

**Title:** - Recycling of Fecal and Waste Water

**Content Area/Topic:** -Research 3/Global Health

**Grade Level(s):** 10 - 12

### **Objectives**

1. Describe the global health issue of waste disposal.
2. Analyze global statistical data on the open defecation and lack of bathrooms globally.
3. Describe diseases and disorders associated with lack of facilities (bathrooms/latrines) for excretion of human waste (solid and liquid) and processing/disposal (sewage plants) of human waste
4. Develop and design a household gadget that allows human fecal waste to recycled and water from human water waste (urine) to be recycled.

**Instruction:** -Students are to familiarize requirements and process for the Toshiba project at the <https://www.exploravision.org/>. Students are to watch and take notes based on the videos provided on the course website, <http://www.elysciencecenter.com>, on the topic of open defecation and the global health impacts. Students are to design and create a model that will allow human fecal waste and water from human water waste (urine) to be recycled. Students are to follow directions provided at <https://www.exploravision.org/> during the development of the model.

Students are also to design a power point presentation using information found at <https://www.exploravision.org/> **AND** <http://www.elysciencecenter.com> . The powerpoint should follow the guidelines found at <https://www.exploravision.org/> and should also include the following information

- Global and country, state, local statistical data on open defecation.
- Global, country, state and local statistical data on lack of bathroom facilities and sewage treatment plants.
- Global statistical data on diseases that result from open defecation
- Worldwide initiatives to decrease open defecation

Both the power point and model will be presented in class.

**Assessment:** -Students will be assessed with a teacher developed rubric based on quality of research, collaboration and quality of the model and presentation. Students MAY also be assessed by their peers, via a peer assessment rubric completed by the teacher, based on the quality of the presentation.