



## Properties of solids, liquids and gases

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1 Materials are... (Tick 1 correct answer)

- used to make curtains, clothes and bedding.
- the substances that objects are made of.
- used only for building.

2 Which of the following are not materials? (Tick 2 correct answers)



- plastic
- pencil
- wood
- table

3 Which of the following are materials? (Tick 2 correct answers)

- air
- toy
- wood
- book



4 Match the material to the property. (Write the correct letter in each box)



|   |                |
|---|----------------|
| a | wood           |
| b | modelling clay |

|   |                    |
|---|--------------------|
| b | can be squashed    |
| a | cannot be squashed |

5 What is snow? (Tick 1 correct answer)

- frozen milk
- frozen fabric
- frozen cotton wool
- frozen water

6 Which of the following can be poured? (Tick 2 correct answers)

- milk
- orange juice
- stone slabs
- wooden planks



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### Task A: Solids, liquids and gases

You have three balloons: one contains solid water (ice), one contains liquid water and one contains gas (air).

Use the balloons and these questions to help you describe the properties of solids, liquids and gases.

1. Which balloons could you change the shape of?

*We pressed onto each balloon and squashed them with our hands.*

*We could change the shape of the balloons containing the gas and the liquid, but not the solid.*

2. Use scissors to cut the knot off each balloon then try to empty the contents of each one into a bowl. What happens?

*When we tried to empty the balloons into a bowl:*

- *the solid did not flow into the bowl and the ice stayed the same shape*
- *the liquid flowed into the bowl and changed shape to take the shape of the bottom of the bowl*
- *we couldn't see the gas but we know it escaped out into the room because the balloon was no longer inflated.*

## Task B: The properties of solids, liquids and gases

Look at the statements below and decide whether they apply to materials in the solid, liquid or gas state. Some might apply to more than one state.

- no fixed shape or volume – *gas*
- cannot be poured – *solid*
- can be poured easily – *liquid*
- takes the shape of the bottom of their container – *liquid*
- fills any sealed container that they are in – *gas*
- keeps their shape unless a force changes it – *solid*
- fixed volume – *solid and liquid*
- fills the container they are in – *gas*



## Properties of solids, liquids and gases

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- 1 Substances can exist as different states of matter. (Fill in the blank)
- 2 Which of the following are different states of matter that substances can exist as? (Tick 3 correct answers)
- solid
  - gas
  - air
  - liquid
  - smoke
- 3 Solids, liquids and gases have different \_\_\_\_\_. (Tick 1 correct answer)
- products
  - properties
  - proportions
- 4 Materials in which state can be poured easily and take the shape of the bottom of container that they are in? (Tick 1 correct answer)
- solid
  - liquid
  - gas
- 5 Materials in which state keep their shape (unless a force changes it) and do not flow? (Tick 1 correct answer)
- gas
  - solid
  - liquid



6 Which state of matter is often invisible to the human eye, can escape from an unsealed container and has no fixed shape or volume? (Tick **1** correct answer)

solid

liquid

gas

