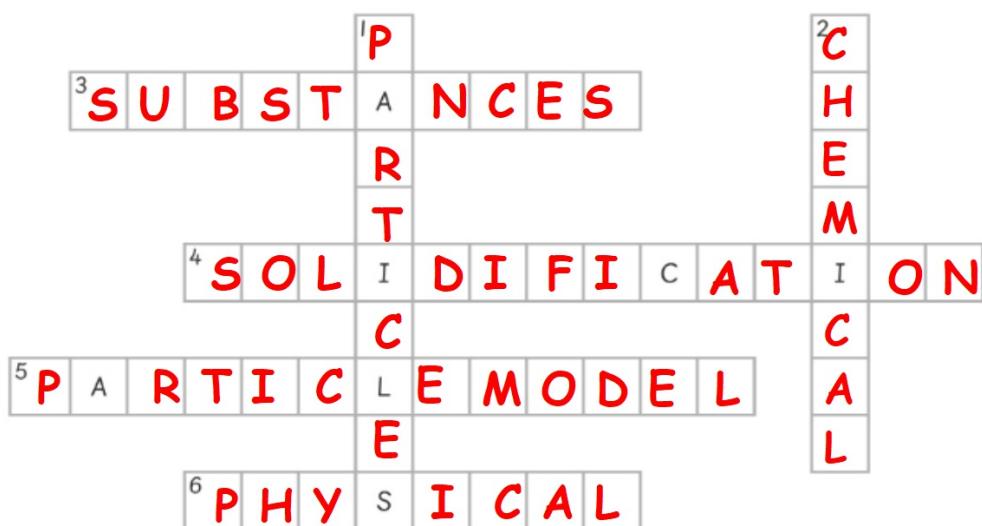


## Word Whizz

Activity Book p.48

Complete the crossword puzzle using the given clues.



## Activity Book p.48

### Down

- 1 The tiny units that make up matter are called particles.
- 2 New substances are formed during chemical reactions.

### Across

- 3 Materials are made of substances.
- 4 **Solidification** takes place when you place water in a freezer.

- 5 The particle model explains the properties of matter and what happens during changes of state.
- 6 Melting is a physical change.

**Activity Book p.49**

## **Let's Map It!**

Fill in the blanks. Use the following words.

chemical	freezing	liquids	material
matter	melting	particles	physical
properties	solids	space	vibrate

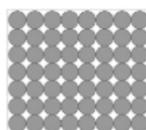
A **material** can be made of one or more substances. Each substance is made of one type of **matter**.

All matter is made up of **particles**. We use the particle model to explain the **properties** of matter.

**solids**

Fixed volume: Particles are packed very closely together.

Fixed shape: Particles only **vibrate** about their positions.



**liquids**

Fixed volume: Particles are packed less closely together, but there is very little **space** between them.

No fixed shape: Particles move around each other.



## Activity Book p.49

During a **chemical** reaction, substances react with each other to form one or more new substances.

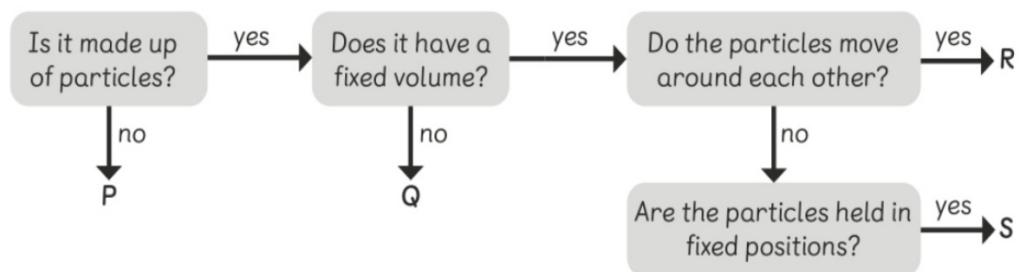
- During **melting**, the particles gain heat and break away from their fixed positions.
- During **freezing**, the particles lose heat and settle into fixed positions.

Changes of state are **physical** changes.

## Let's Review

## Activity Book p.50

I Maria draws a flowchart.



In the table, write the letter P, Q, R or S to identify each substance.

Substance	Letter
Rock	<b>S</b>
Oil	<b>R</b>

## Activity Book p.50

2 Ben pours some apple juice into moulds. He places the moulds in the freezer.



a What state of matter is the apple juice in before it is placed in the freezer?

liquid state

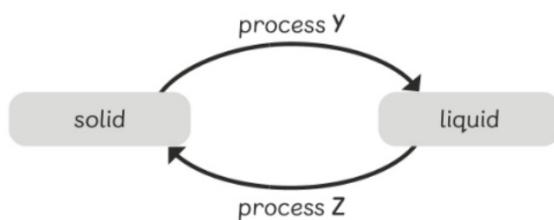
b What will happen to the apple juice after a few hours in the freezer?

Complete the sentence.

The apple juice will change into a solid / freeze / solidify

3 The chart shows some changes of state of matter.

### Activity Book p.51



a Name process Y.

**Melting**

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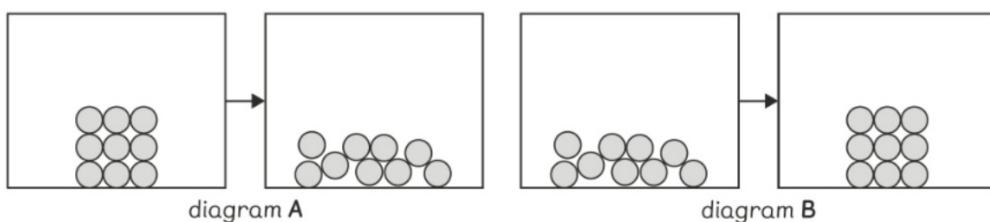
b Name process Z.

**Freezing / Solidification**

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## Activity Book p.51

c The diagrams show the changes of state above.



Which diagram shows the change from a liquid into a solid?

Circle the correct answer.

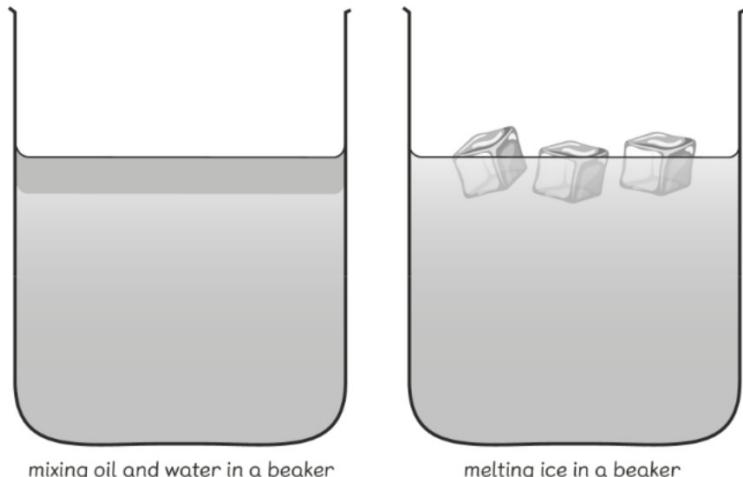
diagram A

diagram B

4 Chen and Ravi carry out an experiment.

### Activity Book p.52

The diagram shows what they observe.



## Activity Book p.52

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Chen says that mixing oil and water is a physical change, but melting ice is a chemical change.

Ravi says that both are physical changes.

Who is correct? Explain your answer.

**Ravi is correct. In both changes, no new substance is formed.**

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