love every drop.
anglianwater

Name .....

Class .....

ANGLIAN WATER AND THE ENVIRONMENT

Anglian Water provides the safe, clean drinking water that comes out of your taps 24 hours a day, 7 days a week, 365 days a year.

We all use lots of water every day for washing, drinking, cooking and flushing the toilet. Once you have used the water it all disappears down the plughole or toilet and comes back to Anglian Water to be cleaned and returned back to the environment.

We also work with other organisations to protect rivers, beaches and the animals and plants that live in or around them. Some of these are very rare.

Osprey

This amazing bird of prey was extinct in England, but Anglian Water helped reintroduced them at Rutland Water, our largest reservoir. There are now chicks born there every year. Visit them and look through binoculars to see them in the nest and chicks close up.

An osprey's wing span can be up to 1.7 meters and their favourite food is fish.

Otters

Otters are mammals that live around rivers. If there are otters living in a river it is a good sign. Otters are the top of the food chain so they can only live where the rivers are clean and have lots of food for them.

Otters have large lungs. They can stay under water for up to 4 minutes and swim 400 meters.

HOW CAN YOU HELP?

You can:

- **Make a bee hotel or a bat box.**
- **Make a bug hotel or hedgehog home.**
- **Plant flowers that insects and butterflies like to make a wildlife garden or a wildflower meadow.**
- **Hang out a bird feeder or a deadwood pile for animals to live in.**

Water is important for all life! Have a look at the map. What can you see that needs water to survive?

Take a look at our Growing for the Future resources pack on our website anglianwater.co.uk/education-resources

10 FUN WATERY THINGS TO ENJOY WITH YOUR FAMILY

1. RETURN OF THE OSPREY
Rutland Water Park
Visitors from Africa, back after 150 years.
www.ospreys.org.uk

2. GARDEN OF SURPRISES
Burghley
See the garden brought to life with water.
www.burghley.co.uk

3. THE PINK-FOOTED SPECTACLE
Holkham Nature Reserve
Experience the magic of thousands of geese this winter.
www.naturalengland.org.uk

4. FAMOUS WIDE OPEN SPACE
The Norfolk Broads
Explore the wonders of the waterways.
www.norfolkbroads.com

5. SEAL-SPOTTING PARADISE
Blakeney Nature Reserve
Grab close-up views from the seal boats all year round.
www.nationaltrust.org.uk

6. TAKE A BOW
Grafham Water Park
Grab a jacket, plot your course and get sailing.
www.grafham-water-centre.co.uk

7. FISHING FRENZY
Pitsford Water Park
Chill out at our waterparks.
www.anglianwater.co.uk/leisure

8. WORTH A PUNT
River Cam
A world famous tourist attraction.
www.cambridgerivertour.co.uk

9. OTTERLY BRILLIANT
Alton Water Park
Look out for tracks and where they slide into the water.
www.anglianwater.co.uk/leisure

10. DABBLE YOUR TOES
Southwold Beaches
Walk the sands at Southwold – a blue flag beach.
www.keepbritaintidy.org

HOLKHAM NATURE RESERVE
BLAKENEY NATURE RESERVE
RUTLAND WATER PARK
BURGHLEY
NORFOLK BROADS
PITSFORD WATER PARK
GRAFHAM WATER PARK
SOUTHWOLD BEACHES
RIVER CAM
ALTON WATER PARK

At Anglian Water we look after the plants, animals, rivers, reservoirs and beaches, doing our best to keep the water as clean and safe as possible.

THE WATER CYCLE

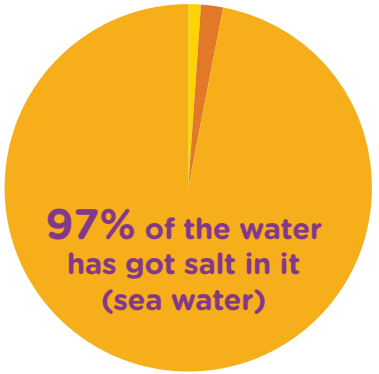
All the water on the planet is constantly being recycled in the water cycle. This is important to get the water we need. Can you write the names of the process on the diagram? The words you need are in these boxes.

- Condensation
- Clouds
- Collection
- Reservoir
- Precipitation
- Evaporation
- Sea
- Sun
- Water vapour

Earths water

1% is for all our needs (plants, animals and people)

2% is fresh water that is locked in glaciers and ice



Where does water come from?

We collect the water from the water cycle to clean and pump to your taps. We get the water from these places:

50% from reservoirs
45% from underground
5% from rivers

Precipitation is another word for rain, snow, sleet and hail.

Reservoirs are man-made lakes to store rain water in. They are also homes to lots of animals and plants, and are great places to visit!

Water you drink could have had dinosaurs swimming in it!

MAKING WATER SAFE TO DRINK

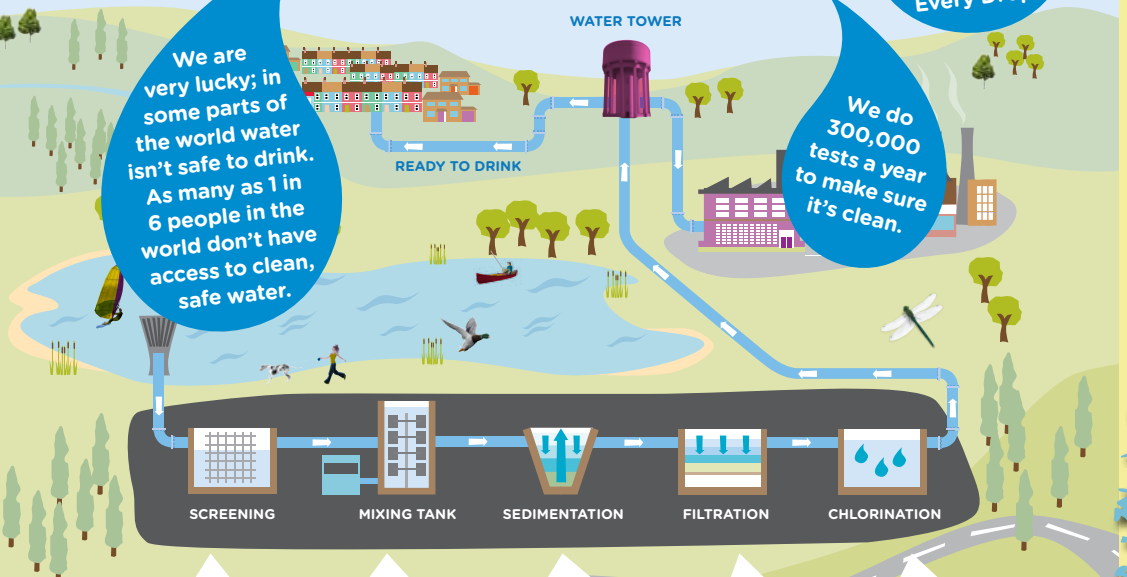
Anglian Water borrows water from the environment and cleans it to make it safe to drink. None of us would like to drink water taken straight from a river so we use a special process to clean it at one of our water treatment works.

We are very lucky; in some parts of the world water isn't safe to drink. As many as 1 in 6 people in the world don't have access to clean, safe water.

We are a very flat region. Pumping water uses lots of energy. That's another good reason to Love Every Drop.

We do 300,000 tests a year to make sure it's clean.

We supply 1 billion litres of water a day! There are 37,000 kilometres of pipes to get water to your homes.



Screening
Screens remove large solids like stones plus twigs and leaves.

Mixing Tank
A chemical is added to make the smaller solids (dirt) stick together.

Sedimentation
Any remaining solids are collected and removed.

Filtration
The water is filtered to make it cleaner.

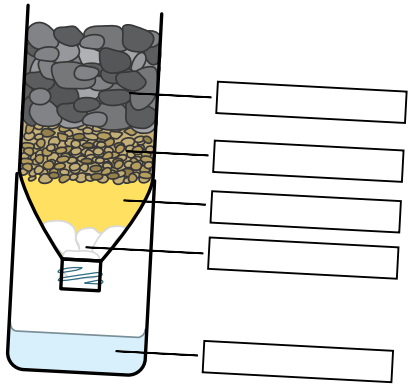
Chlorination
Chlorine is added to kill any bacteria and make the water safe to drink.

ACTIVITY

Filtration

At the beginning of the Water Treatment process we use screens to filter out any large items floating in the water.

In this activity you will use different materials to make your own screens to take large items out of the water so it can pass to the next stage of the treatment process.



You will need:

- **Dirty water:** compost
- **Filter materials:** filter paper, cotton wool, pebbles, sand, gravel, lentils
- Jug
- Large clear plastic bottle

To make a funnel:

- Clean out the bottle.
- With an adult cut the bottle in two, about two thirds up.
- Turn the top upside down and place it in the bottom third.

Filtration:

- Decide the order of your materials that you think will best filter your dirty water and place them into the up turned bottle.
- Mix some compost with some clean water in a jug to make dirty water and carefully pour it into the bottle.

Questions:

Hold the bottom of the bottle up to the light, does it contain any solids?

Think about how you could have improved the filtering process?

Could you have used different materials to filter or changed the order of the materials chosen?

SEWAGE TREATMENT PROCESS

To clean sewage water we use a natural process. From the names below can you match them with the part of the treatment works?

Screen and Grit removal

Primary settlement tank

Final settlement tank

Aeration tank

Outfall

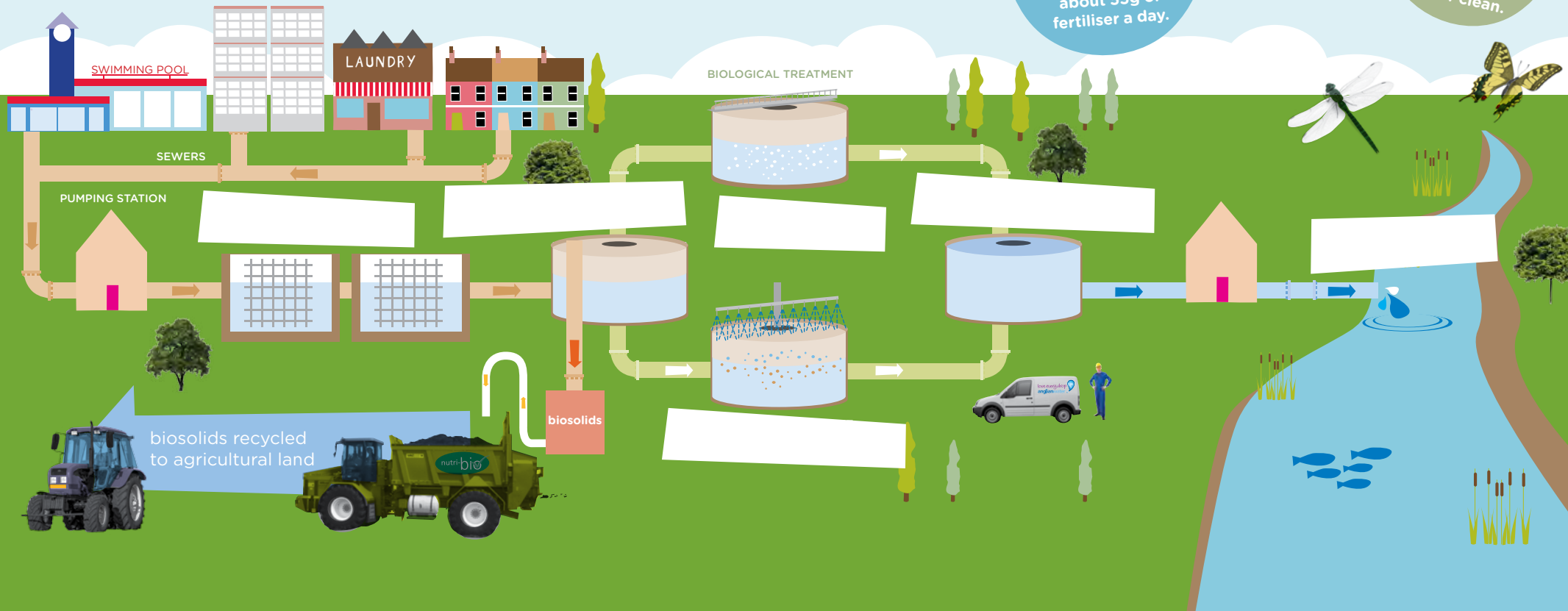
Biological filtration

When the grit and gravel are removed from the sewage there is also lots of sweet corn and tomato seeds mixed in because our bodies can't break them down!

We recycle the poo into fertilisers called biosolids, which is then sold to farmers. Each person produces about 55g of fertiliser a day.

The energy used by Anglian Water to treat sewage is the same amount used to power 86,000 households!

Anglian Water has over 1,128 Water Recycling Centres which use a lot of energy to make used water clean.



MICRO-ORGANISMS

Micro-organisms are very small creatures. There are lots of micro-organisms in the world around us doing very important jobs.

Can you think of any?

Anglian Water uses micro-organisms to clean sewage.

Can you name the micro-organisms in the pictures that we use to clean dirty water?

Draw some micro-organisms of your own in the empty circles and name them.

What's my name?

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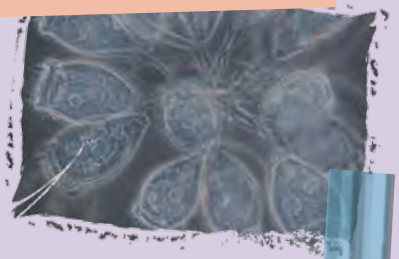

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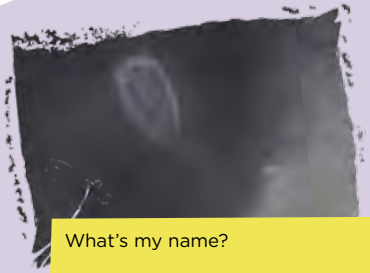

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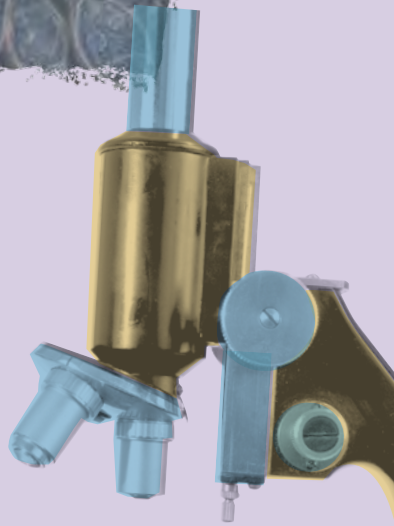

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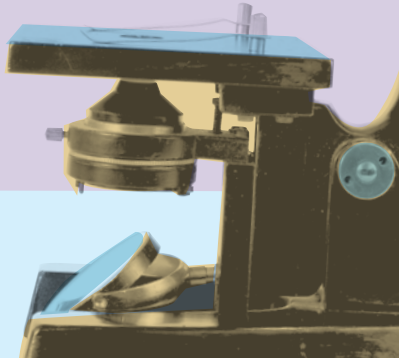


KEEP IT CLEAR

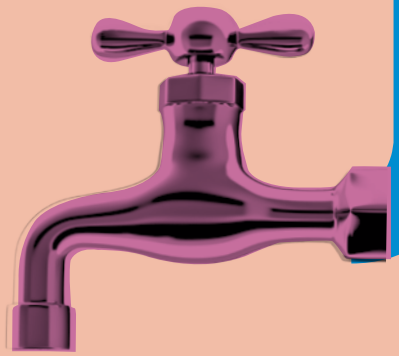
There are over 70,000 kilometres of sewer pipes under the ground to take the used water from your homes to one of our sewage treatment works. However, it's not just water in those pipes. People flush lots of things they shouldn't down the toilet and plugholes.

Fight the FOG

FOG is what we call fats, oil and grease from cooking which often block up our sewers.

Oil now can be recycled into biodiesel, to power vehicles. Anglian Water have worked out that there is about 10,000 tonnes of fat in the pipes right now. This is enough to fuel 8,000 family vehicles for a year!

At home make sure your fat goes into the bin or is recycled.



Wipes and nappies are also flushed far too often, remember to bin them too.

Keep it clear wordsearch

Remember there are very few things that should be going down the toilet or sink.

Have a go at the word search to find out what should go in the bin.

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

1. Cloth
2. Cotton buds
3. Food
4. Floss
5. Goldfish
6. Handwipes
7. Medicine
8. Nappies
9. Oil
10. Paint
11. Plasters
12. Razor
13. Tights

You can help! Scrape your plates before putting them in the dishwasher or washing up. Stop all the food going down the plughole and keep the drains clear.

More than two thirds of all blockages are caused by things that people put into the sewers they shouldn't, from mattresses to bicycles and false teeth!

DO YOU LOVE EVERY DROP

Water is a precious resource; we need to be careful about the amount of water we use. If you **Love Every Drop** it means that you are helping to look after our planet by using less.

Reasons to save water

We all need to drink it, wash our clothes and have lovely showers. But there is only a limited amount of water on the planet, which we all need to share. Making water clean uses lots of energy. **Using less water = less energy = better for the environment.**

A water meter measures the amount of water you use, so if you use less water, you can save money on your water bills.

We each use about 145 litres of water every day. How can you use less?

ACTIVITY

Try reading your water meter

Find out if you have a water meter at home or school.

Take a reading at the same time on Day 1 and Day 2.

Record it in the boxes provided.

Find the difference between the reads.

They will tell you how much you have used in 24 hours.

MY WATER PLEDGE -

TO SAVE 20 LITRES OF WATER EVERYDAY, I WILL TRY TO DO THE FOLLOWING...

WHAT	HOW	LITRES SAVED	TIMES IN A WEEK	WEEKLY TOTAL
	By putting a free Save-a-Flush in your cistern	DROP 1	X	=
	Try filling your bath only two-thirds full, instead of to the rim	DROP 25	X	=
	Save 5 litres if you use a plug in the basin	DROP 5	X	=
	Turn off the tap for 2 minutes when brushing your teeth	DROP 12	X	=
	Spend two minutes less in the shower	DROP 16	X	=
	Only wash full loads of laundry	DROP 10	X	=
	Wash dishes by hand instead of half filling the dishwasher	DROP 15	X	=
	Instead of running the tap for two minutes, wash vegetables in a bowl	DROP 12	X	=
	Put a jug of water in the fridge instead of running the tap for a cool drink	DROP 5	X	=
	Use a bucket and sponge to wash the car instead of a hose	DROP 150	X	=
	Use a watering can instead of sprinklers to water your plants	DROP 150	X	=
	Install a water butt to collect rainwater for your garden	DROP 200	X	=

CALCULATE HOW MUCH WATER YOU CAN SAVE. **TOTAL LITRES =** _____

To find out more about any of the topics go to:
www.anglianwater.co.uk www.captainsplosh.co.uk

THE PLEDGE

Now you've thought about all the things YOU could do to save water.

Why not carry out your own water audit.

How are you going to save water?

Challenge yourself to **Love Every Drop**, make a pledge. Make a promise to save water for three whole weeks. Give yourself a smiley face or a tick if you stick to your pledge.

Can you work out how many litres you have saved in a day? How many would this be in a week or three weeks?

I PLEDGE TO .....

.....

Could you do this for longer than three weeks?

Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1							
2							
3							

When you have completed the challenge, send us your completed chart to get a water saver award.

By email: education@anglianwater.co.uk

By post:
Anglian Water Sustainable Schools and Communities Team
Anglian House, Ambury Road, Huntingdon
PE29 3NZ

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LED330/09/13