



States of matter

There are three basic states of matter: solid, liquid, and gas. Everything on earth is made up of microscopic particles (molecules, atoms), and the speed and density of these particles determine the state of matter of an object. Each state of matter has its own properties.

Solid

A solid is anything that holds a particular size and shape. An orange, a cup, and a tree are all solids. The only way they can change their shape is by force (for instance, if you bite the orange with your teeth or cut the tree with an axe¹).

The particles in a solid are tightly² packed and do not make many movements. There is not much free space in between the particles, so there is very little room for the particles to move.



Liquid

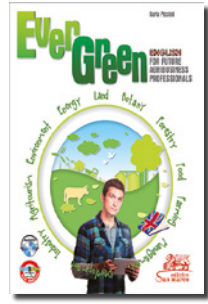
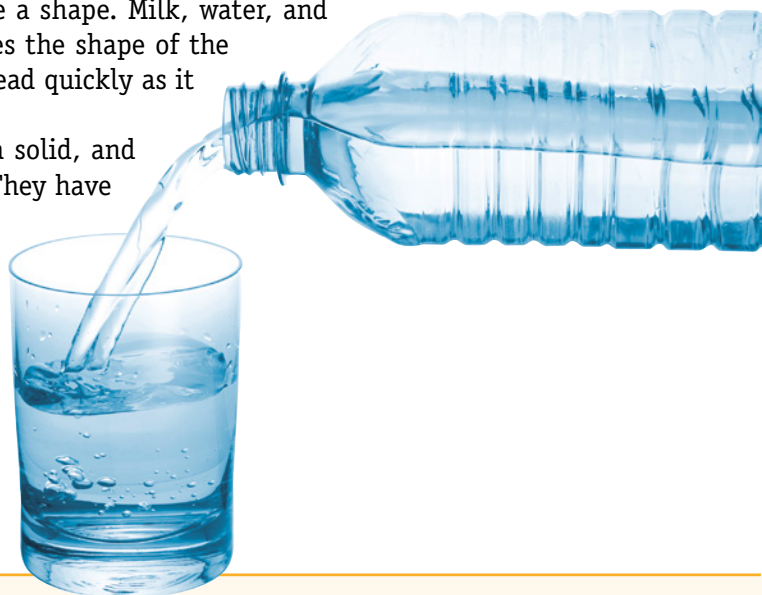
A liquid is anything that has size or volume, but does not have a shape. Liquids must be contained in a cup, bottle, or receptacle³ in order to have a shape. Milk, water, and juice are liquids. When you pour milk into a glass, it takes the shape of the glass. If you spill the glass of milk on the floor, it will spread quickly as it takes the shape of the floor.

Liquid particles are not as close together as particles in a solid, and they move around and past each other much more freely. They have no regular shape or arrangement⁴ and move freely.

Gas

Gases have no colour or shape. When you breathe, your lungs⁵ fill up with air, and air is a combination of many gases. It has no shape or size.

The particles in a gas move freely at high speeds. There is a lot of free space in between the particles, and they take the shape of any container.



GLOSSARY

- 1** a bladed tool used for cutting wood
- 2** firmly
- 3** container
- 4** organisation
- 5** the main organ of our respiratory system

ACTIVITIES

1 Answer the following questions.

- 1 What are the main states of matter?
- 2 What does each of those states depend on?
- 3 Give some examples of a solid state.
- 4 Give some examples of a liquid state.
- 5 Give some examples of a gaseous state.