



Cambridge Water

Introduction

In this book, you will find fun activities to beat the boredom and learn something new this half-term.

Whether you're staying indoors or heading outside, there are lots of fun things for you to do.

Enjoy!



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Fun Facts About Water

- If the entire world's water supply was put into a bucket, the fresh water available for us would equal only about one tablespoon
- 70% of the earth is covered with water but only about 1% of the world's water is readily available for human use. Nearly 97% is salty or otherwise undrinkable. Another 2% is locked in the ice caps and glaciers. That leaves just 1% for all humanity's needs
- Over 90% of the world's supply of fresh water is located in Antarctica
- Since life began, we have had the same amount of water on the planet
- The water from your tap could contain molecules that dinosaurs drank
- Water is the only mineral that is found naturally on earth in three forms: liquid, gas solid
- Water regulates the earth's temperature
- More than half (63%) our daily water consumption at home originates from the bathroom and the toilet
- It takes 200,000,000 litres per second to grow food for the planet
- Human blood is 83% water
- We each use about 150 litres of tap water a day
- If everyone in the UK cut one minute off their shower, we would save 1,420 million litres of water a year
- 650 million people in the world do not have access to clean water
- Women in Africa and Asia often carry water on their heads weighing 20 kg, the same as the average UK airport luggage allowance
- Water in Accra, Ghana costs three times as much as in New York



Test your water knowledge!

Use the 'Fun Facts About Water' to help you answer the following questions.

1. What percentage of water is locked in ice caps and glaciers?
2. How many litres of water per second does it take to grow food for the planet?
3. True or false? If everyone in the UK cut one minute off their shower, we could save 1,420 million litres of water a year.
4. What percentage of the earth is covered with water?
5. What percentage of human blood is water?
6. True or false? 79% of the world's water supply is salty or otherwise undrinkable.
7. How many people in the world do not have access to clean water?
8. How much of our daily water consumption at home originates from the bathroom and toilet?
9. True or false? The water from your tap could contain molecules that dinosaurs drank!
10. How many litres a day of tap water do we each use per day?

Answers

1. 2%
2. 200,000,000
3. True
4. 70%
5. 83%
6. False- 97%
7. 650 million
8. 63% or more than half
9. True
10. 150



Does it float or sink?

For this activity, you will need a bowl of water and each of the objects listed in the table below.

Looking at the objects in turn, decide if you think it will float or sink when you put it into the bowl of water. Consider the size and weight of the object when making your predictions, then add it to the bowl of water and see what happens! Were you right? Why do you think the object floated or sunk to the bottom?

Object	What I think will happen	What happened
Stick	Float
	Sink	
Plastic	Float
	Sink	
Stone	Float
	Sink	
Sand	Float
	Sink	
Leaf	Float
	Sink	
Paper	Float
	Sink	



Captain Efficient's watery wordsearch

Find the missing words that are in bold:

- Captain **Efficient** is our **Superhero!** He **teaches** people how to **save water**.
- **Leaky Lou**, the **toilet**, has a leak; this means she is losing little dribbles of water where it can't be seen. A LeakyLoo strip helps to show she is **losing** water.
- Captain Efficient says, 'Save water by filling your **dishwasher** and washing **machine** before you put them on'.
- Runaway **Ronnie** is a **running tap** and **wastes water** by being left turned on. It's important that we remember to turn our taps off when we're cleaning our **teeth** and **washing** our **hands**.

S	U	P	E	R	H	E	R	O	W	R	E	Z	Q
A	D	B	N	C	X	D	O	Y	U	I	F	W	G
V	P	K	J	N	W	E	N	T	G	T	F	A	L
E	Q	W	T	U	O	A	N	S	N	O	I	S	E
W	G	J	L	Z	C	V	I	N	I	I	C	H	A
A	L	J	X	C	B	R	E	G	S	L	I	I	K
T	S	F	H	P	I	Q	Z	J	O	E	E	N	Y
E	C	B	A	N	T	Y	P	G	L	T	N	G	L
R	U	N	N	I	N	G	T	A	P	J	T	I	O
W	E	O	D	G	J	L	E	Z	B	N	M	K	U
L	P	G	S	E	W	T	E	M	B	L	O	C	M
M	A	C	H	I	N	E	T	E	A	C	H	E	S
D	I	S	H	W	A	S	H	E	R	S	Z	J	N
W	A	S	T	E	S	W	A	T	E	R	L	P	U



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Captain Efficient's watery wordsearch

Answers:












S	U	P	E	R	H	E	R	O	W	R	E	Z	Q
A	D	B	N	C	X	D	O	Y	U	I	F	W	G
V	P	K	J	N	W	E	N	T	G	T	F	A	L
E	Q	W	T	U	O	A	N	S	N	O	I	S	E
W	G	J	L	Z	C	V	I	N	I	I	C	H	A
A	L	J	X	C	B	R	E	G	S	L	I	I	K
T	S	F	H	P	I	Q	Z	J	O	E	E	N	Y
E	C	B	A	N	T	Y	P	G	L	T	N	G	L
R	U	N	N	I	N	G	T	A	P	J	T	I	O
W	E	O	D	G	J	L	E	Z	B	N	M	K	U
L	P	G	S	E	W	T	E	M	B	L	O	C	M
M	A	C	H	I	N	E	T	E	A	C	H	E	S
D	I	S	H	W	A	S	H	E	R	S	Z	J	N
W	A	S	T	E	S	W	A	T	E	R	L	P	U











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Captain Efficient's secret splash code

In the grid below, each symbol has a letter next to it. Use this to help you find the missing letters needed to complete the sentences and crack the code!

	a	p	
	b	r	
	f	s	
	h	t	
	l	u	
	o		

Take a _____ minute shower to save water and time.
   

Turn off the _____ while you _____ your teeth.
       

Only wash a _____ load of clothes.
   



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Captain Efficient's water-saving mission

You have been chosen to join Captain Efficient on his water saving mission. Your task is to spread the water- efficiency message, so everyone knows about the wonderful world of water.

Write five ways you can save water below:

I can save water by:

- 1.
- 2.
- 3.
- 4.
- 5.

My water- saving promise is:

Once you've done a task, colour in the star below. When you've completed all the tasks, you'll be ready to start your mission.



1. I turned off the tap when I brushed my teeth



2. I told a grown up to make sure the dishwasher was full before they put it on



3. I threw my dirty tissues in the bin, instead of flushing them down the toilet





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4. I challenged my family to have a four-minute shower



5. I asked an adult to run my bath a few centimetres shorter



6. I asked an adult to check the toilet and taps for leaks

You are now ready to join Captain Efficient and his agents on their mission against water wasters!

Water Saving Agent

Name:

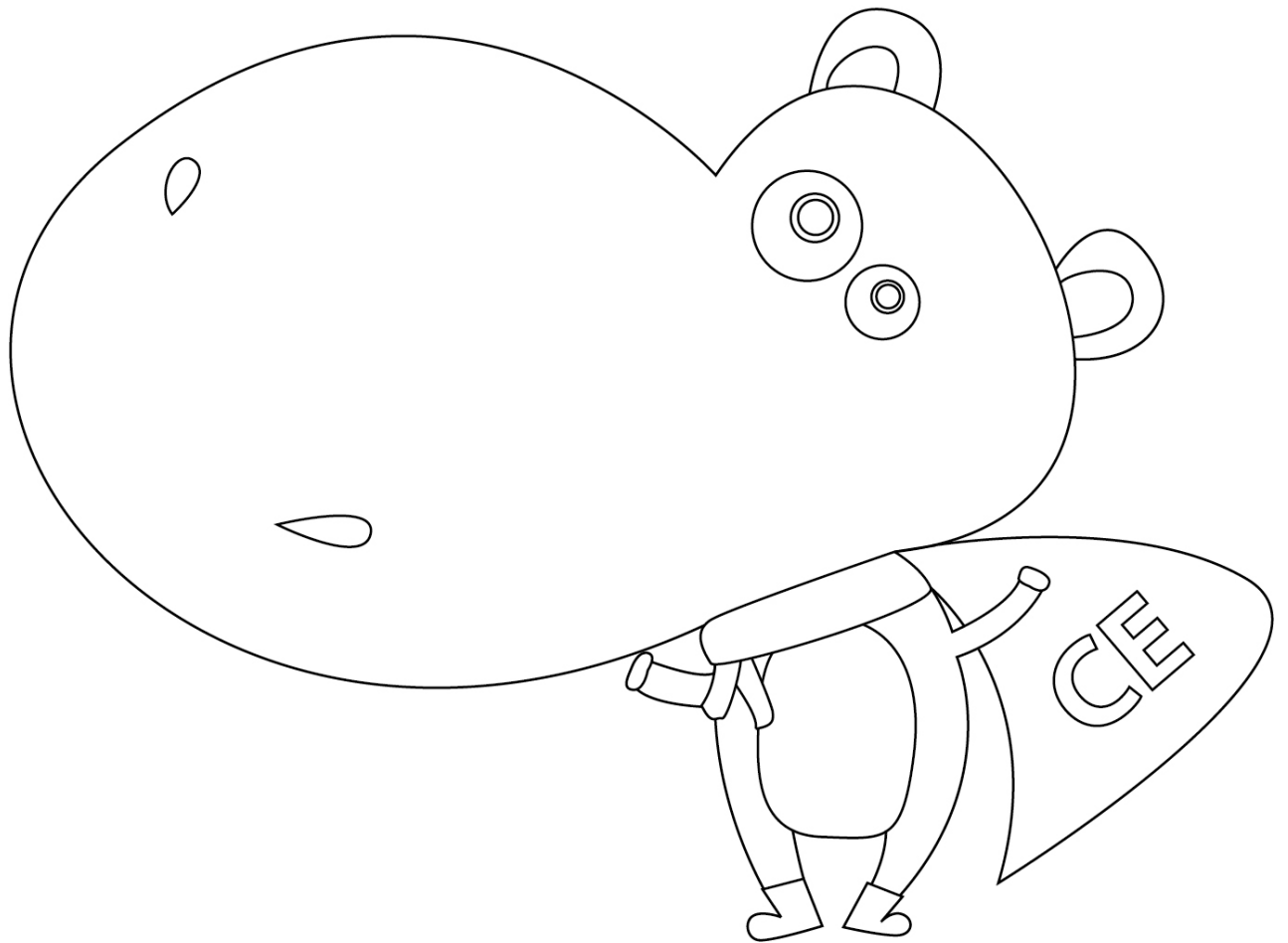
Top water saving tip:

Date:

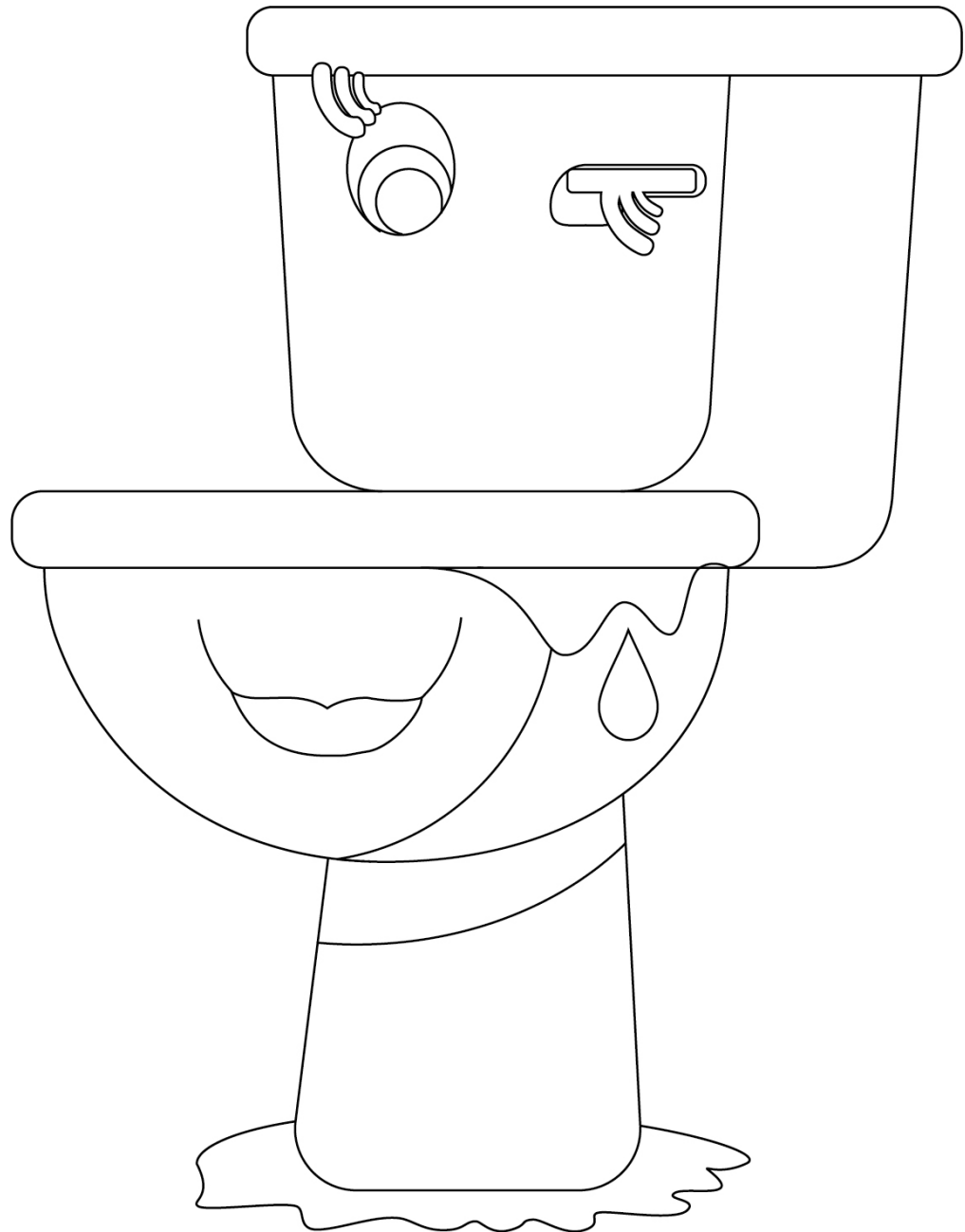


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Captain Efficient



Leaky Lou





Water cycle experiment

Follow this experiment to help show the different stages of the water cycle; evaporation, condensation and precipitation.

You will need:

- Four plastic cups
- Water
- Marker
- Ice cube
- Shaving foam
- Blue food colouring

Instructions:

1. Start with evaporation. Place a full cup of water in front of a sunny window, using a marker; make a line at the beginning water level. As the sun starts to heat the water, it should begin to evaporate. You'll be able to see when this starts to happen by checking the water level every hour. Be sure to mark any changes in the water level. This experiment requires some patience, so while you're waiting, why not try the next stages.
2. Next we have condensation; when water vapour reaches the sky it condenses to form clouds. To demonstrate how this happens, carefully fill a cup approximately two-thirds full of hot water. Take another cup, turn it upside down and place it on top of the cup of hot water. Next, place an ice cube on top of the upside down cup. Keep watching and condensation will begin to form at the top of the upside down cup, just like a cloud.
3. Finally, we have precipitation. Fill a cup almost full with water, on top spray shaving foam as clouds and then squirt several drops of food colouring on top of the foam. As the 'cloud' becomes heavy, the food colouring will 'rain' into the cup.



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Stay safe near open water

Rivers, canals and reservoirs can all be dangerous and you should **NEVER** swim in them. There are no lifeguards in areas of open water, so if you get into difficulty, there will be no one there to help you. Open water can also have lots of hidden dangers and can be unpredictable.

Stop, think and stay safe

Dangers of open water include:

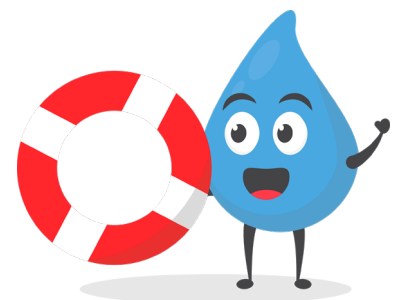
- Slippery rocks
- Rubbish and sharp objects hidden underwater
- Fallen branches and thick weeds
- Hidden currents
- Cold temperatures
- Slippery paths
- Polluted water
- Hidden/under water machinery

When you are near open water:

- Stay with an adult
- Don't play near the water's edge
- Don't sit on the edge of a bridge
- Don't walk or cycle close to the edge
- Don't swing from trees hanging over open water

If you see someone in trouble:

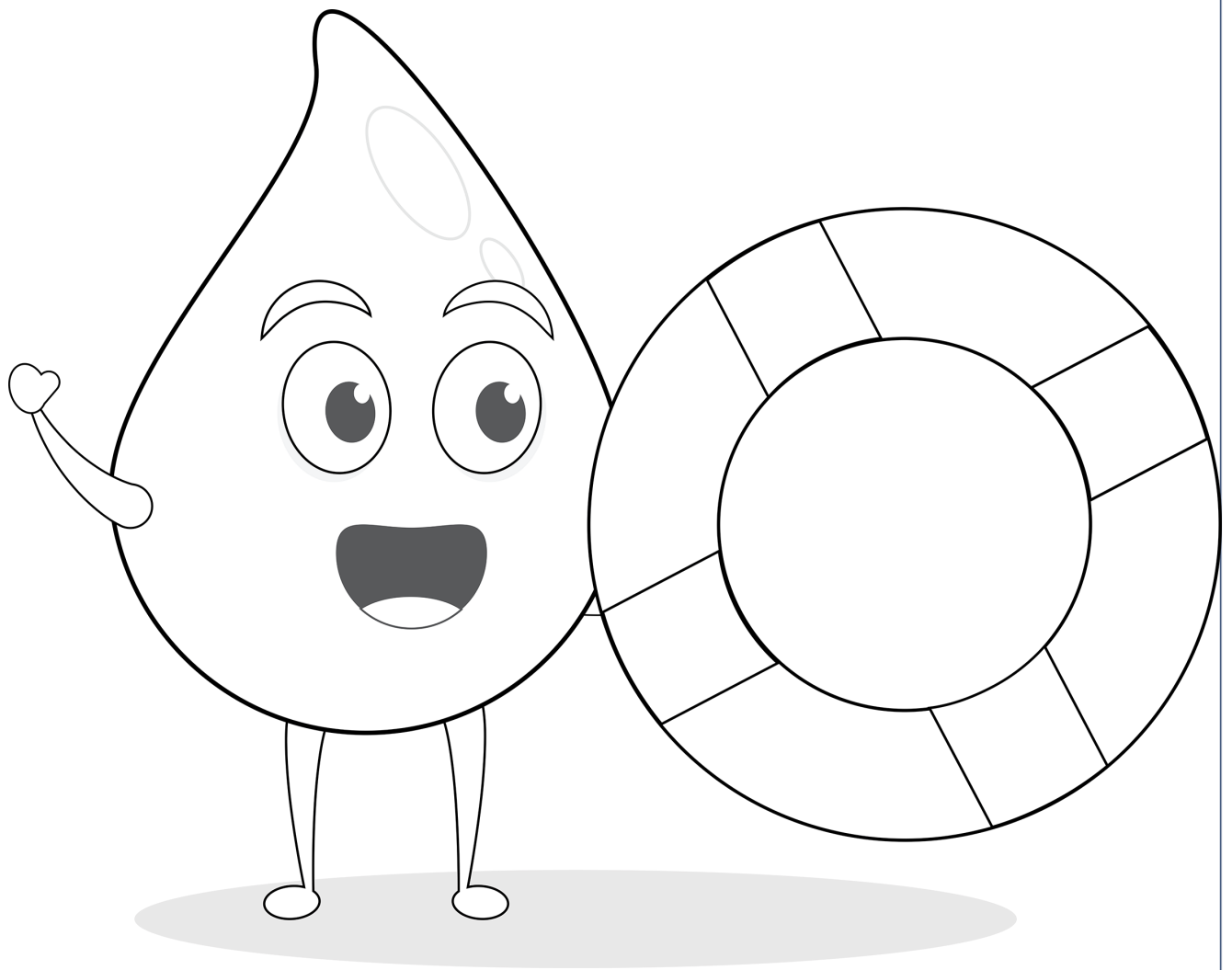
- Keep calm and think before you act. Don't do anything that would put you in danger.
- Shout for help. If there is no one nearby, don't go to look for help on your own, always go in pairs.
- Phone 999 giving clear instructions of your location. Use road names and other details of your location to help the emergency services find you.
- **NEVER JUMP INTO THE WATER**





Cambridge Water

Water-safety colouring sheet





Design a water-safety sign

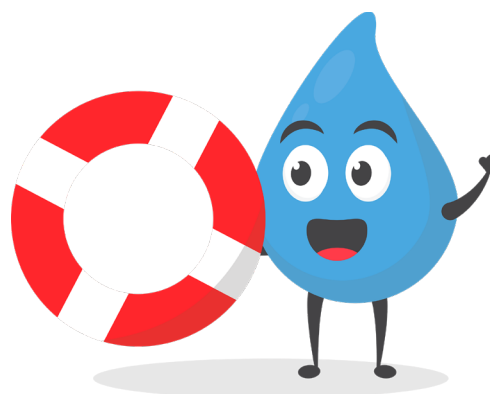
Design your own sign warning people not to swim or play near open water.

Make sure you use the correct colours and symbol and think about how you will use pictures to communicate your message to people.



Helpful hint

All the signs below warn people that something isn't allowed, for example, no dogs, no access, no photography.

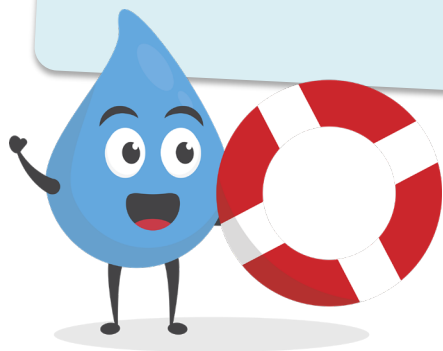




Design a water-safety poster

Using your knowledge of water-safety, design a poster to educate others about the importance of water safety.

Make your poster eye-catching and think about using words and pictures to get your message across. You could also consider designing different posters for different age groups.





Water-safety words

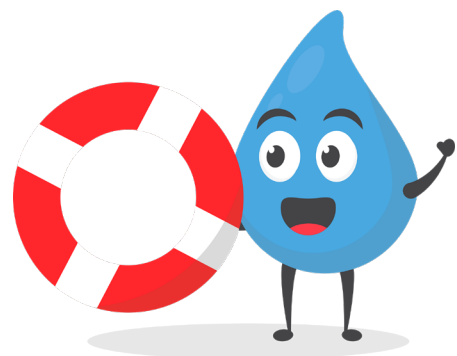
		S					
		A					
		F					
		E		D			
		T		A			
		Y		N			
				G			
				E			
				R			

Fit these words into the grid:

- Water
- Deep
- Cold
- Hidden
- Weeds
- Cramp

Water-safety words

Answers





		S					
	W	A	T	E	R		
		F					
	W	E	E	D	S		
		T		A			
		Y		N			
				G			
				E			
			C	R	A	M	P
			O				
			L				
	H	I	D	D	E	N	
			E				
			E				
			P				



Water-safety wordsearch

Find the words highlighted below in the grid:

During the holidays, it's important to remember to stay **safe** near **open water**.

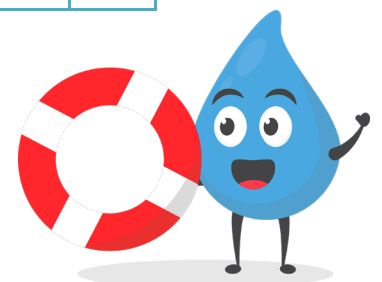
Reservoirs, **ivers** and **canals** are **dangerous** to swim in.

Rubbish and **sharp objects** can be **hidden** under the water.

The water can be **deep**, and **cold** temperatures will **shock** your body, making it difficult to breathe.

When **walking** near open water, always stay close to an **adult** and don't walk or **play** near the water's **edge**.

A	R	H	S	A	F	E	W	Q	T	R
Y	U	I	O	P	A	S	D	C	G	E
F	B	D	A	N	G	E	R	O	U	S
S	B	D	E	E	P	K	Z	L	X	E
H	I	E	C	V	B	N	M	D	Q	R
A	S	N	W	E	R	T	Y	U	I	V
R	H	I	W	A	L	K	I	N	G	O
P	A	S	D	F	C	G	H	J	K	I
O	P	E	N	W	A	T	E	R	L	R
B	Z	D	X	C	N	V	B	I	W	S
J	N	G	M	Q	A	W	E	V	R	T
E	Y	E	U	I	L	O	P	E	A	S
C	D	F	G	H	S	J	K	R	L	Z
T	X	P	L	A	Y	C	V	S	B	N
S	H	O	C	K	M	A	D	U	L	T





Water-safety wordsearch

Answers

	R	H	S	A	F	E				R
	U	I						C		E
	B	D	A	N	G	E	R	O	U	S
S	B	D	E	E	P			L		E
H	I	E						D		R
A	S	N								V
R	H		W	A	L	K	I	N	G	O
P					C					I
O	P	E	N	W	A	T	E	R		R
B		D			N			I		S
J		G			A			V		
E		E			L			E		
C					S			R		
T		P	L	A	Y			S		
S	H	O	C	K		A	D	U	L	T



Treasure hunt

Whether you're heading outdoors or staying inside, our treasure hunt will keep you busy come rain or shine!

Make sure you have a box, bag or basket to collect everything in!

Find: (tick the boxes of the things you find)

Something that begins with the first letter of your name

Something that is green

Something that is shiny

Something that is fluffy

Something that goes crunch

Something that is round

Something that is hard

Three things the same colour

An interesting pattern

Something heart shaped

A flower

Something smooth

Something bumpy

Something warm

Something yellow



Make a rainbow

So you can see just how fun science can be, have a go at making your own rainbow!

For this experiment you will need:

- Kitchen roll
- Washable felt pens
- Two small glasses/bowls of water

The science

Making your own rainbow uses a scientific process called **capillary action** to move the dye from the felt pens up the kitchen roll. **Capillary action** happens when a **liquid** moves up through a hollow tube or into a spongy, **solid material**.

When **water molecules** stick to each other, it is called **cohesion** and when they then stick to a **solid**, the process is called **adhesion**.

In this experiment, the water is **absorbed** through the kitchen roll because when the first water molecule adheres to it and begins to move upward, it pulls the next water molecule up with it, like a chain. As the water moves upward through the kitchen roll, it lifts the dye molecules with it **dispersing** them into the water.

What to do

1. Cut your piece of kitchen roll into the shape of a rainbow
2. At both ends, use the felts to colour a rainbow about 2cm up from the bottom
3. Add water to the two glasses/bowls
4. Hold the rainbow with both ends slightly submerged into each bowl of water and watch your rainbow grow

