



WATER FOR EVERYONE EVERYWHERE WORKSHOP SUMMARY

OBJECTIVE OVERVIEW

PUPIL LEARNING OBJECTIVE	PRIMARY ACTIVITY	SECONDARY ACTIVITY
Understand the importance of clean water and access to it is not equal.	Starter, access mind map	Starter, case studies card sort
Describe the role of an engineer in bringing about access to clean water.	Class discussion, water contaminants	Class discussion, water contaminants
Consider the challenges engineers face to give people around the world access to clean water.	Reflection string activity	Reflection scenario activity
Design your own model water filter.	Plan, build and test	Plan, build and test

TEACHER EDUCATIONAL OBJECTIVE	WHEN/HOW
Incorporate global issues in the classroom.	Case study discussion and reflection activities. Highlight that issues occur globally, in urban and rural areas.
Provide careers related learning within subject lessons.	Throughout workshop emphasise the knowledge and transferable skills engineers need. Relate this to subject learning.
Hands-on activity that develops the pupils' ability to use cross curricular knowledge and skills, and work as a team.	Build activity encourages detailed planning, collaborative working to build the model water filter and evaluative skills to understand and improve model performance.

KEYWORDS

KEYWORD	DEFINITION
Sewage	Wastewater and excrement (faeces and urine) in sewer systems
Discrimination	Unfair treatment on a particular person or group of people
Sanitation	The process of making things clean to protect from ill-health
Human consumption	The process of eating or drinking something
Sustainable	Able to be maintained over a period of time
Conserve	Protect from harm, destruction or loss



ACTIVITIES AND RESOURCES

Activity summary	Support/Challenge	Resources
STARTER (5 MIN)		
Use the starter question to settle pupils after the ambassador introduction and description of Engineers Without Borders UK. Instruct pupils to discuss the answers or give written responses.	Visual aids on the board. Ask pupils to go through their day highlighting when they use water.	Slide 5 Paper (optional)
ACCESS ISSUES (10 MIN)		
PRIMARY: Mind map what it is like not to have access to water. Mexico City case study discussion. SECONDARY: Case study card sort group work. Pupils match location, issue and solution for three case studies.	Pupils consider the long-term impacts to lack of access to clean water.	Access worksheet Case study cards
ACCESS ACTIVITY (10 MIN)		
PRIMARY Use volunteers to represent water sources and populations. Using a string to represent a water distribution system, discuss the challenges engineers face when providing access to everyone and ask pupils to reflect on the impacts these challenges can have. SECONDARY: Split the class into groups and give each group a scenario card that introduces a challenge to providing water access. Pupils discuss the impact and factors they would consider as engineers tackling this challenge.	Use questions to draw out pupil reflections. Pupils can consider possible solutions that may fit the context of the situation, after analysing contextual factors.	String, scissors, cards Scenario cards
THE ROLE OF ENGINEERS (10 MIN)		
PRIMARY Class discussion to introduce water sources contamination. SECONDARY Class discussion to introduce water sources and contamination. Short activity to think of chemistry techniques used to separate substances.	Use visual aids on the board to probe pupil understanding of filtration and distillation.	Paper (optional)
BUILDING A WATER FILTER (35 MIN)		
Explain how filters work and introduce the materials pupils have to build with. In groups, pupils design their filter by drawing an annotated sketch, then build the designs. Pupils test the performance of their filter and complete the evaluation section of their worksheet.	Remind pupils of the principles of water filtration when designing and building.	Build activity worksheet, build materials, test water, resources to dry up spillages
FEEDBACK (5 MIN)		
Pupils write down things they enjoyed and did not enjoy and what they feel they have learned from the workshop. Teachers fill in post workshop feedback form.	Give pupils instructions on what to write: I enjoyed... I did not enjoy... I learned that....	Sticky notes Feedback form