

Exploring Water!

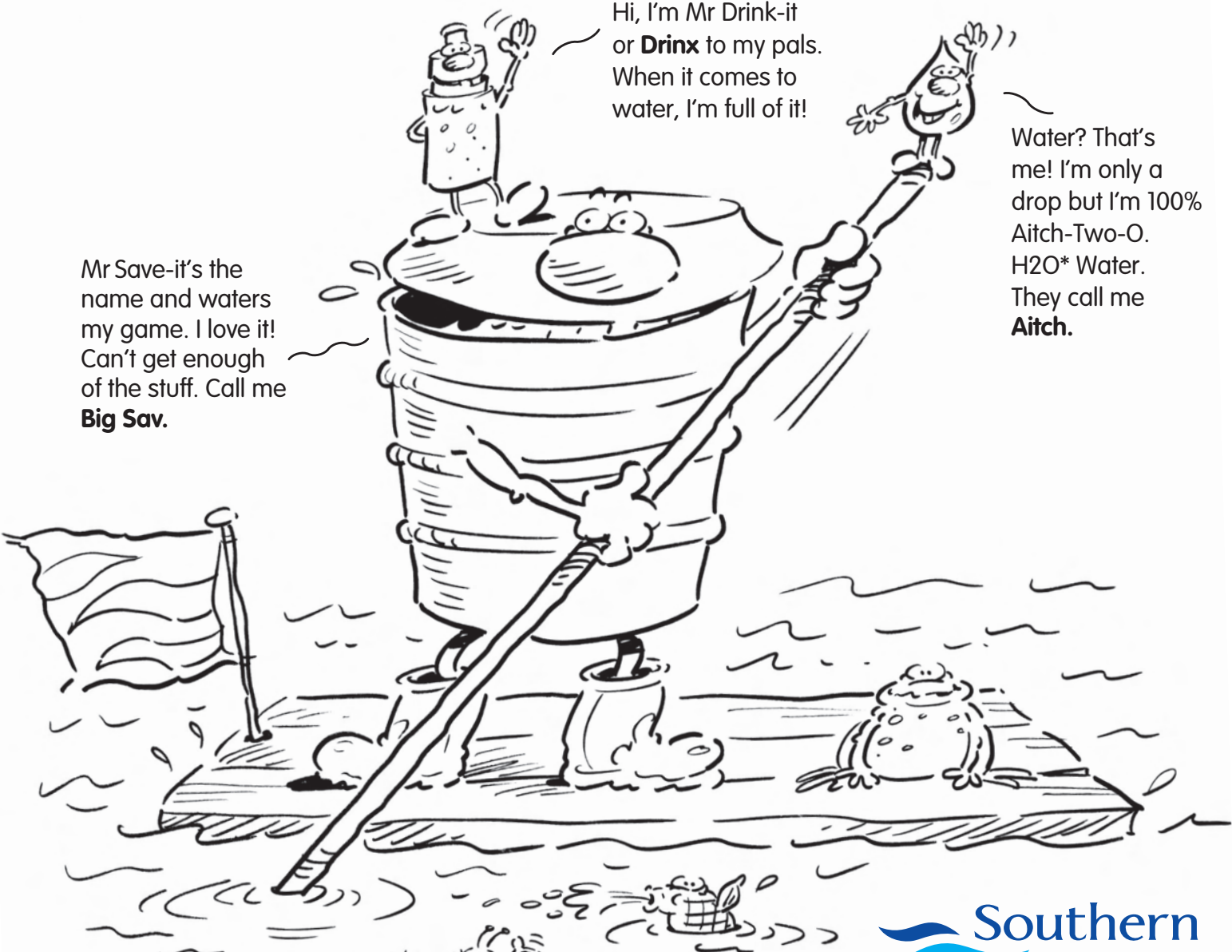
Join our three
'experts' below and
discover some
watery facts.

Five great classroom activity sheets will show you the way.

Mr Save-it's the name and waters my game. I love it! Can't get enough of the stuff. Call me **Big Sav.**

Hi, I'm Mr Drink-it or **Drinx** to my pals. When it comes to water, I'm full of it!

Water? That's me! I'm only a drop but I'm 100% Aitch-Two-O. H₂O* Water. They call me **Aitch.**



*H₂O = Water

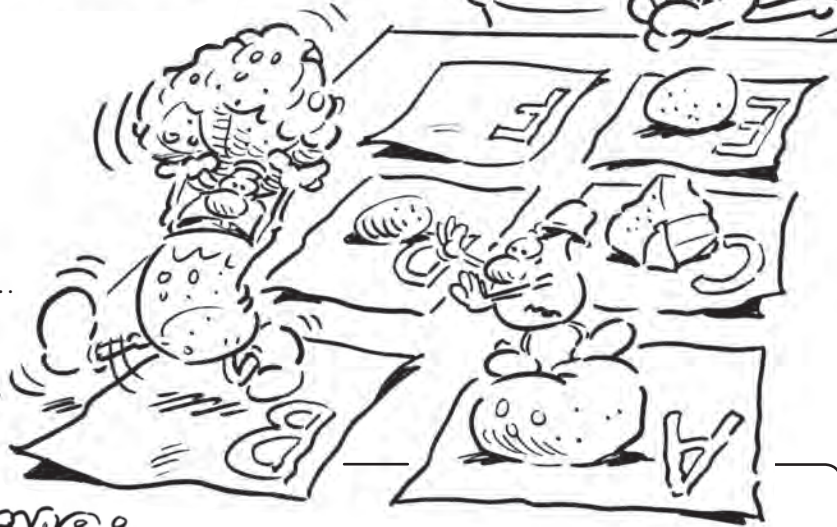
1. Water Bearing Rocks.



You need:

A collection of different stones. Pieces of rock from a range of different places (your teacher might be able to collect some for you). Lay them on a piece of paper marked A,B,C,D,E,F... or better still, if you can name find the name of the type of rock, use the name **Sandstone, Slate, Granite, Limestone** etc.

Sandstone, Slate, Granite, Limestone etc.



Observe:

- Look closely at the surface of each one. A hand lens is a big help.
- Can you see any tiny holes or any places where water could soak in? Or is it smooth?
- Decide which of the stones and rocks might be able to soak up water.
- Draw a simple diagram to show what each one looks like.



Predict:

Put in order from ones you think will not soak up any water to the one you that will soak up the most.



Think:

Decide how you can investigate this



clue

If the rock soaks up water, what will happen to its mass? (Weight)

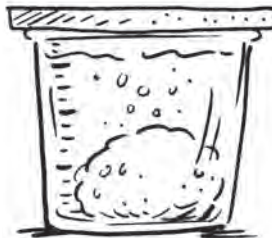


Test

- Put a carefull measured amount of water in a container



- Place your best soaker-up rock or stone in it over night with a lid on (Why put a lid on?).



- In the morning lift it out making sure any surface water drips back into the container.



NOW!

Measure the amount of water left. **Where is the missing water?**

2. Fresh Water for All.



8 year old Nyawela lives in the African country of Sudan.

Every morning Nyawela walks to the single village tap with a can to collect the water for all her family's needs.

The can holds 15 litres of water. This is just over 3 gallons.

Each member of her family needs the following amount of water in the morning.

- ~ Cleaning teeth and washing..... 2 Litres
- ~ Preparing food..... 0.5 Litres
- ~ Drinks..... 0.5 Litres
- ~ Cleaning..... 1 Litres
- ~ Other uses..... 1 Litres



How much water does each person use? Litres

There are 5 people in Nyawela's family.

How much water will they all use in total in the morning? Litres

How many trips to the tap will Nyawela have to make each morning? Litres



On a separate piece of paper list some of the water using appliances that we have in our homes that Nyawela wouldn't have.

What do you think about what you have found out?



Jenny lives in England. She has water 'on-tap' whenever she needs it.

This is what she uses every morning.



- ~ Teeth cleaning with the tap running..... 7 Litres
- ~ Toilet flush..... 10 Litres
- ~ Shower..... 32 Litres
- ~ Kettle filling..... 1 Litres
- ~ Breakfast washing up..... 5 Litres
- ~ Hand washing..... 5 Litres

How much water has Jenny used? Litres

Like Nyawela there are five people in Jenny's family and they all use about the same amount of water every morning.

How much water does Jenny's family use in total every morning? Litres

Fill in the missing number:

Jenny's family use times as much as Nyawela's family.



3 Filtering Water

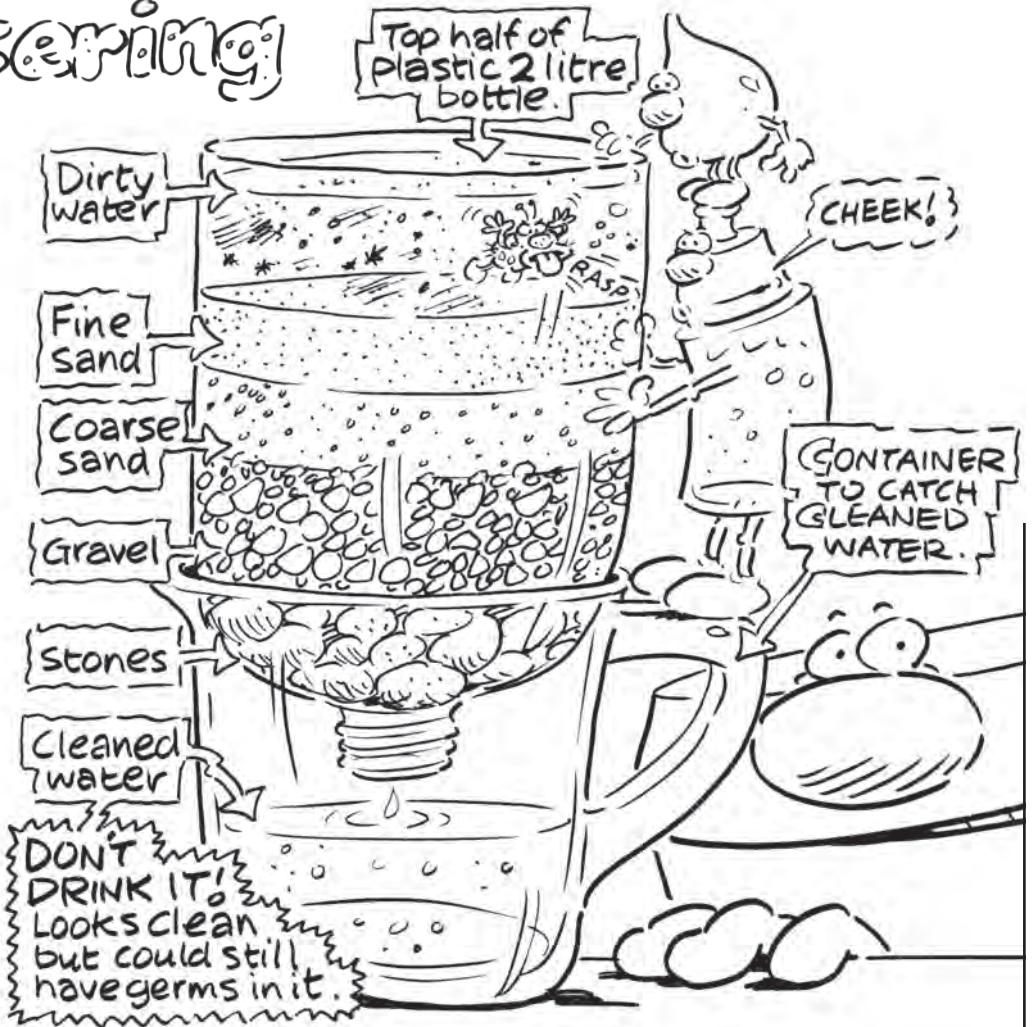
One stage of the water purification process is to pass the water through sand filters.

You need: the following equipment to make a simple sand filter.

- o Sample of dirty water (add some soil and give it a good stir).
- o A two litre plastic pop bottle with the bottom cut off.

HAZARD
An adult must do this for you

- o Set up the filter as shown in the diagram.



~ Before you start – What do you think will happen when you pour the dirty water into the filter.

~ Explain in your own words what you observed.

~ Describe the water sample at the start.

~ Describe the water you collected.

~ Explain why you think the water filter works.

4 Water. Solid, liquid and gas.

In this activity you will investigate water in its three forms - solid, liquid and gas (water vapour).

Place some ice cubes in a beaker.

~ In which form is the water? Solid, liquid or gas? Describe the ice cube as fully as you can.



~ After a few minutes what do you notice forming in the bottom of the beaker?



Take the temperature of the 'melt water' in the beaker. **What is its temperature?**°C



Place the beaker in a warm place. Above a radiator would be ideal, but ask your teacher to check that it is safe.

As soon as you have enough 'melt water' you can do the next part of the investigation.

~ Describe the liquid water as fully as you can.

Mark the level of water in the beaker when all the ice has melted. Leave the beaker uncovered and check the level of the water each day.

~ What is happening to the water level?

~ Where is the water going?



Use these words to fill in the gaps below.

Above Freezer Vapour Freezer Freezes

Ice Evaporates Liquid Temperature Melts

The ice cubes were made by putting water in a

_____ . The freezer is very cold. The

_____ is below 0°C, so the

water _____ to form solid water

called _____ . The

temperature of the air in the

classroom is _____ 0°C

so the ice _____ to form

_____ water. Over time the water slowly

_____ into the gas form of water

called water _____ .



5 Tasting Water

Some people say they can taste the difference between tap water and bottled or filtered water.

Your teacher will give you SIX different samples of water to taste. These will be marked A,B,C,D,E & F.



BOTTLED WATER

1 Cooled.
2 Room Temperature.

FILTERED TAP WATER

3 Cooled.
4 Room Temperature.

TAP WATER

5 Cooled.
6 Room Temperature.

Can you decide which is which? Can you describe the taste of water?

Sample	I think this is No.	What does it taste like?
A		
B		
C		
D		
E		
F		

What has this investigation shown you?