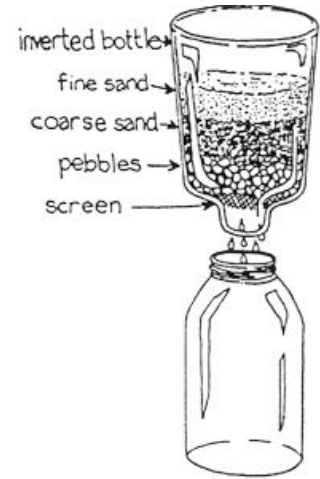


Integrating Making into Instruction: Engineering

Water Filtration Project: Make Your Own Water Filters

Access to clean water is both a local and a global issue where many people live with polluted water that is unhealthy to drink. This hands-on activity provides students with an opportunity to engage in the design thinking process and engineer a water filter using ordinary materials.

As they engage in this activity, students learn about the importance of water and its role in our everyday lives, and what must occur each day so that they can have clean water.



Aligned NGSS Standards

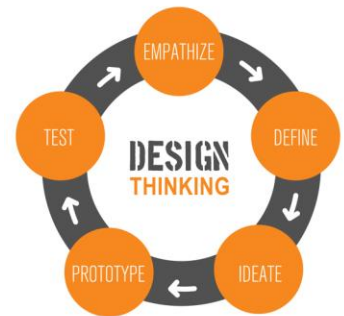
- 3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
- 3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
- 3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Applicable Maker Technology or Materials

- Simulated waste water
- Water bottles or cups
- Variety of materials to use as filter media
- Materials to test water filtration

Exploration of the Design Thinking Process with ClearTouch Interactive Panel and Snowflake MultiTeach

Prior to engaging in the water filtration project, the design thinking process will be introduced using the ClearTouch Panel and Snowflake MultiTeach. Through a series of interactive activities, the audience will learn more about how the design thinking process is applicable to all, while also learning about how these two technologies can be utilized in daily instruction.



Scan the QR code to download activity materials!

Want more information? Please contact Jennifer Kouo, Assistant Professor
jkouo@towson.edu