



We benefit from a well-developed water and sewage system; a wide choice of cleaning and health products and a free healthcare system. It has taken many years to create the healthy environment we live in but not everyone in the world benefits from these things. Supporting people in developing countries on their journey towards a healthier and safer environment is a responsibility we should take very seriously. Sharing our knowledge, our scientific and technical expertise and our resources to help others to help themselves is an important contribution that can make the whole world a better place.

THE SANITATION DIVIDE

Research project

Have you ever wondered...how many people in the world don't have access to a toilet?

Imagine you are a researcher looking at the world wide provision of private, community and public toilets. The world wide variation in access to this basic facility is enormous but how big is the gap and is this changing? Some groups of people have no toilets at all, others have to share access with too many people but we need to know exactly how many, and where, if we are to target our resources in improving people's lives. Use your research skills to:

- Find out the latest situation in world-wide sanitation
- Analyse how this is changing over time

Some things to think about...

- Different toilets across the world
- Sanitation projects that are improving people's lives
- Trends over time within and between countries
- Ways of communicating that many audiences can access
- Benefits of good sanitation to health and wellbeing
- Impacts on groups such as the elderly and women
- The role people in developed countries can play to improve conditions in some of the poorest parts of the world

EXTRAORDINARY EXTRACTIONS

Practical project

Have you ever wondered...how some plant medicines can have such powerful effects?

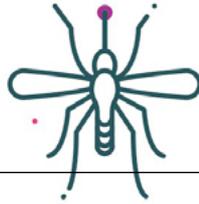
You may already know that plants in remote parts of the world, like the Amazon rain forest, may contain some incredibly useful chemicals we might use as medicines. Some of these may have strong antibacterial properties and could be used by people in developing countries as alternatives to expensive hand sanitizers. Indigenous people often understand the use of these plants much better than our scientists do.

Imagine you are a botanist investigating different plant materials, you need to undertake practical experiments to:

- Extract the purest form of the essential chemicals from a variety of plants
- Test extracts to determine their antibacterial properties

Some things to think about...

- The separation techniques that will give you the purest samples
- Methods that could test a plant's antibacterial properties
- Development of a hand sanitizer from the extracted chemicals
- Testing to see if plant extracts are safe to use
- Collaboration with others to test a variety of plants
- Developing an extraction technique that can be used by people in remote areas without specialist equipment.



SANITATION FOR ALL

Communication project

Have you ever wondered...how communities in developing countries improve their living conditions?

Imagine you are the director of a Non-Governmental Organisation that seeks to improve the sanitation in slums in the poorest parts of the developing world e.g. Nakuru in Kenya. You are trying to persuade a group of local government officials to invest in infrastructure needed to develop an organised sanitation system. Mobilising the support from residents will be important. You will need to consider ongoing maintenance as well as the set up costs, how might these be funded on an ongoing basis? Use your communication skills to:

- Persuade officials and residents why they should invest in this development
- Inform them of other successful projects from around the world
- Explain the health and other benefits that could be the result of such a project

Some things to think about...

- Previous successful projects that you can demonstrate using 'case studies'
- Projects that have failed in the past and why
- The costs involved
- The funding that could be used to support these developments
- The benefits to health and wellbeing that would result
- Persuading local officials who may not live in the area themselves that this is an important project



Useful Links

You may find some of the links below useful for your project:

www.unicef.org/wash/index_wes_related.html

Information about common water and sanitation-related diseases

www.un.org/sustainabledevelopment/health/
Information on Global Goal 3 'Health and Well-being'

www.wateraid.org

Information about the challenges of water and sanitation

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

www.saps.org.uk/secondary/teaching-resources/839-extracting-oil-from-plants-gcse
Resources on different extraction techniques

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