

# MATERIAL WORLD

## Unit 1 – Solid, liquid, gas

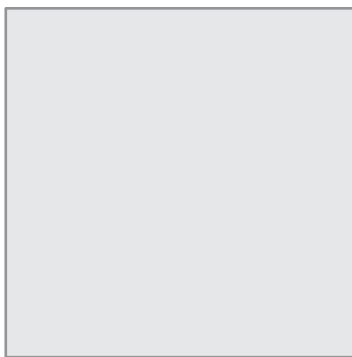
### *Three kinds of matter*

Everything in the world around you is either a solid, a liquid, or a gas. These are called the three kinds of matter.

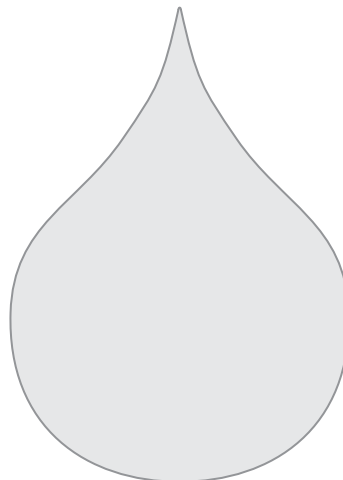
- **Solids** are things that readily keep their shape. They are usually rigid, but some solids can be squashed. Solid objects can be made of metal, wood and plastic. Solids can sometimes change into liquids. Solid ice can change into liquid water.
- **Liquids** move around more freely than solids. They have no fixed shape, but can flow into almost any shape. Water and oil are liquids.
- **Gases** move even more freely than liquids. They float around everywhere. You can't usually see or feel gases. Air is a mixture of several gases, such as oxygen.

### Matter hunt

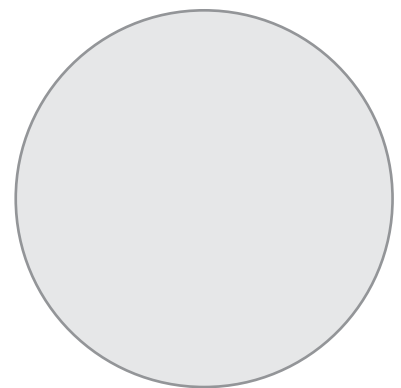
Search for solids, liquids and gases in your kitchen. They may be food, utensils, machines or furniture. List 15 solid objects, 10 liquids and 3 gases. Gases are harder to find – look for things with air bubbles, spray cans, cooking gas, and so on.



**SOLID**



**LIQUID**



**GAS**

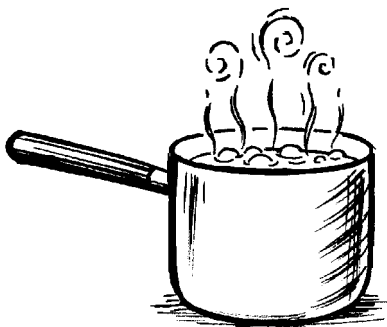
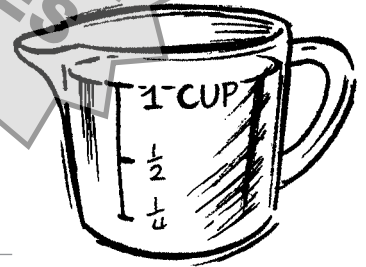
## Changes in water

When water freezes, it becomes ice. When water boils, it changes into a very hot gas. This invisible gas can be seen immediately above the spout of an electric kettle. When the gas hits the cold air, it turns into tiny water droplets called steam.

### Changing water

**Warning: Ask an adult to help you heat the water.**

1. Measure out a cup of water and pour it all into an ice-cube tray. Freeze the water. Remove the ice-cubes and place them in a pot. Wait for them to melt. Measure the amount of melted water. Is there still about a cupful of water?

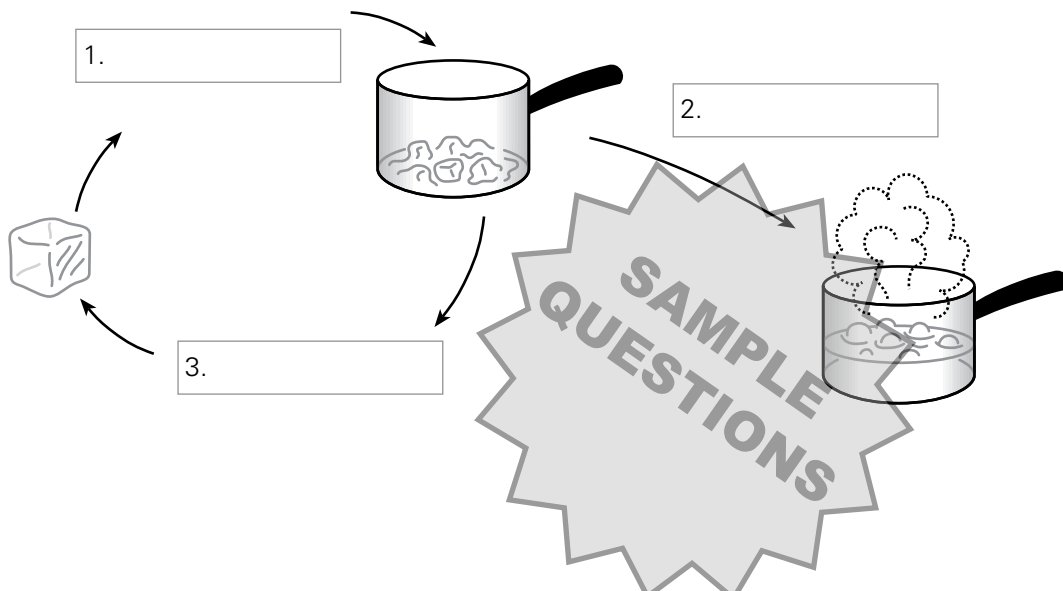


2. Now pour the water into the pot again. Heat the water until it boils. Keep boiling it until the water is all gone from the pot.

What did the boiling water change into?

When water goes from the pot into the air, this is called evaporating.

Write these words – Melting, Freezing, Evaporating – in the correct places on the diagram:



# ANSWERS

## PLANET EARTH AND BEYOND

### Unit 1 – Exploring space

#### Name the planets, p. 1

Planets in order: Mercury, Venus, Earth, Mars, asteroid belt, Jupiter, Saturn, Uranus, Neptune, Pluto.

#### True or False? p. 2

1. False.
2. True.
3. False.
4. False.
5. False.



#### Animals in space, p. 3

Order is: Laika, Gordo, Hector, honey bees, quail.

#### Technology, p. 4

Heated space suit → To keep the astronaut warm

Moon vehicle with large wheels → To drive over rocks and dust

Tanks of air → To help the astronaut breathe

Suits made of strong material → To protect the astronaut's body

Powered backpack → To control movements

### Unit 2 – Day and night

#### Number cruncher, p. 5

1. 150 million kilometres.
2. 1 year.
3. 1 day.
4. 8 minutes.

**Day or night? p. 5**

1. Sun.
2. Earth.
3. Daytime.
4. Night-time.
5. Light ray.



**Unit 3 – Planet Earth**

**The Earth, p. 8**

1. Crust.
2. Mantle.
3. Outer core.
4. Inner core.

**The world's continents, p. 9**

1. Asia.
2. North America.
3. Africa.
4. Australia.
5. South America.

**Shaping the Earth, p. 10**

1. carve
2. wind
3. cools
4. flood plains
5. rivers
6. glaciers