

## Simple At-Home Water Filter.

This is a fun and simple way to demonstrate the way water is filtered as it travels through Earth.

*(This project is purely to demonstrate water filtration, not to produce drinking water. DO NOT drink the filtered water.)*

### Materials:

- A clear plastic bottle
  - *You can use any type of plastic bottle. The larger the plastic bottle the more water you can filter.*
- Gravel
  - *If you don't have gravel you can try using dried pasta like macaroni, dried rice, or dried beans.*
- Sand
  - *If you don't have sand you can try cotton balls or add additional pieces of fabric.*
- One coffee filter or strip of cloth
  - *Other options: an old t-shirt or sheet cut into a smaller piece*
  - *Triple layered pieces of paper towel*
- A rubber band or string
- A cup of dirty water
  - *You can mix water with dirt, leaves, and small stems.*

**\*Note:** *The amount of gravel and sand needed will depend on the size bottle you choose.*

## Directions:

1. **Step 1:** Cut the bottom off of the bottle to make a large opening.
  - **Do this step before the in class presentation!**
2. **Step 2:** Remove the cap from the bottle and attach the coffee filter or fabric to the outside of the neck using the rubber band or tie tightly with string.  
***\*\*\*Make sure the mouth opening is completely covered.\*\*\****
3. **Step 3:** Turn the bottle upside down so that the nozzle is facing down and pour the sand, about two inches, into the opening so that it fills up the bottle past the neck. The coffee filter or cloth should keep any of the sand from falling out.
4. **Step 4:** Pour about 2 inches of sand into the bottle.
5. **Step 5:** Pour about 2 inches of gravel into the bottle.
6. **Step 6:** Place some type of container under the water filter and then pour dirty water through the large opening at the top.

**Do you see a difference in the clarity of the water?**

