Melt some chocolate and watch it change from a solid to a liquid when heated and back to a solid when cooled.
  - Investigate which type of chocolate melts fastest, or look at the speed at which other solids melt.
  - Observe a puddle over time, explain why the puddle disappears.
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- A photograph showing a stainless steel pot on a black stovetop. Inside the pot, a thick, dark brown liquid, presumably melted chocolate, is being stirred with a yellow silicone spatula. The chocolate has a glossy, smooth texture. The pot has two handles, and the background is slightly blurred, focusing attention on the cooking process.

