Water Filtration Workshop

Workshop Outline, 9/02/2016, Charling Li

# Brief:

This workshop aims to:

* Introduce students to engineering and the role of an engineer in society;
* Introduce Engineers Without Borders and our vision/mission statement;
* Use real-life examples to demonstrate the application of humanitarian engineering in the context of clean water generation;
* Define sustainability and appropriate technology;
* Engage students in an interactive, fun activity to promote teamwork and problem solving in the context of building a water filter;
* Teach students relevant introductory theory to be able to understand the activity; and
* Finish up by taking questions on post-schooling pathways.

# Theory:

We aim to provide an introduction to:

* Water Quality (Turbidity)

# Materials:

Each kit consists of:

* (1) 2L soft drink bottle top half;
* (1) Printed list of materials, instructions and costs per ‘country’;
* Assorted materials for construction of filter (detailed in supporting document).

Also needed:

* Source of ‘dirty’ water for testing.

# Workshop:

The operation of the workshop is as follows:

* Parameters are given to students at the commencement of the activity.
  + Monetary budget: (TBC)
  + Time limit: 25 minutes
  + Success: Filtering out clean water from dirty water
* Students are placed into ‘teams’ representing countries with their own limitations
* Students are given 5 minutes to plan out a design
  + They must choose the materials to use to place into the filter
* The shop opens after 3 minutes from beginning
* Students are then given up to 20 minutes to build their water filter
* The shop closes after 13 minutes from beginning
* Students are then given 5 minutes to test their water filters

## Requirements:

* Minimum (3) volunteers to fill roles:
  + Primary Presenter/Workshop Coordinator
  + Secondary Presenter
  + Shop operator
  + Driver
  + Kit Manager
* Cost per kit (for 6 kits):
  + Few materials can be recycled or donated (rubber bands);
  + Few materials can be reused (2L soft drink bottle top half);
  + $x.xx per kit for acquisition of construction materials;
  + Expected < $10 for maintenance over a semester.