

# 4.1 States of matter



- |   |                   |         |
|---|-------------------|---------|
| • has definite shape, mass and volume                                 | • state of matter | • air   |
| • does not have definite shape, volume or mass                        | • gas             | • water |
| • does not have definite shape but does have definite mass and volume |                   | • solid |
|   |                   | • ice   |

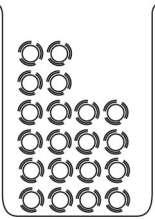
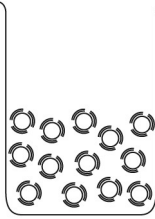
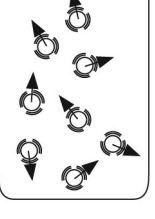
1 Use the information above to complete the table below.  
Think of two more examples of your own to complete the last row.

<b>Item</b>		liquid	
<b>Class</b>	state of matter		state of matter
<b>Features</b>			
<b>Examples</b>			

2 Now in your workbook, write the information from the table into sentences. Follow this pattern:  
A (the item) is a (class) which (features); for example (3 examples).

## 4.2 The particle model

All matter is made up of **particles** (atoms) which are in **constant motion**.

		
<p>In <b>solids</b>, the particles are held together by very strong bonds, so they don't move around, only vibrate.</p>	<p>In <b>liquids</b>, the particles are held together by weaker bonds, so the particles can move around more easily.</p>	<p>In <b>gases</b>, the particles can move around very freely with much space in between each particle.</p>

- When heat is **added** to a substance, the particles **move faster**.  
When heat is **lost** from a substance, the particles **move slower**.
- The motion of the particles **increases** when the temperature **increases**.  
The motion of the particles **decreases** when the temperature **decreases**.

1 Match the sentence halves by drawing a line between them.

- |  |                                       |
|--|---------------------------------------|
| a The particles of matter are              | • the particles move slower.          |
| b The particles of a substance move faster | • held together by very strong bonds. |
| c The particles of a solid are             | • their temperature increases.        |
| d When the motion of particles increases   | • called atoms.                       |
| e All matter is made up of particles       | • are able to move around freely.     |
| f The particles of matter in a gas         | • held together by weak bonds.        |
| g When a substance loses heat              | • in constant motion.                 |
| h The atoms of a liquid are                | • when they are heated.               |

2 Now in your workbook rewrite each sentence you joined.