

Health Activity 1



Copy master A

We use water for lots of things.

We all need water to live.

Two thirds of our body is made of water.

We use water:

- To cool us down, as we sweat
- To keep us clean
- To drink
- For play and for sport
- For energy (hydroelectric power stations)
- To wash with
- To cook with



To do

Think of what you did yesterday, and how many times you used water. Write down a list of what you used water for.



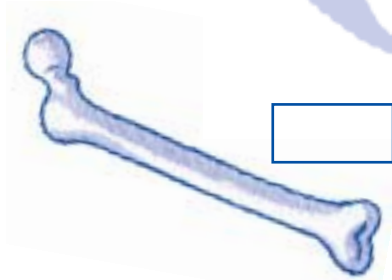
Health Activity 1



Copy master B



$\frac{2}{3}$ of us is water



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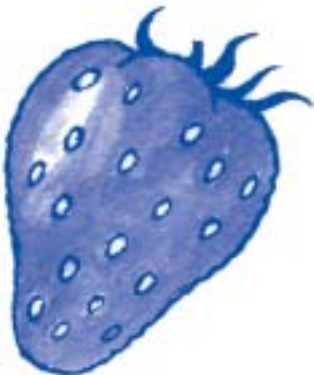
$\frac{1}{4}$ of bone is water



$\frac{3}{4}$ of your brain is water



$\frac{1}{10}$ of your blood is water



$\frac{1}{10}$ of a strawberry is water



$\frac{1}{10}$ of a carrot is water

Health Activity 2



Copy master A



Plants use water to make food in their leaves.

Water leaves a plant through its leaves.

When water evaporates from a leaf, it cools the leaf down.



Water is used to give a plant support. If it does not have enough water it will wilt.

Plants get their water from the soil, through their roots.

Water makes up $\frac{2}{3}$ of our bodies.

Water cools us down when we sweat.

We use water to help us get rid of waste and harmful substances when we go to the toilet.

We use water to help us move things around our body.

When plants live in dry places they sometimes store water in their stems and leaves.

To do

Find out the names of animals that live in places where there is very little water.

Health Activity 2



Copy master B



 Shiny, waxy leaves	Dull leaves
Large leaves	Small leaves
Stems with spines	Smooth stems
Small plant	Big plant
One big root	Lots of branching roots
Fat stem	Thin stem

Choose one of each pair of features of a plant to design a desert plant. Draw your plant, and write down why you chose the features you did.

Health Activity 3



Copy master A

As so much of our body is made of water, we need to make sure that we drink enough to keep the balance right.

We take water in:

as drinks (about 1.8 litres in a day)

and in food. All food contains water.



Steak 60% water, fruit 90% water, biscuit 5% water

A small amount of water is produced in our bodies as we use up food to give us energy.

We lose water:

each time we breathe out

when we get hot and sweat

when we go to the toilet

To do

Look at your drinks diary. How much do you drink a day?

Try to explain:

why we need to drink more when we do a lot of exercise

why we might go to the toilet more when it is cold weather.



Health Activity 3



Copy master B

My drinks diary

Name

Write down what you drink each day for a week.

	What I drank
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

Health Activity 4



Copy master A

Water is found in three states – ice (a solid), water (a liquid) and water vapour (a gas).



Changes of state

Water, like everything else, is made of little molecules. These are too small to see. When water is very cold (below 0°C), the molecules have very little heat energy, so they stick together as a **solid**.

When the molecules get warmer, they get more energy and they start moving around a bit more. They become a **liquid** and can be poured, as the molecules can move around each other.

When the molecules get even warmer, they have enough energy to move away from the other molecules, and so they can travel through the air. The warmer they get, the faster they move and they travel upwards. They become a **gas**.

When water changes from a solid to a liquid, it **melts**.

When water changes from a liquid to a solid, it **freezes**.

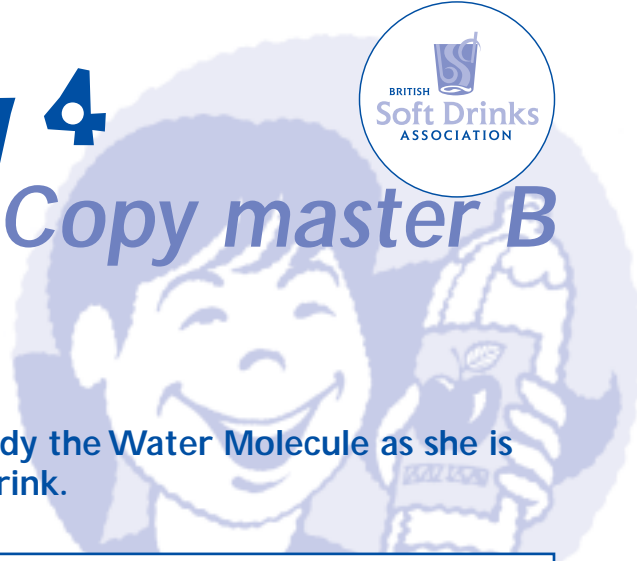
When water changes from a liquid to a gas, it **evaporates**.

When water changes from a gas to a liquid, it **condenses**.

Health Activity 4



Copy master B



Draw a cartoon strip about what happens to Wendy the Water Molecule as she is frozen into an ice cube and then gets put into a drink.

Try to use these words

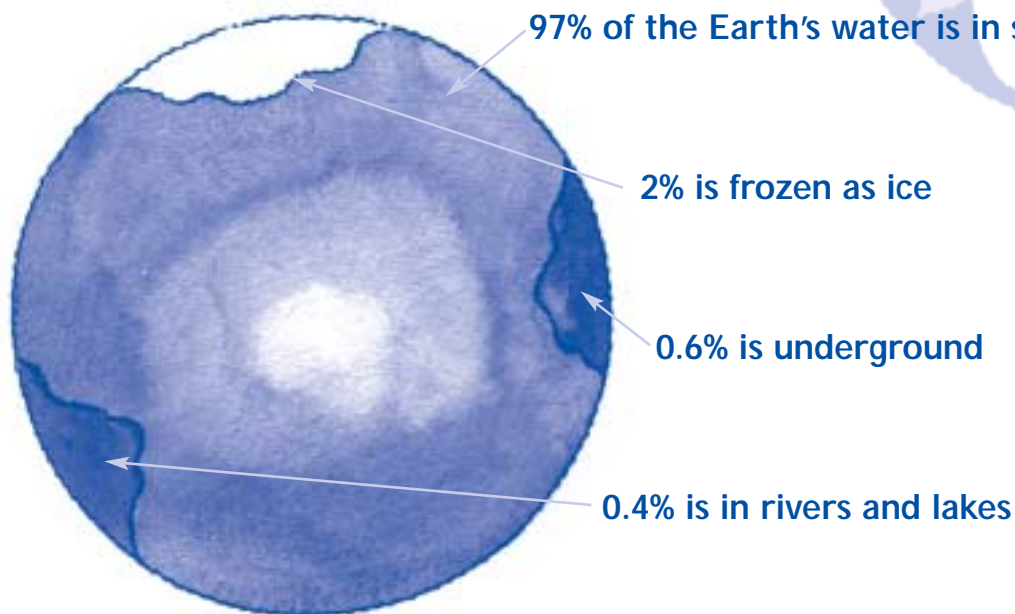
evaporate melt hot warm cold

Health Activity 5



Copy master A

70% of the earth is covered in water.



The water cycle

In the water cycle water never disappears. It changes state between being a solid, a liquid and a gas in the cycle.

Water is evaporated from seas, rivers and lakes using energy from the sun.

The water vapour rises into the sky.

The water vapour is carried by winds and air currents.

When the water vapour cools down (often over land), it condenses into a liquid as water droplets.

The water droplets fall as rain.

The rain runs into rivers, lakes and streams. Some of it drains into underground water supplies.

We get our drinking water from the underground supplies (aquifers), rivers, lakes and reservoirs.

Health Activity 5



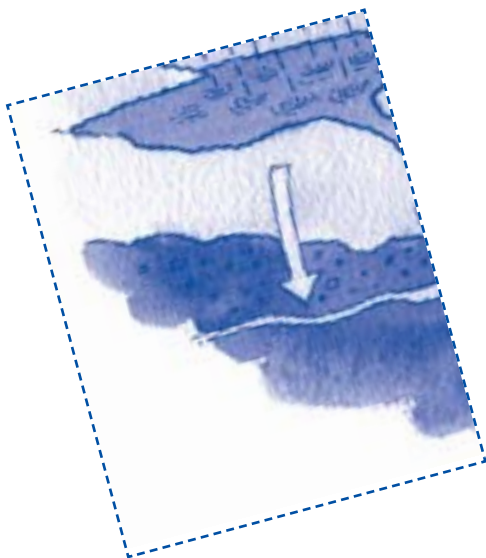
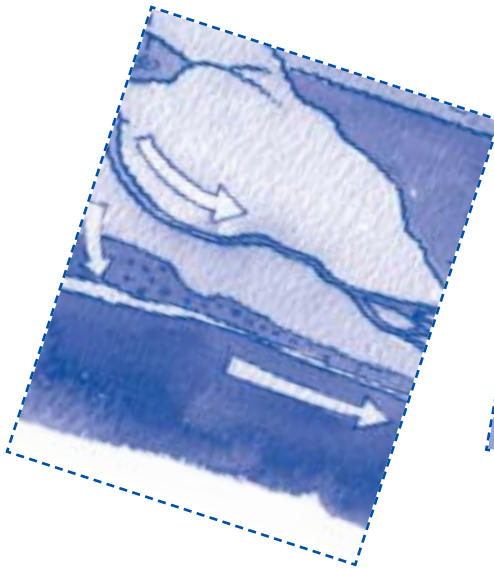
Copy master B

Cut out the puzzle pieces carefully and fit them together.

Stick the finished puzzle onto a piece of plain paper.

Copy out the words below onto the correct place on the picture.

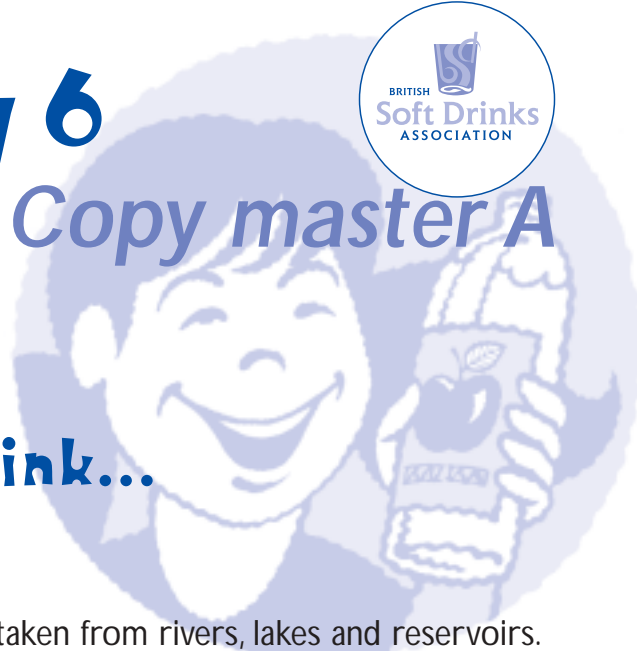
sun clouds rain rivers sea evaporation condensation



Health Activity 6

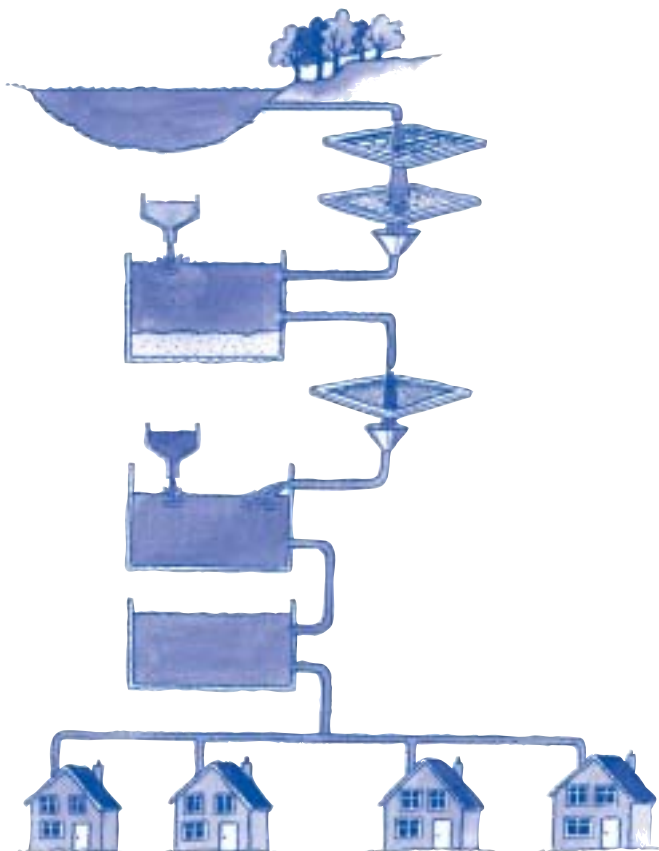


Copy master A



Before water is safe to drink...

it must be treated at a water treatment works.



Water is taken from rivers, lakes and reservoirs.

The water goes through a screen to remove big objects like twigs.

Then it goes through a filter which takes out small objects.

A chemical is added that makes tiny particles stick together to form larger, heavier ones.

The particles settle out in a tank.

Water is piped through a very fine filter that takes out nasty tastes and smells.

Chemicals are added to kill any germs.

The water goes to tanks to be stored.

It is carried in pipes to our homes.

To do

Water is treated to:

- Make it safe to drink
- Remove solid particles
- Make it nice to drink

Underline, in red, the parts of the process that make it safe to drink.

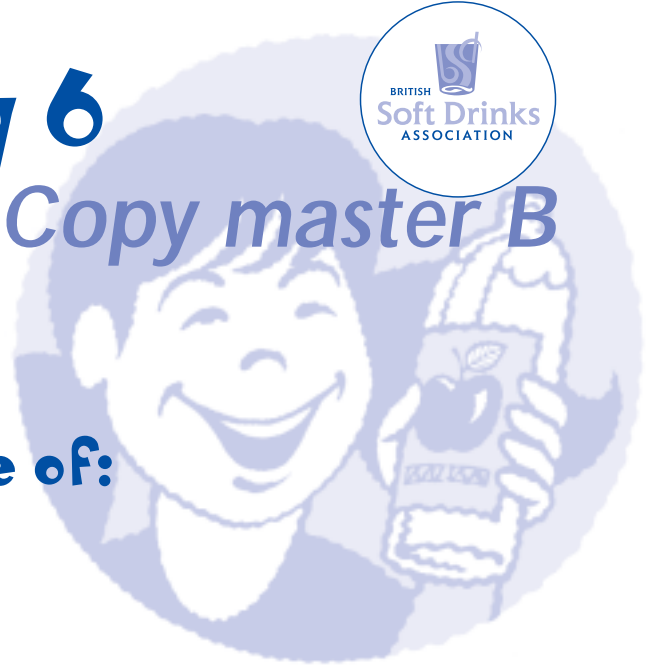
Underline, in yellow, where solid bits are taken out.

Underline, in blue, where the water is made nice to drink.

Health Activity 6



Copy master B



You will be given a mixture of:

water
stones
sand
salt

Your job is to try to get as much as possible of each material out of the mixture.

In your teams, decide what you are going to do.

Write down a list of what you think you will need. Show it to your teacher.

Plan your experiment.

Write down what you are going to do.

Health Activity 7



Copy master A

All labels must have:

- The name of drink
- A list of ingredients, this must be in order, with the main ingredient first.
- The amount of drink the packaging contains
- The name of the company
- A 'Best before' date. This shows how long the drink should be kept. On drinks containers, this could be on the bottle top, or on the bottom of the can
- Storage instructions. Some drinks need to be kept in the fridge, to prevent them from spoiling



Sometimes the additives are listed as E-numbers

E100 – 199 are food colours

E200 – 299 are preservatives to make the drink last longer

To do

Collect a soft drink label or package. Read the information carefully.

Stick the label onto a piece of paper.

Your job is to make up five questions about the label as a quiz for somebody else.

Write out your questions carefully. Write down your answers on the back of the piece of paper.

Swap your questions with another person.

Many soft drinks contain:

- Water
- Sugar or a sweetener
- An acid to make it taste tangy and to keep it from going bad
- A flavouring to give the drink its taste
- Carbon dioxide, which is the gas that is added to make the drink fizzy

Health Activity 7



Copy master B

Your team's job...

is to find out what is in drinks – apart from water.

You should filter the drink to see if there is anything in it that is not dissolved. You should try to evaporate the water from the drink to see what is left. You must make it a fair experiment.

You can use:

5 saucers
fruit juice
smoothie
carbonated drink
carbonated diet drink
tap water
filter funnel
filter paper
measuring jug

Write down what you are going to do.

Read the labels from the drinks.

From this information, write down what you think you will find.

Write down what you found out.

Health Activity 8



Copy master A



Drinks often have nutritional information labels.

We use energy for everything we do.

Energy is measured in kilojoules (kJ) or kilocalories (kcal).

Carbohydrate is where we get most of our energy from. Carbohydrates are found in starchy foods like bread, rice, pasta and potatoes. Sugary foods are also carbohydrates.

Fats are used to give us some energy and as a way of storing food. They are found in dairy products, butters and oils.

Protein is used for growth and repairing our body. Protein is found in meats, fish, cheese, eggs, nuts and grains.

We need many different vitamins to keep us healthy. This is one reason why we should eat five portions of fruit or vegetables each day. A glass of fruit juice counts as one portion.

It is important to drink enough fluid each day to replace what we use up in daily life.

RDA stands for Recommended Daily Allowance. This is what we should have each day of a food group or nutrient.

Nil means none.

Trace means a very small amount – too small to be measured.

NUTRITIONAL INFORMATION

TYPICAL COMPOSITION

100ml provide

Energy

198kJ/46kcal

Protein

0.5g

Carbohydrate of which sugars

10.4g
10.4g

Fat of which saturates

Nil
Nil

Fibre

Nil

Sodium

Trace

VITAMINS/ MINERALS

Vitamin C

25.0mg (42% RDA)

RDA= recommended daily allowance
This juice contains no added sugar

1 Litre e

Health Activity 9



Copy master B



NUTRITIONAL INFORMATION	
TYPICAL COMPOSITION	100ml provide
Energy	198kJ/46kcal
Protein	0.5g
Carbohydrate of which sugars	10.4g 10.4g
Fat of which saturates	Nil Nil
Fibre	Nil
Sodium	Trace
VITAMINS/ MINERALS	
Vitamin C	25.0mg (42% RDA)

RDA= recommended daily allowance
This juice contains no added sugar

To do

Look at the label and answer these questions.

1 Litre e

1. How many grammes of carbohydrate are in 100ml?
2. How much energy is there in 100 ml?kilojoules
3. Which vitamin is in this drink?
4. How much drink is there in a full carton?.....
5. How many servings of 100ml are there in a carton?.....

Health Activity 9



Copy master A

Some fruit is sweet enough to drink without adding anything. Others need sugar or another sweetener to make them taste nicer. Sweeteners are added to diet drinks instead of sugar so that you get the taste but not as much energy from the drink.

Home-made lemonade

You are going to make lemonade with different amounts of sugar, and then you are going to taste each one to see which you like best.

Your group will need:

- 3 lemons (cut in half)
- tap water
- sugar
- a measuring jug
- 4 plastic drinks cups
- fruit squeezer
- teaspoons
- a tablespoon

1. Make sure that you are working on a clean surface, and that you have washed your hands.
2. Squeeze the juice out of the 6 lemon halves. Make sure all the pips are taken out.
3. Measure 400 ml of water into the measuring jug.
4. Add the lemon juice to the water and stir it with a spoon.
5. Take four cups and label them with the letters A, B, C and D.
6. Put 2 tablespoons of the water and lemon juice mixture into each one.
7. To cup A, add nothing.
To cup B, add 1 teaspoon of sugar and stir until it has all dissolved.
To cup C, add 2 teaspoons of sugar and stir until they have dissolved.
To cup D, add 3 teaspoons of sugar and stir until they have dissolved.

You are now ready to do a taste test.



Health Activity 9



Copy master B



You will need:

the four cups of lemonade made from following Copy master A
a blindfold

1 cup per taster, labelled with the person's name

Blindfold the person who is going to taste the drink.

Carefully pour a little bit of lemonade from one of the cups A, B, C or D into a clean cup. Try to mix up the order, for example, B, D, A then C, so that they do not know which one they are drinking.

Give the cup to the taster. Ask them to describe what they taste.

Give the taster a small amount of the remaining three mixes.

Ask the taster which they prefer.

Now do the same with the rest of your group.

Record your results in the table below by putting a tick in the box of the drink they liked best.



	Names of the tasters				
	1	2	3	4	5
A					
B					
C					
D					

Look at your results. Which one was the most popular?

Was your test fair? What did you do? Could you have done anything else?

Health Activity 10



Copy master A

A lot of care goes into making sure that all your drinks are safe.

Here are some rules to make sure that we keep our drinks and drinking safe.

- Do not leave the caps off bottles. Put the cap back on straight away
- A drink won't taste so good after the 'Best before' date. Never drink anything past its 'Use by' date, if it has one
- Never shake a can or bottle of fizzy drink before you open it
- Always open a can or bottle by hand
- Never point a can or a bottle of fizzy drink at anyone when you open it

- Never refill a container with anything else
- Do not share a drink with anyone else unless it is poured into separate cups
- Do not reuse bottles with sports caps. They are difficult to keep clean and are not suitable for putting in a dishwasher
- Do not walk or run whilst drinking
- Do not leave litter
- Always tell an adult if you break a glass bottle

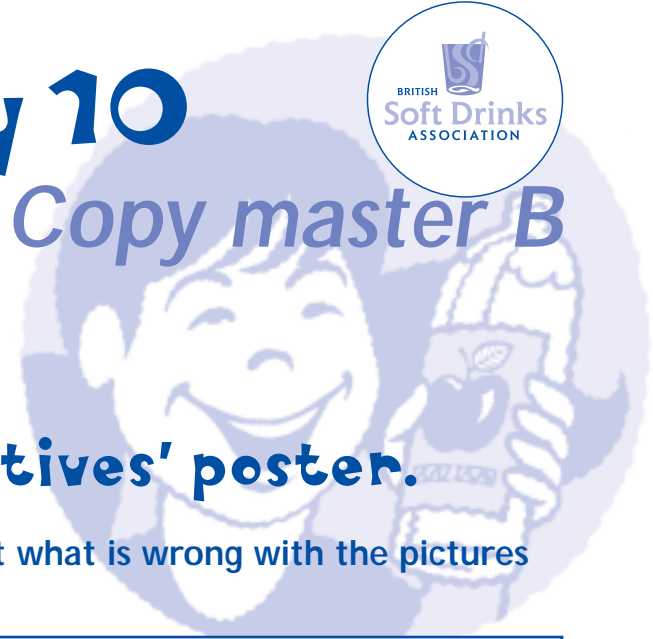
To do

Think of a reason for each of these safety rules.

Health Activity 10



Copy master B



Look at the 'Drinks detectives' poster.

Use the information from the last activity to spot what is wrong with the pictures on the poster.

	What is happening in the picture?	What is wrong?
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		