WATER WATER EVERYWHERE

AGES 5-7

Curriculum resource pack for water and the water cycle

WWT is one of the UK's leading providers of outdoor learning. We welcome over 50,000 learners per year to our Wetland Centres where we provide unique opportunities for learners of all ages and abilities to interact with wetland wildlife from the UK and across the world.

We are open all year round with sessions for every season. Whether you're looking for curriculum-linked learning or simply a fun day out, there really is something for everyone. To find out more about our school visits programme please visit **learningzone.wwt.org.uk.**

Why wetlands?

WWT works across the UK to save, restore and build wetlands for wildlife and people. Wetlands are one of the most important habitats on earth – storing huge amounts of CO_2, providing a natural way of stopping flooding and serving as a home for huge numbers of different creatures. Spending time in wetlands is also proven to improve mental health and wellbeing!

Using this resource pack

This resource pack contains activities designed to cover key curriculum content as well as outdoor activities designed to promote nature connection and a love of the natural world. This is accompanied by supporting resources that can be printed or used on screen with your pupils. At the end of the pack you will find a short quiz that can be used to reinforce and assess pupils' learning.

CURRICULUM LINKS

England

KS1: Science

- Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock

Northern Ireland

KS1: The world around us

- The effect of people on the natural environment over time
- Positive change and how we have a responsibility to make an active contribution

Scotland

First: Sciences

- By investigating how water can change from one form to another, I can relate my findings to everyday experiences

Curriculum continued...

Wales

Foundation phase: Science and Technology

- I can recognise that what I do, and the things I use, can have an impact on my environment and on living things

Foundation phase: Humanities

- I can describe how people and the natural world may impact on each other
- I can recognise the distinctive features of places, environments and landforms, and how these may change
- I am beginning to appreciate and care for living things and my own environment.
- I can take care of resources and not waste them, and I am conscious of the importance of creating a sustainable future
- I can recognise that my actions and those of others impact upon communities and the environment

INDOOR ACTIVITIES

YOU WILL NEED:

Watering can (or other container)

Drinking glasses (one per group – may want to use plastic)

Bottom halves of clear plastic bottles (one per group)

Chalk

Ice cubes (4–5 per group)

(For all accompanying resources see the end of this pack)

Other relevant resources

Activities:

- Make a water cycle in a jar

School visits:

- We have sessions for KS1 looking at the importance of water. Visit our Learning Zone to find out more **learningzone.wwt.org.uk.**

NOTE: **Where you see a Q this indicates a question to ask your pupils.**

Activity 1: What do we use water for?

Q **Can you think of anything that humans and other animals can't live without?**

- Pupils might come up with air, oxygen, food etc. If they haven't come up with water, tell them that all animals need water to survive. Without water there would be no life on earth.
- Split the class into small groups and challenge each group to come up with as many uses of water they can think of.
  > ... in the **kitchen.**
  > ... in the **bathroom.**
  > ... in the **garden.**
- Ask each group to report back and use their ideas to produce a class list – add any others that you can think of.
- These might include:

Uses of water in the kitchen	Uses of water in the bathroom	Uses of water in the garden
- Washing up - Dishwasher - Washing machine - Cooking - Drinking - Cleaning	- Having a bath - Having a shower - Washing hands / face - Brushing teeth - Flushing the toilet	- Watering plants - Having fun (e.g. water fights, paddling pool etc) - Putting water out for wildlife

Activity 1 continued...

Q **Where do you think that water comes from?**

- A reservoir (a man-made lake specially built to collect water)
- A river
- Beneath the ground (this is called groundwater)
- It is cleaned at a water treatment works before it is transported to our homes and schools through pipes beneath the ground.
- After we have used it, it goes down our toilets, sinks and drains and is transported to a sewage treatment works where it is cleaned before being put back into a river or the sea.

Activity 2: Changes of state

Preparation stage:

- For these activities, you will need to carry out some preparation and then come back to the activities a few hours later. You could complete the saving water activity (see below) between times.
- Give each group the bottom half of a clear plastic bottle.
- Ask each group to fill their bottle to about halfway and mark the level of the water using a marker pen.
- Leave these in a window or other warm place.

Activity stage: Melting

- Give out a glass containing an ice cube to each group.

Q **What do you think will happen to the ice? Why?**

- Watch the ice beginning to melt and explain that it is changing from ice (solid) into water (liquid). This is called melting.

Key word

MELTING

When a material changes from a solid to a liquid.

Q **Can you think of any other examples of melting?**

- Examples might include chocolate, an ice cream or ice lolly.

Activity stage: Evaporation

- Get each group to collect the bottle with the water level marked on and take it back to their table.

Q **Has the level gone down? Why?**

- Explain that as water heats up, it changes from a liquid to a gas. This is called evaporation. Some of the water (liquid) has changed into water vapour (gas) and gone into the air.

Key word

EVAPORATION

When a material changes from a liquid into a gas.

Activity stage: Condensation

- Give out a new drinking glass (may want to use plastic) to each group.
- Ask each group to half fill their glass with water from a cold tap.
- Give a few ice cubes to each group and ask them to add these to their glass.
- Leave the glasses for a couple of minutes.
- Now get pupils to feel the sides. After a while, they should be able to feel (and often see) a thin layer of water on the outside.
- Explain that this is condensation. Some of the water vapour from the air in the room has touched the side of the glass, cooled down and changed from water vapour (gas) into water (liquid).

Key word

CONDENSATION

When a material changes from a gas into a liquid.

Q **How old is water?**

- Water has been on earth for 4.6 billion (4,600 million) years! The dinosaurs lived between 230 and 65 million years ago, so water was around long before the dinosaurs roamed the earth.
- We don't get any new water on earth. It is the same water that has been going round and round for 4.6 billion years. This means that the water you drink may have passed through a dinosaur! Don't worry though, every time water evaporates all the nasty stuff in it is left behind so it naturally gets cleaned. Isn't nature amazing?

Activity 3: Saving water

- Explain that saving water is good for us and good for the environment. If we use too much we may run out during hot, dry summers and cleaning our water produces pollution which is not good for the environment.
- Look back at the list of uses of water you created earlier.
- Get each group to make a list of different ways of saving water. It might be helpful to think of saving water in the kitchen, bathroom and garden as before.

Saving water in the kitchen	Saving water in the bathroom	Saving water in the garden
- Wait until the dishwasher and washing machine are full before putting them on. - Wash fruit and veg in a bowl rather than under a running tap. - Have a jug of water in the fridge to save waiting for the tap to run cold.	- Don't leave the tap running while brushing your teeth. - Have a short shower rather than a bath.	- Only water plants when they really need it. - Water plants first thing in the morning or in the evening when less of the water will evaporate. - Use a watering can rather than a hose. - Install a water butt to collect rain water from your drain pipes and use this water for your plants.

- Get each group to report back and again create a class list.
- For homework, you may want to get pupils to discuss with their families how they might save water and pledge one thing they will do as a family to save water.

OUTDOOR ACTIVITIES

Activity 4: Evaporation in action

- Find an outside area with a hard surface (e.g. tarmac or concrete).
- If it has rained recently find a puddle.
- If not create a puddle using water from a watering can or a container.
- Draw a chalk outline around your puddle.
- Every half an hour, go back to the puddle and again chalk the outline. You should see the puddle getting smaller over time.

Q **Where do you think the water has gone?**

- The water has evaporated just like the water you left in the window. Water is constantly evaporating and condensing. Isn't nature amazing!

QUIZ: WATER WATER EVERYWHERE

Round 1: Picture round

Q More than a million ponds have disappeared from the UK over the last 100 years. These animals all rely on ponds. Can you name them?

1 .....

2 .....

3 .....

4 .....

5 .....

If you get stuck, you could carry out a quick internet search.

Round 2: Changes of state round

Q Can you match each **Word/phrase** with it's **Description?**

Draw lines to match them up.

6 **Melting**	When a gas turns into a liquid
7 **Condensation**	When a solid turns into a liquid
8 **Evaporation**	When a liquid turns into a gas

Round 3

9 Is most water on the earth solid, liquid or gas?

.....

10 Where would you find most of the ice in the world?

.....

Round 4: Seed dispersal

Q Can you match each **Activity** with the **Amount of water it uses?**

Draw lines to match them up. (all amounts are approximate - you might want to look at a litre or two-litre bottle to give an idea of how much a litre is).

10	**Having a bath**	**5 litres**
11	**Having a shower**	**12 litres**
12	**Leaving the tap running while brushing your teeth**	**45 litres**
13	**Flushing the toilet**	**80 litres**
14	**Using a garden hose or sprinkler for 15 minutes**	**250 litres**

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We'd love to find out how you got on!

ANSWERS: WATER WATER EVERYWHERE

Round 1: Picture round

Q More than a million ponds have disappeared from the UK over the last 100 years. These animals all rely on ponds. Can you name them?

1 Pond skater

2 Pond snail

3 Water hoglouse

4 Leech

5 Greater water boatman

If you get stuck, you could carry out a quick internet search.

Round 2: Changes of state round

Q Can you match each **Word/phrase** with it's **Description?**

Draw lines to match them up.

6	Melting	When a gas turns into a liquid
7	Condensation	When a solid turns into a liquid
8	Evaporation	When a liquid turns into a gas

Round 3

9 Is most water on the earth solid, liquid or gas?

Liquid (in the sea)

10 Where would you find most of the ice in the world?

North and South pole / Arctic and Antarctic (ice sheets)

Round 4: Seed dispersal

Q Can you match each **Activity** with the **Amount of water it uses?**

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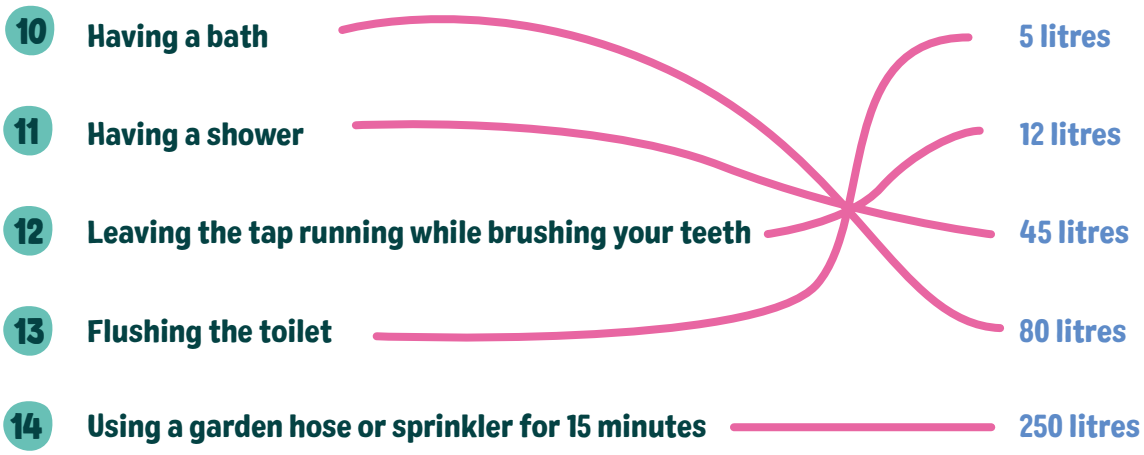

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