

STEM Family Learning

Stop the Spread



Welcome Back!



Planning and Research

Imagine you work for a charity and have received some funding to help pupils in a school in Kenya reduce the spread of disease in their school.

Your challenge is to:

1. Build a model of a hand washing device that could go in their playground which will enable them to capture rainwater then use it to wash their hands.
2. Develop education materials which will help children aged 8-11 understand why hand washing is important. This could be a poster, animation, game, play, leaflet.

A STEM challenge tackling a global problem...

The spread of infectious diseases



Think about the last time you were ill.

Was it a cough or a cold? Something worse like measles?

What is the worst illness you have had?

There are lots of different diseases.

Some happen everywhere whilst others, like malaria, occur more in developing countries where people do not have access to clean water and good hygiene and sanitation.

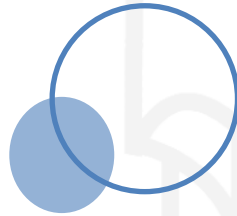
Lets shake hands!

Your Stop the Spread challenge will focus on preventing diseases that are spread by hand to hand contact.

To help get you thinking about this topic you are going to do two short activities to discover more about...

1. How quickly infectious diseases can spread.
2. What you can do to reduce the spread of infection.

<https://www.youtube.com/watch?v=x3QUtQQp8W4>



How do diseases spread?



Infectious diseases are diseases caused by micro-organisms that penetrate the body's natural barriers.

In two minutes brainstorm all the different diseases you know, here and around the world and divide them into infectious diseases and non-infectious diseases.

Infectious Diseases

Non-infectious Diseases



How do infectious diseases spread?



Any ideas?...

Brainstorm in two minutes!

Write on the desks!



What is already being done?

1. Educating children

<https://vimeo.com/169209845>



2. Child-to-child training



What do they do in Kenya?

Engineers in Kenya have come up with a simple design for a hand washing station which is widely used and looks like this...



It's called a 'Tippy Tap'.

It only dispenses water, it doesn't collect it.

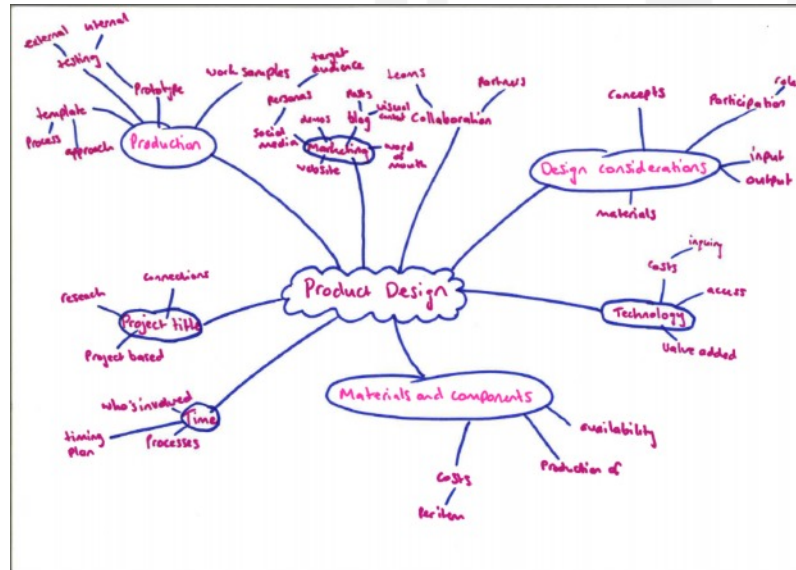
Do you think you could do better?

<http://www.tippytap.org/the-tippy-tap>



Research Task 1:

Create a mind map which collates all of your thoughts.



Thoughts to consider: Will your design collect and store water? How will you dispense your water? Will there be soap involved? How will you prevent the spread of infectious diseases? What elements might you have to consider about the location of the device? What materials will your prototype be made from?

Start collecting recyclable materials for your model making!



Stop the Spread!

