

States of matter

1. The table shows some substances. Select the correct **state of matter** and drag and drop the **property** into the table.

Particles can't move Particles are far apart
~~No fixed volume~~ ~~Can't flow~~
 Particles can move past each other

Substance	State of matter	Property
Juice		
Water vapour		No fixed volume
Ice cube		
Air		
Brick		Can't flow

2. Select the correct answer.

- a. Which list shows the three states of matter?

Solid, water, gas Liquid, steam, solid Solid, liquid, gas Gas, vapour, water

- b. Which state of matter can be compressed easily?

Solid Liquid Liquid and gas Gas

- c. Which state of matter cannot be poured?

Solid Liquid Liquid and gas Gas

- d. Which statement describes a solid?

It has no fixed shape or volume.

It has a fixed shape and a fixed volume.

It has a fixed volume but no fixed shape.

It takes the shape of its container and can be compressed easily.

- e. Which property do liquids have that solids do not have?
- They can flow and be poured.
 - They cannot be compressed easily.
 - They have a fixed volume.
 - They have particles.
- f. Which property is shared by liquids and gases?
- They both have a fixed shape.
 - They can both flow.
 - They both have a fixed volume.
 - They can both be compressed easily.
- g. Which property is unique to gases?
- They take the shape of their container.
 - They can flow.
 - They have particles.
 - They have no fixed volume.
- h. A substance takes the shape of its container but keeps the same volume. What is its state?
- | | | | |
|-------|-----|--------|---------------|
| Solid | Gas | Liquid | Solid and gas |
|-------|-----|--------|---------------|
- i. A substance fills the entire container in which it is placed. Which state is it most likely to be?
- | | | | |
|-------|-----|--------|---------------|
| Solid | Gas | Liquid | Solid and gas |
|-------|-----|--------|---------------|
- j. Which statement about solids, liquids and gases is correct?
- Solids and liquids can both be compressed
 - Only gases can flow.
 - Solids and gases both have a fixed shape.
 - Liquids and gases can both flow.

3. Match each term with the correct description.

Hypothesis

Something you notice or discover.

Question

A well-supported explanation based on lots of evidence.

Theory

Something you want to find out.

Observation

A testable prediction about what might happen.

4. A student notices that a chocolate bar melts faster in sunlight than in the shade. The student then thinks about why this happens and develops an idea to explain it.

Drag each statement into the correct box:

Observation	Question	Hypothesis	Theory
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The chocolate bar melts faster in sunlight than in the shade.

Matter is made of tiny particles that are always moving.

Why does the chocolate melt faster in sunlight?

The chocolate melts faster because sunlight heats it more.

5. Read each statement and decide whether it is True (T) or False (F).

a. A scientific theory is supported by lots of evidence.

☐

b. Particles in a solid are completely still.

☐

c. Particles in a liquid can move past one another.

☐

d. Liquids have a fixed shape.

☐

e. Scientists use evidence to support or reject a hypothesis.

☐

6. Select the correct answer from the dropdown menu.

A scientist makes an _____ when they notice something happening. They may then ask a scientific _____ and make a _____, which is a testable prediction. After carrying out an investigation, they collect _____ to help answer the question. A well-supported scientific explanation is called a _____.

Matter exists in three common states: _____, _____ and _____. All matter is made of tiny _____. When a solid is heated and changes into a liquid, this process is called _____. When a liquid changes into a gas, it can be called _____. When a gas changes back into a liquid, it is called _____.