



KS2

Lesson Plan

Keywords

water cycle
evaporation
condensation
precipitation
rain
snow
sleet
safe water

hygiene
sanitation germs
toilet
gravity flow system
rainwater harvester
composting latrine
accessible toilet
climate change

Introduction for teachers

This lesson plan encourages Key Stage 2 pupils to appreciate the fact that we have access to clean, safe water, toilets and good hygiene, while millions of people around the world have to go without. The pupils will learn about where our water comes from by exploring the water cycle.

The WaterAid Schools Challenge

WaterAid's vision is of a world where everyone everywhere has access to safe water, sanitation and hygiene by 2030. With your school's help, this ambitious target can be reached.

Right now:

- **1 in 10 people around the world don't have access to safe water.**
- **Diarrhoea – caused by dirty water and poor sanitation - is the second biggest killer of under-fives worldwide.**
- **1 in 3 people don't have access to a proper toilet.**

Resources and materials

- * Water cycle worksheet
- * Art and craft materials: A3 paper, felt tips and pens, scissors, glue
- * WaterAid Schools Challenge PowerPoint presentation – KS2
- * Technology posters
- * Access to the Internet

Teacher's notes

These lessons could be carried out as standalone lessons with lesson 4 being an extended lesson, a design afternoon, or STEM session.

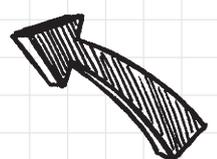
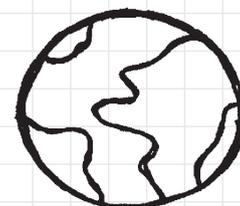
You could launch the challenge by inviting a WaterAid speaker to speak to the students and inspire them to want to change lives. Book a speaker for free at www.wateraid.org/speakers

There are two parts to the WaterAid Schools Challenge:

1 Design a solution

Challenge your students to come up with an innovative and creative solution to world sanitation issues. This lesson plan equips students to work in teams to understand existing sanitation issues and solutions in the developing world, and learn about WaterAid's values and how these are embedded within all that WaterAid does.

Students are challenged to design accessible latrines for vulnerable and marginalised members of the community, and understand how vital this is to ensure that everyone everywhere has a decent toilet by 2030.



2 Create and carry out a fundraising activity

Pupils will be tasked with creating and carrying out a creative fundraising activity to make real change happen for the millions of people around the world who do not have safe water, toilets and hygiene.

An option for this is to get involved in WaterAid's Pupil Pipeline, hold a water-themed mufti day or organise a blue cake sale! We'll send your class a special certificate that they can display with pride, and an update on what their fundraising has helped achieve.

By completing the two parts of the challenge, students will learn to work collaboratively and follow instructions, as well as think creatively to raise money for WaterAid.

When your class has completed the challenge, photograph their accessible latrines, along with a summary of their fundraising activity and send them to schools@wateraid.org – and be in with a chance of appearing as our Star School on our website!

You could also ask your pupils to contact their local MP or other influential figures in the community to tell them about what they've learnt and the solutions they have designed. Try and come up with the most creative ideas possible to make sure their messages really stand out. How about postcards in the shape of water droplets or sending messages in old water bottles?

Curriculum links

Science: Evaporation and condensation in the water cycle, the changes as humans develop to old age.

Geography: Rivers, the water cycle, types of settlement, distribution of natural resources including water.

DT: Developing and creating innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups, generate, develop, model and communicate their ideas through discussion, annotated sketches and diagrams.

Aims and outcomes

- * To understand that our clean, fresh, easily available water comes to us via the water cycle.
- * To understand that dirty water, poor sanitation and poor hygiene causes deadly diseases.
- * To design and create an accessible toilet.
- * To support WaterAid's vital work by fundraising.

Lesson 1

Allow 1 hour 30 minutes

Resources

- * Water cycle worksheet
- * Scissors
- * Glue



Where does our water come from?

Starter –
Whole class activity, in pairs.

Allow 30 minutes

Ask the pupils to think about where the water that comes out of our taps originates from. Collect a few answers and scribe these on the board. Pupils may mention parts of the water cycle – precipitation, runoff, evaporation, condensation – or places where water is found, such as rivers. Explain that all these things are part of the water cycle. You can refer back to these answers later in the lesson.



Introduction

Allow 15 minutes

Recap that our water is constantly recycled through the water cycle.

Arrange the class into four groups and give each group a stage of the water cycle. Do not make each group aware of the other group's stage. Each group has to decide how they are going to act out their stage and present it to the rest of the class to guess.

Once all the groups have acted out their stage of the water cycle and have been correctly guessed, all groups should arrange themselves in the correct order and perform a dramatised water cycle.

Main teaching

Allow 30 minutes

Hand out the water cycle worksheet. Ask the pupils to cut up the worksheet into cards. Ask them to use the key words to discuss what is happening in each picture with a partner, and then paste on to a fresh sheet of paper in the right order. When pupils have finished, choose a pair to talk through the cycle.

Pupils could use the information they have to create a poster or display about the water cycle or even run an assembly for the whole school about what they have learnt.

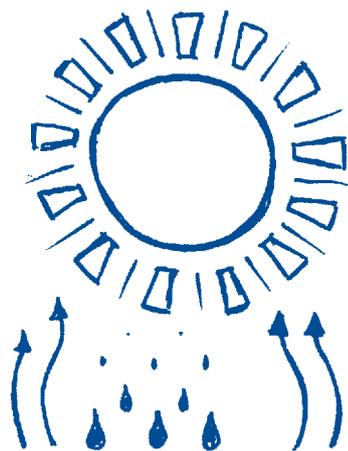
Plenary

Allow 15 minutes

Now that the children have learned about the water cycle, can they think of some of the different usages of clean water that help to maintain a healthy life?

Answers should include drinking, cooking, bathing and brushing teeth.

Evaporation



Lesson 2

Allow 1 hour

Resources

- * WaterAid Schools Challenge PowerPoint presentation – KS2

Teacher's note

This activity could be carried out as a PSHE lesson

What would happen if there was no clean water piped to our homes?

Ask the pupils:

- **How do we get our water?**
- **Where could we get our water from if we didn't have taps?**
- **Where would we go if we didn't have toilets?**

Ask the children to think about and discuss the types of things that could make it difficult for people living in some of the poorest parts of the world to get water. Answers could include; not having access to clean piped water, not living close to a water source, changing weather and climate resulting in too much rain falling in one place and too little in another.

Show slides 2 – 3 of the PowerPoint presentation and read the questions. Ask pupils to answer by voting by show of hands. Then go through each answer.

If you have a class of 30, imagine the class represents the number of people in the world. Ask 10 volunteers to stand up, or ask the pupils to stand in a line with every third pupil sitting down. This signifies the number of people without access to a toilet.

Explain that millions of people around the world don't have access to safe water either. They have no choice but to drink dirty water that could kill them. In many poor communities around the world, access to safe, clean water is non-existent.

Lesson 3

Allow 1 hour

Ask the pupils and discuss the following questions as a class:

- **Why is having access to a proper toilet important?**
- **Who do you think is responsible for collecting water?**

Explain that women and girls often have to walk long distances to collect dirty water, using up a lot of their time and energy.

- **Can you think of the different things they miss out on doing during the day while they are collecting water?**

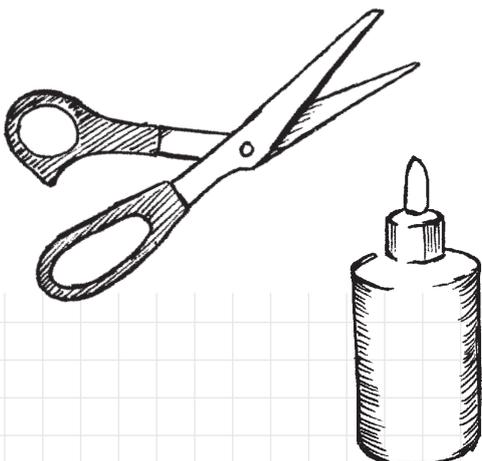
Answers should include: they miss out on an education, lack the opportunity to make a living, and have little chance to change things. They are also more likely to get sick with water-related diseases.

Highlight the following or display on the board:

One in three people don't have access to a proper toilet. Many are forced to go in the open, spreading deadly diseases.

Without good hygiene, such as hand washing, people can't stay clean and deadly diseases spread fast. Something as simple as handwashing with soap could halve the number of cases of diarrhoea. But many people are not aware of the link between hygiene and health, and this allows the spread of deadly diseases.

Clean drinking water, proper toilets and good hygiene are essential, yet millions of people don't have access to these basics.



Resources

- * Technology posters
- * WaterAid Schools Challenge PowerPoint presentation – KS2
- * Images of accessible toilets.
- * A3 paper
- * Felt tips and pencils
- * Scissors
- * Glue
- * Post it notes or sticky labels. There needs to be enough for one per student. Mark one third with a green dot, another third with a yellow dot and the rest with red dots.

Activity

What does it feel like to be excluded?

Starter: Traffic light game

Allow 15 minutes

Please note that you will need space for the pupils to walk around for this activity.

- Ask the pupils to line up with their backs to you and place a post it note with either a red, yellow or green dot on each student's back. Tell the pupils that they are not to tell each other what colour dot is on their back.
- Tell the pupils that they should all begin to walk around. Explain that if they see a person with a green dot on their back, they should make every effort to speak to them and be really friendly. If they see people with yellow dots on their back, they should be polite and say hello,

but not spend too much time with them. The pupils with red dots on their backs should be avoided at all costs.

- Give the pupils three to five minutes to carry out the activity. Once their time is up, ask the pupils to position themselves on the right of the room if they thought they had a green dot on their back, in the middle if they thought they had a yellow dot, and on the left if they thought they'd been given a red dot.
- Starting with the greens, ask them about their experience and how it felt to be treated in the way that they were. Ask the same of the yellows and reds.
- Explain to the pupils that for some people in the world, being excluded from everyday life is something that happens to them every day.
- Ask the pupils to come up with groups that may get excluded in everyday life. They may come up with the elderly, the very young, women and people with disabilities. Explain that for this challenge, they will be focusing on people with disabilities.

What is life like without access to clean water?

Allow 15 minutes

Use slides 4-6 of the PowerPoint presentation to tell pupils about:

- **Nirinasoa, a little girl who lives in a village in Madagascar**
- **Basbedo, a village in Burkina Faso**
- **Esther, an blind, elderly lady from Zambia.**

Main teaching

Allow 45 minutes

Explain to the children that many poor communities that did not previously have access to clean running water, now do due to the work of charities like WaterAid.

Tell the pupils that they are going to find out about some of WaterAid's solutions to issues around access to water; a gravity flow system, a rainwater harvester and composing latrines.

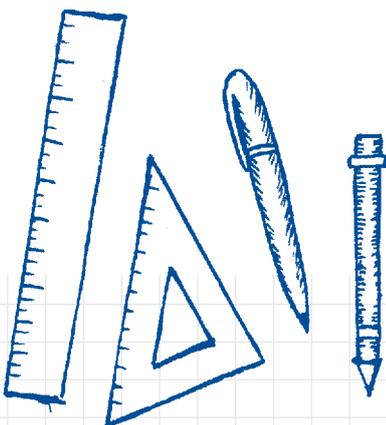
Print out or display the three technology posters on the board. You can also use slides 7-10 of the PowerPoint presentation. Ask pupils to consider how they might work.

A gravity flow system: this is a system where water simply runs through a pipeline down a hill to be stored near the village. Gravity is the force that keeps us all stuck to the ground, not floating off into space, and so also causes water run downhill.

A rainwater harvester: this is a large tank which is designed to collect and store rain water for future use.

Composting latrines: these are toilets which store poo until it decomposes into a safe compost which can be used to grow vegetables.

Ask the pupils to discuss how effective they would be for Nirinasoa, Esther and the people of Basbedo.



Lesson 4

Allow two whole afternoon sessions

What features are needed to make a toilet accessible?

Resources

- ✦ Access to the Internet

Explain the WaterAid Schools Challenge to the pupils. Tell them that they will be helping to make a real difference to people's lives.

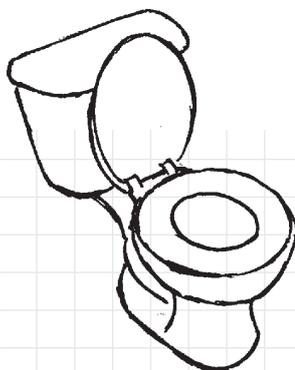
Remind pupils of Esther's story from the last lesson.

Ask pupils to think about the difficulties Esther might have with a composting latrine. Answers could include navigating the steps or the lack of hand rails. List the answers on the board.

Ask each table to research images of accessible toilets. Who are these toilets designed to be used by? How do you know? You could even visit the accessible toilets in school and sketch and discuss the differences between them and standard toilets.

Consider how the differences between the toilets help. Are there any further improvements or adjustments that can be made to the toilets to make them more accessible? Ask the children to discuss this in the table groups. Ask the pupils to think of people with physical disabilities including wheelchair users and the visually impaired.

Tell the pupils that they are going to design an accessible latrine (use the composting latrine poster as guidance). In pairs or groups ask the pupils to think about and brainstorm how they would change and adapt it, considering what they know about accessible toilets.



Ask pupils to think about layout:

- **How big will the space need to be?**
- **What will the actual toilet look like – i.e. will it just be a hole in the ground, or will it include a seat, and why?**
- **What extras will the toilet include? Handrails, toilet roll holders, raised elements? Where will they place them?**
- **Would they include anything else? For example, mirrors or hygiene posters to remind people to wash their hands?**

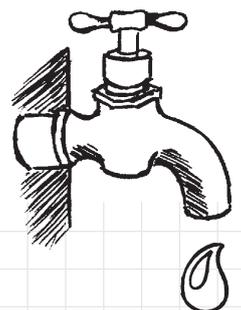
Children could research ideas online to consider features they would want to include in their designs. For example, if they are designing an accessible toilet for wheelchair users, pupils could look up the dimensions of an average sized wheelchair. Or if they were designing an accessible toilet for visually impaired people, pupils could look up guidance features.

Next ask the pupils to create a sketch of their accessible toilet, including labelled images of the different features they would include. You could also ask pupils to specify dimensions.

Create a space in your classroom to lay out the designs and decide as a class if the space would be suitable for a wheelchair user. Make adjustments if necessary.

Follow on activity:

Pupils could make a model of their accessible toilet designs, using different materials, which could include card, plasticine, clay, straw, piping and other craft materials.



How can we help WaterAid?

Allow the whole lesson

Resources

- WaterAid Schools Challenge PowerPoint presentation – KS2

Recap that WaterAid is a charity that relies on donations to help people in the poorest places around the world get access to toilets and safe water.

Then, show slides 11-16 which give the good news that Esther has an accessible toilet with a simple guide rope and Basbedo's villagers learned about the water cycle and a member of the community has been trained as a pump mechanic to look after the village's water supply.

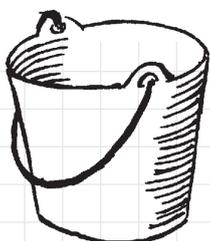
Explain to the pupils that WaterAid can only do amazing work like this with the support of people raising money and sending donations.

What can we do as a class to help other people like Nirinasoa and Esther?

Ask students to think about what they can do as a class to help other people like Esther, and Basbedo's community.

Explain to the children that the second part of their WaterAid Challenge is to raise money to help get water, toilets and hygiene to everyone, everywhere by the year 2030.

Tell pupils that WaterAid always works collaboratively. Ask them to think about what this means. By working collaboratively on an idea to raise money, they will be able to achieve much more.



Option 1: Pupil Pipeline

One way they could fundraise is by taking part in WaterAid's Pupil Pipeline challenge. You can find out more about Pupil Pipeline here:

www.wateraid.org/uk/joinpipeline

The class could encourage others to get involved by putting on an assembly about the Pupil Pipeline and the reason behind doing it. The pupils could also design posters and leaflets about Pupil Pipeline and include how much they aim to raise.

The class should set a fundraising target as it can help in motivating and gathering support. You could use the year 2030 to base your target on. For example, each student aims to raise at least £2.03 or £20.30, or the class raises at least £203 or if you're feeling really ambitious you could aim for at least £2,030.

If Pupil Pipeline is not viable, you could hold a water themed mufti day or organise a cake sale.

Option 2: Collaborative fundraising challenge

Let the children come up with fundraising ideas!

Suggest and discuss a few fundraising ideas in class first – cake sale, sponsored walk, sponsored silence, dressing up day.

Ask the children if they can come up with some of their own ideas. Explain to the children that the money raised will help people in poorer places around the world learn about good hygiene such as handwashing and have clean, safe water available to them.

Another way of working collaboratively is to set a piece of collaborative homework. Suggest and discuss a few fundraising ideas in class first – cake sale, sponsored walk, sponsored silence, dressing up day. You may have previously taken part in fundraisers. Recall anything that has been done previously in school.

Ask the pupils if they can come up with some of their own ideas.

For the homework task, suggest that adults ask their pupils what they have been doing/learning in class about the lack of toilets in poorer countries (to generate discussion around the topic with family and friends). Provide a brief explanation and if possible include one or two photographs of some of the work the pupils have done in class. Explain that the task is to come up with a fundraising idea to raise enough money to meet the target set, and even exceed it!

Returned homework should include:

- **A fundraising activity.**
- **How money will be raised (sponsorship, money paid to do a task, sale of items such as a cake sale)**
- **Where would the fundraising take place? At school? As a class? Whole school? At home?**



Share all the ideas with your class and take a vote, then begin organising your fundraising activity. To make the process even more collaborative, children could present a selection of their fundraising ideas to the head and deputy head of the school or during an assembly.



Encourage and ask parents, adults and the school PTA to get involved where possible to help the children put their activity into action.

Reiterate that their work and fundraising will help get water, hygiene and toilets to everyone, everywhere by 2030.

Share achievements on your school's social media channels and tag WaterAid UK. Don't forget to send us photographs of your pupils' accessible latrine building and a summary of their fundraising to schools@wateraid.org and be in with a chance of appearing as our Star School on our website!

Good luck! We can't wait to hear about how you tackled the WaterAid Schools Challenge!

 **WaterAid**
Schools Challenge

