



Access to clean water and sanitation to help prevent the spread of diseases is global issue. Educating people is as important as providing the equipment needed. In order to support people in the developing world who may not have access to clean water and toilets we need solutions that are local, fairly inexpensive and can be understood in a local context.

WHAT A WASTE

Research project

Have you ever wondered... how much water a toilet uses?

Every time you flush the toilet you use water that is good enough to drink. The waste that leaves your home travels a long way to be processed and made safe, which is expensive. In some parts of the developing world people don't have access to enough water for cooking and drinking, let alone for flushing a toilet.

Imagine you are a research assistant for a Government funded project just starting in Kenya and:

- Find out where our drinking water comes from
- What happens to the waste we produce?

Some things to think about...

- How has water been processed before it reaches our homes?
- What happens to the waste water that leaves our homes via the sewage system?
- How is waste processed to make it safe?
- What happens to the materials once it has been processed?
- What alternative toilet systems are there that people in the developing world might use?
- What might be the impact on health and wellbeing when toilet systems are introduced to these communities?
- What is the connection between standing water and malaria?
- What is being done about this to reduce the number of cases of malaria?

WASHING WITH PLANTS?

Practical project

Have you ever wondered...why some hygiene products contain plant extracts?

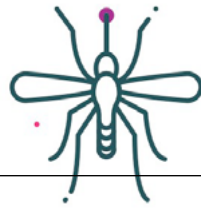
Some people in the developing world do not always have access to commercial soaps or hand cleaning products but may have access to natural plant materials. You know that many plant materials have antibacterial properties and that in some situations people could use these instead.

Imagine you are a botanist for the Royal Society and do some practical experiments to:

- Collect and process common plant materials
- Test if they have antibacterial properties

Some things to think about...

- Initial research to find out what plants might work well
- Deciding how you will find out if they affect bacteria.
- What measurements might you take that will help you decide which is the most effective plant?
- Does the way you process the plant make a difference?
- What safety precautions must you take when working with bacteria?
- Is a single experiment good enough?
- Can you collaborate with other research groups to verify your findings?



TOP TOILETS!

Communication project

Have you ever wondered...how simple solutions can improve people's health and wellbeing?

Imagine you are a WASH (Water and Sanitation) expert working for the international development charity Practical Action. You will know that good sanitation improves lives. Composting toilets or other simple sanitation solutions can make a big difference but sometimes you need to persuade the communities you want to help to see the benefits for the time and effort they will need to put in. Use your communication skills to:

- Explain why developing simple low tech sanitation solutions benefits the health of the whole community
- How better sanitation protects vulnerable people

Some things to think about...

- What low tech but effective sanitation solutions are there?
- How do these systems work, what materials are required and how much time and effort is needed to build them?
- How will the maintenance of these systems be organised?
- Why do these systems benefit groups such as the elderly or women in particular?
- What problems might going to the toilet in the open cause?
- Which groups are the hardest to persuade to use toilets and why?
- What economic benefits might the community gain from developing such systems?
- Does defecation into standing water have other disease implications?



Useful Links

www.bit.ly/40-shocking-facts-about-water
Interesting facts and statistics on water

www.unicef.org/wash/index_wes_related.html
Information about common water and sanitation-related diseases

www.youtube.com/watch?v=LCKsU4bPFOQ
Video on why Global Goal 6 is important in eradicating poverty

www.wateraid.org
Information about the challenges of water and sanitation

www.practicalaction.org/improved-toilets-3
Sanitation systems used in different countries

Health and safety

If you carry out any experiments or practical activities then you will need to put together a risk assessment. To do this you will need to:

1. Find out if any of the substances, equipment or procedures you plan to use are hazardous
2. Assess the risk to yourself and others (which means what could go wrong and how serious that could be, low medium or high)
3. Decide what you need to do to reduce that risk e.g. wearing goggles or other protective equipment and knowing how to deal with any potential accidents

You will need to show your risk assessment to your teacher and get his/her approval before doing any practical activities.

Remember! Judges will be looking for projects that demonstrate good communication skills, show innovation and creativity and that address a real-world problem.

Use the Student Profile form to help structure your project www.crestawards.org