

STATES OF MATTER**KEY STAGE(S):** 2-3**SUBJECT(S):** Science**TOPIC:** Solids, liquids and gases**LANGUAGE LEVEL:** New to English - Developing competence**RESOURCE CONTENTS**

- A set of worksheets and a PowerPoint presentation that provides the answers to the exercises

CURRICULUM OBJECTIVES

- To learn the properties of the different states of matter (solid, liquid and gas) in terms of the particle model
- To learn the correct vocabulary to describe changes of state

Language functions**Useful Language****Describing**

- Simple present tense
- When ..., it ...
- You can/cannot + verb

Instructing

- Put the ...

Vocabulary

- Prepositions: up, down, left, right, top, middle, bottom, above, below, next to, between
- Specific words for states of matter: gas, liquid, solid, freeze, evaporate, condense, melt, particle, bonds, vibrate

PREPARATION**You will need:**

- A copy of all pages in either the colour or black and white version for each learner
- Scissors and glue for each learner
- Coloured pencils if colour copies are not available
- A projector if you are going to use the PowerPoint to give the answers

IDEAS FOR USING THE RESOURCE**This resource could be used:**

- As differentiation within class
- With the whole class

What to do

- Give each learner a set of instructions (page 2 of the document) and the table (page 4) along with some scissors. Learners should be encouraged to work independently or with a partner. They may need to be taught some words like *cut* if they are at the very early stages of learning English, but they should be able to follow the instructions with the help of the visual glossary on page 3. Only give out glue when you are happy they have produced the correct diagram. The answers can be checked using the PowerPoint provided.
- The first activity and the table to complete with translated words is a way of introducing new vocabulary and using the learners' first language ability. The following activity matching diagrams to the phrases uses visuals to illustrate the differences between solids, liquids and gases.
- The final two activities allow pupils to write descriptions of the different states of matter by using substitution tables and unscrambling mixed up sentences. By this stage they should be confident using new vocabulary. These two activities are a way of ensuring that learners are using the correct structures in their writing.

Other ideas for making the best use of this resource

- It may be more useful to spread the work out over more than one lesson so that learners can do the final two tasks later as a form of revision or reinforcement.

POSSIBLE EXTENSION ACTIVITIES

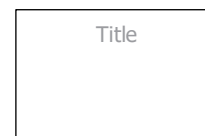
- Learners could produce their own descriptions of a solid, liquid or gas and read it out to the class for others to guess. This would be a good way of consolidating the knowledge from the previous activities as well as checking if they have learnt the correct sentence structures.

States of matter

You are going to look at the differences between solids, liquids and gases.

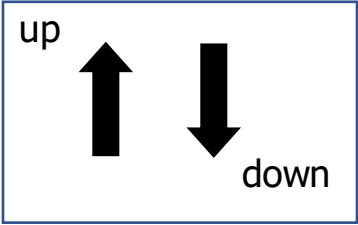
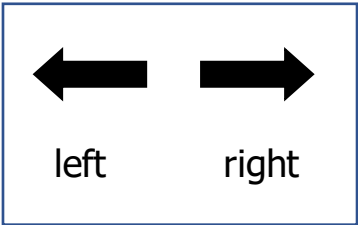
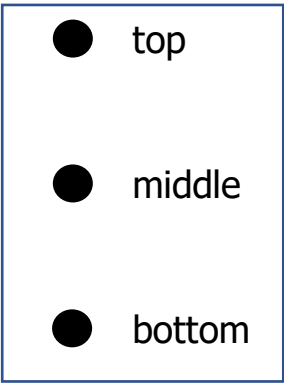
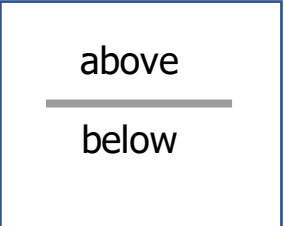
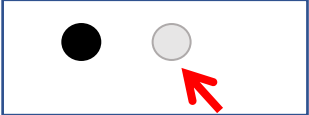

First, you need a diagram. You will need scissors, glue and a piece of paper. Follow the instructions below.

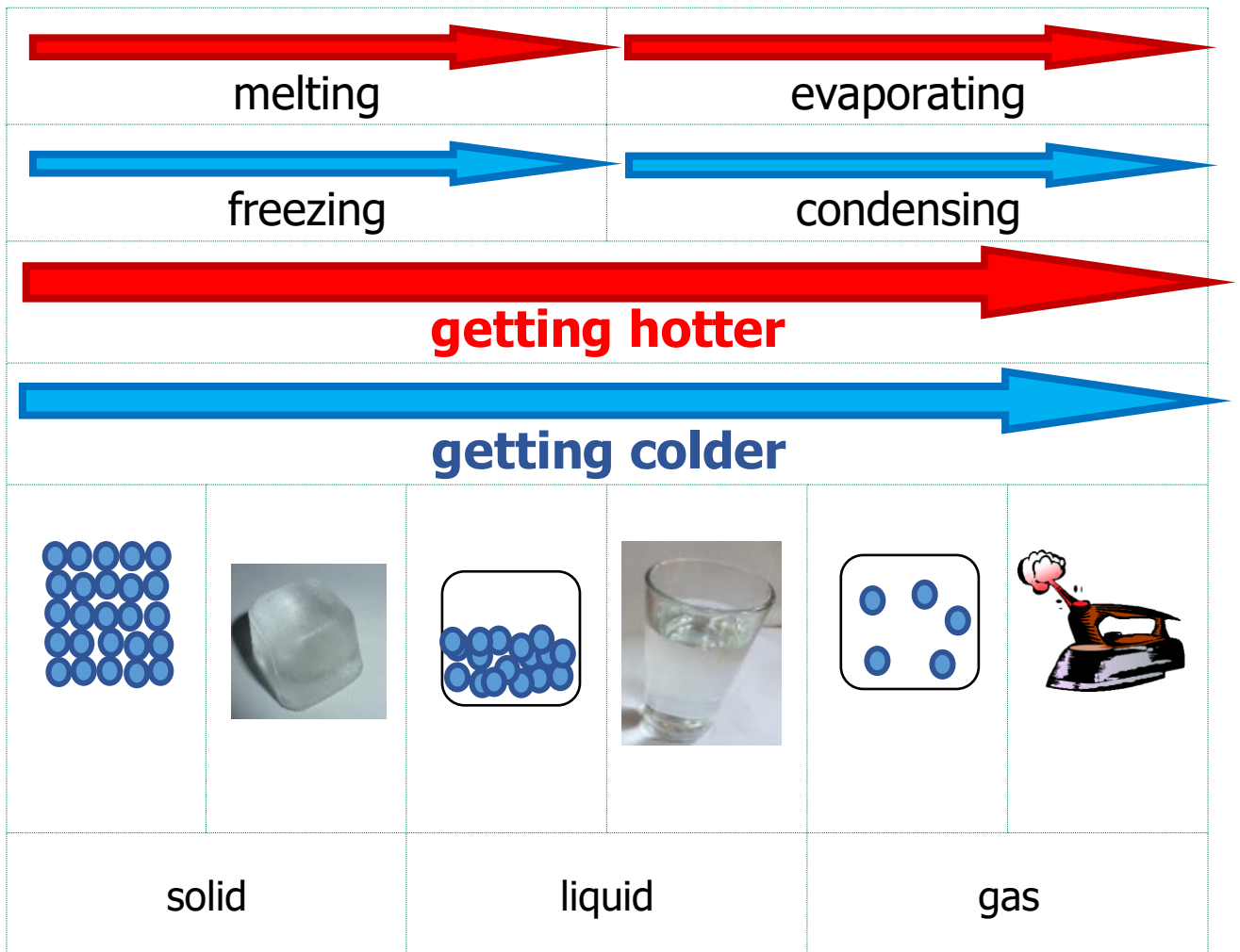
1. Cut out the title.
2. Put it at the top of the paper and glue it to the paper, keeping the paper with the long side at the top like this:



3. Cut out the pictures of the solid, liquid and gas.
4. Put the solid at the bottom of the paper, the liquid in the middle and the gas at the top.
5. Cut out the two arrows saying **getting hotter** and **getting colder**.
6. Put the arrow saying **getting hotter** on the left of the paper. It must point up.
7. Put the arrow saying **getting colder** on the right of the paper. It must point down.
8. Now cut out the last four arrows. Put the arrow saying **melting** between the **getting hotter** arrow and the pictures of the solid and the liquid. It needs to point up.
9. Put the arrow saying **evaporating** above the **melting** arrow next to the liquid and the gas. It also needs to point up.
10. Put the **condensing** arrow between the **getting colder** arrow and the pictures of the solid and liquid. It needs to point down.
11. Finally, put the **freezing** arrow below the **condensing** arrow, next to the liquid and the gas.
12. Now, check with your teacher that you have put the pieces in the right place before you glue them to the paper.

Glossary

Word	Picture	Translation
up		
down		
left		
right		
top		
middle		
bottom		
above		
below		
next to		
between		



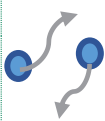



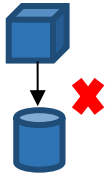

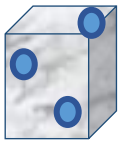
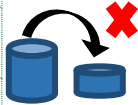




Translate these words into your first language and write notes about what they mean:

	Translation or explanation
bonds	
to change	
container	
to fill	
to flow	
freely	
molecule	
to move	
particle	
to pour	
regular pattern	
shape	
to squash	
tightly packed	
vibrate	
widely spaced	

How are the particles different in a solid, a liquid and a gas?




Match the picture to the phrase.

Solid					
The particles in a solid are tightly packed and in a regular pattern.	4	1	2	3	
They vibrate and are held together with strong bonds.					
The solid cannot change shape.					
You cannot squash a solid.					
Liquid					
The particles in a liquid are not so tightly packed.		4	5	6	
They can move past each other.					
The liquid changes shape to fit its container.		7	8	9	
You cannot squash a liquid.					
Gas					
The particles in a gas are widely spaced.					
They can move freely.		10	11	12	
The gas fills its container.					
You can squash a gas.					

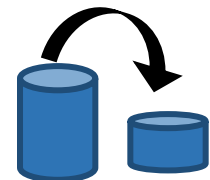
Complete these phrases with solid, liquid or gas:

1. When a melts, it becomes a liquid.
2. When a condenses, it becomes a liquid.
3. When a evaporates, it becomes a gas.
4. When a freezes, it becomes a solid.
5. The molecules move quickly in a
6. The molecules move past each other in a
7. The molecules can only vibrate in a
8. You can pour a and ainto a different container.
9. You cannot change the shape of a
10. A changes shape to fit its container.
11. A fills the container where you put it.
12. You can only squash a
13. The particles are tightly packed in a
14. The particles are not so tightly packed in a
15. The particles are widely spaced in a

Write sentences about the different states of matter using the tables below:

The molecules in a	solid	are	tightly packed		and can	only vibrate.
	liquid		further apart			move past each other.
	gas		widely spaced			move freely.

A solid	can	change shape	and	it	can	be squashed.
A liquid						
A gas	cannot	flow	but		cannot	



Put the words below in the correct order to make sentences about states of matter:

1.

*a becomes .
When it melts a
solid , liquid*

2.

*liquid gas When a , it
a . condenses
becomes*

3.

*gas . liquid When
evaporates a , it a .
becomes*

4.

*becomes a , it When
a solid .
liquid freezes*