



### Key Vocabulary

|                  |                                                                            |
|------------------|----------------------------------------------------------------------------|
| <b>solid</b>     | A material whose particles are closely packed together and have low energy |
| <b>liquid</b>    | A material whose particles have gaps between them and moderate energy      |
| <b>gas</b>       | A material that does not have a shape and fills a space                    |
| <b>particles</b> | An extremely tiny piece of matter                                          |
| <b>melt</b>      | The process to turn a solid into a liquid                                  |
| <b>freeze</b>    | The process to turn a liquid into a solid                                  |

### Key Facts

- Solids have particles that are close together. They don't like to move around a lot. An example of a solid is wood.
- Liquids have little gaps between and move around a little. An example of a liquid is water.
- A gas has big gaps between particles and moves around a lot. An example of a gas is smoke.
- Heating a solid can turn it into a liquid e.g. ice into water. Cooling a gas can turn it into a liquid e.g. steam into water.
- The water cycle is how water works around the earth. Bodies of water evaporate into the air, which condense into clouds, which rains into bodies of water.

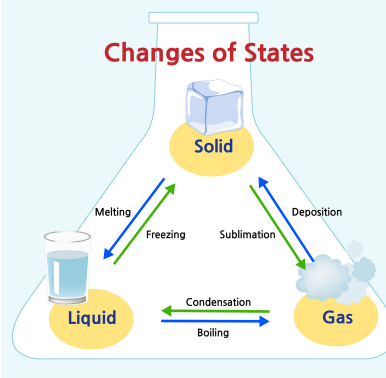
### Key Questions

- What are the properties of solids, liquids and gases?
- What does heating do to a solid or liquid?
- What does cooling do to a liquid or gas?
- What is the water cycle?
- What is evaporation?
- What is condensation?

### Links to other Learning

- Year 2 - Everyday Materials  
*Find out how the shapes of solid objects can be changed*
- Year 5 - Properties and changes of materials  
*Use knowledge of solids, liquids and gases to decide how mixtures might be separated*
- Geography  
*Describe key aspects of the water cycle*

#### Changes of States



A diagram explaining how states of matter can be changed

### Famous Scientist

**Antoine Lavoiser**  
1743-1794

Antoine Lavoiser was a French chemist who is most noted for his discovery that water is made from oxygen and hydrogen. His research disproved Aristotle's ideas of only having 4 elements (earth, air, fire and water)



A diagram explaining the water cycle

