TRUCKEE MEADOWS
PARKS FOUNDATION
AWARENESS • APPRECIATION • STEWARDSHIP

The Student Stewards Program presents

Distance Learning - Week 5: Air Pollution

(6th Grade)

The air we breathe is colorless, usually odorless, and is made up of many gases. Though we often associate oxygen with air, the composition of air is actually about 21% oxygen, 78% nitrogen, and small amounts of other gases such as carbon dioxide, argon, and methane, as well as tiny particles (aerosols). Aerosols can be things like dust and pollen, picked up naturally in the wind. But these particles can also be from burning fossil fuels, power plants, or forest fires. But because we cannot see air, it is easy to assume that the air we breathe is clean.

Knowing if our air is clean or not can be difficult because some pollutants are particles so small that we cannot see them and some are gases without color. So how do we know if the air we breathe is clean or polluted? Scientists use complex sensors to detect the presence and quantity of specific pollutants in the air. Since we don't have access to these, today we are going to make a sensor to detect particulate matter in our air using materials you likely already have at home.

Materials:

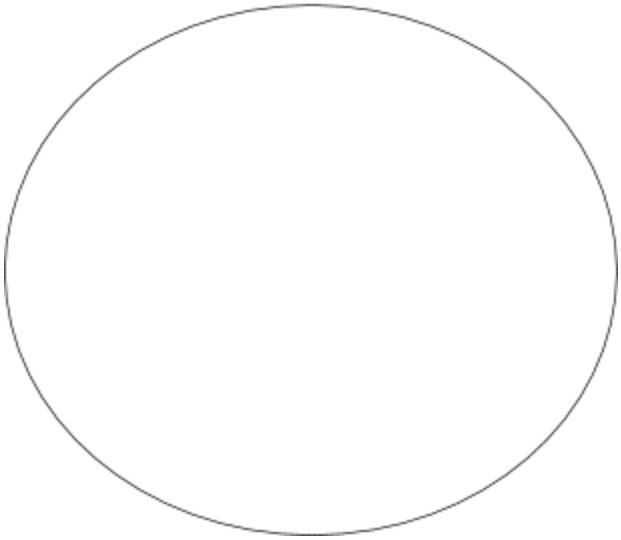
- A piece of white or clear plastic (e.g. the lid to an old food container)
- Petroleum jelly (e.g. Vaseline)
- Duct tape
- Wood block or brick

Instructions:

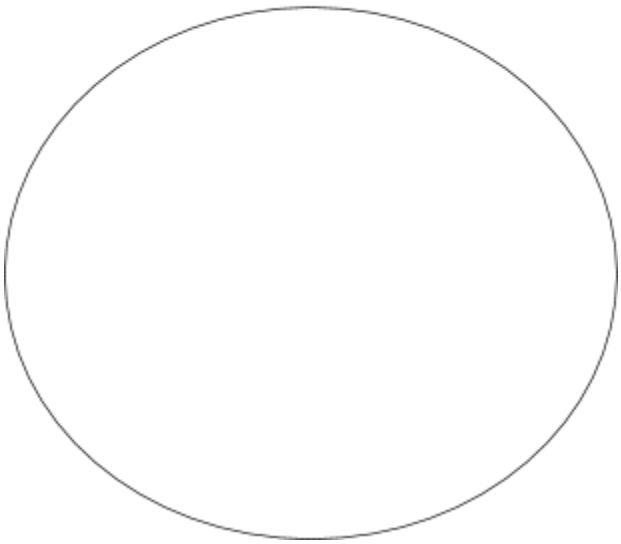
1. Secure the plastic to a wooden block or brick using duct tape.
2. Coat the top of the plastic piece with petroleum jelly.
3. Identify an outdoor location with good air circulation (higher up is preferable) and place brick with plastic.
4. Let sit for a few days.
5. Each day, observe the plastic. If you are using a clear piece of plastic, set it on a white piece of paper.
6. Examine the top of the plastic for any particles collected. Record your results.

View your plastic every day and draw your observations:

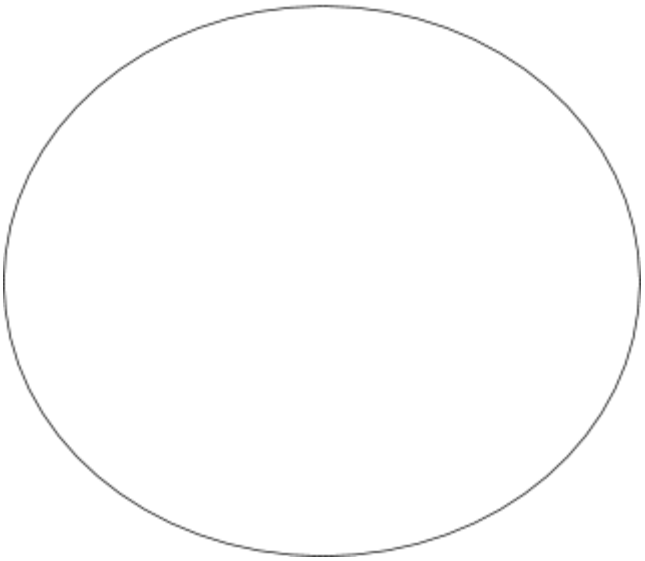
DAY 1:



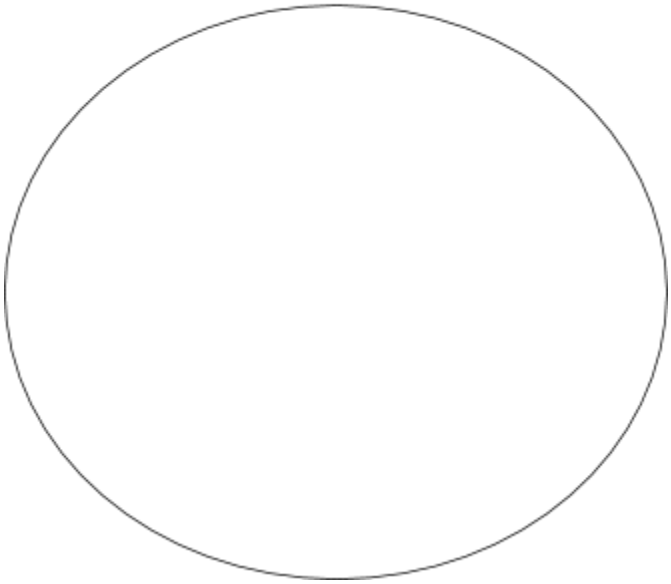
DAY 2:



DAY 3:



DAY 4:



What does your plastic look like on Day 4 compared to Day 1? Do you see any changes? Why or why not?

What kind of particles have collected on your plastic? Where do you think they came from? Do you see any sources of pollution near you?

How do you think that moving your plastic to another place in your yard would impact the amount of debris collected on it? What about moving it to another part of town?

Cross out the sources of air pollution, and color the solutions to air pollution in the picture below!

Cross out the **POLLUTION**, and color the **SOLUTIONS**!