

States of matter



SOLIDS: Listen and fill the blanks

A wood block is _____. A solid has a certain _____ and _____.

Solids are _____.

Wood blocks do not change size or shape. Other examples of solids are the computers, desks and the floor. Water can be _____ too. You know that when we freeze water it becomes _____ which is solid.

Can water be a _____ too? What should we do to transform liquid water into gas?

- Solids stay in one place and can be held.
- Solids keep their _____. They do not flow like _____.
- Solids always take up the _____ amount of space. They do not spread out like gases.
- Solids can be cut or shaped.
- Even though they can be poured, sugar, salt and flour are all solids. Each particle of salt, for example, keeps the same shape and _____.
- Heating certain _____ will cause them to turn into liquids.
- Cooling certain _____ will cause them to turn into solids.



LIQUIDS: Listen and complete the chart

Milk is a liquid. It has size, or volume. Volume means it takes up space. But milk doesn't have a definite shape. It takes the shape of its container.

- Liquids can flow or be poured easily. They are not easy to **hold**.
- Liquids change their shape depending on the container they are in.
- Even when liquids change their shape, they always take up the same amount of space. Their volume stays the same.
- Heating liquids will cause them to turn into a gas.
- Cooling liquids will cause them to turn into a solid.
- Heating solids will cause them to turn into a liquid.
- Cooling gases will cause them to turn into a liquid.

Liquids	Yes	No
Flow		
Can be poured		
Change shape		
Change volume		
Heating them will cause them to turn into a solid		
Cooling them will cause them to turn into a gas		



GASES: Listen and read it aloud

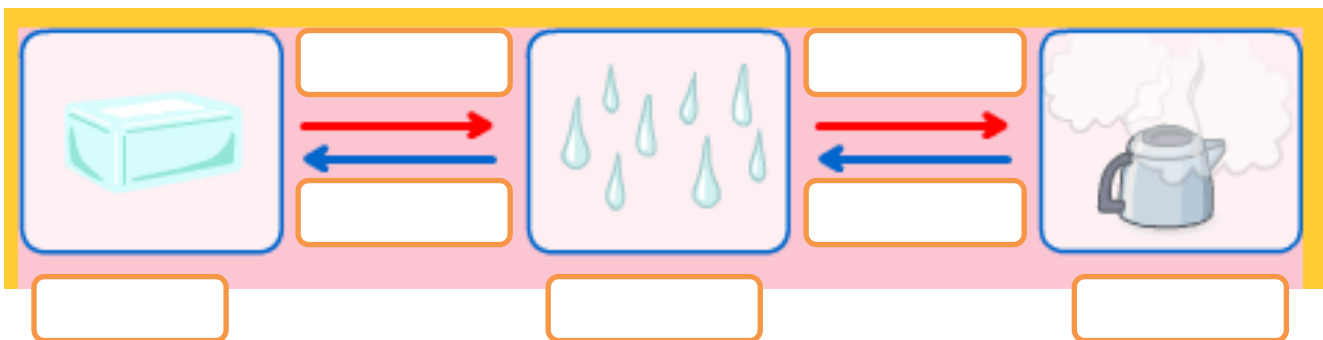
If you run very fast for one minute you will notice how hard you're breathing. What you're breathing is air that contains oxygen. You need oxygen to live. That's why you can only hold your breath for a certain amount of time. You can't see oxygen. It's invisible. It's a gas. A gas is matter that has no shape or size of its own. Gases have no colour.

Gases are all around you. You can feel gas when the wind blows. The wind is moving air.

Air is many gases mixed together. Gas spreads very easily and quickly.

- Gases are often invisible.
- Gases do not keep their shape or always take up the same amount of space. They spread out and change their shape and volume in order to fill up whatever container they are in.
- Gases can be squashed.
- Heating liquids will cause them to turn into a gas.
- Cooling gasses will cause them to turn into a liquid.

CHANGES OF STATE IN WATER



A-MAZING MATTER



While physicist Dr. Thermo Sparks is describing the three states of matter, his pet rat is worrying about his next meal. Here's how you can help him. Color the squares about liquids red, the squares about gases green, and the squares about solids yellow. Then draw a line on the yellow path for Robo Rat to get to the cheese.

LIQUID	SOLID	has a definite size but no definite shape			Water takes this form above 100° C.
has a definite size & shape	GAS	has no definite size or shape		can be poured	
		Water takes this form below 0° C.	takes the shape and size of any container		Things take this form when they freeze.
takes the shape of the container but not the size		Water takes this state between 0° and 100° C.	Water changes to this state above 100° C.		
	Solids take this state when they melt.				Liquids take this state when they evaporate.