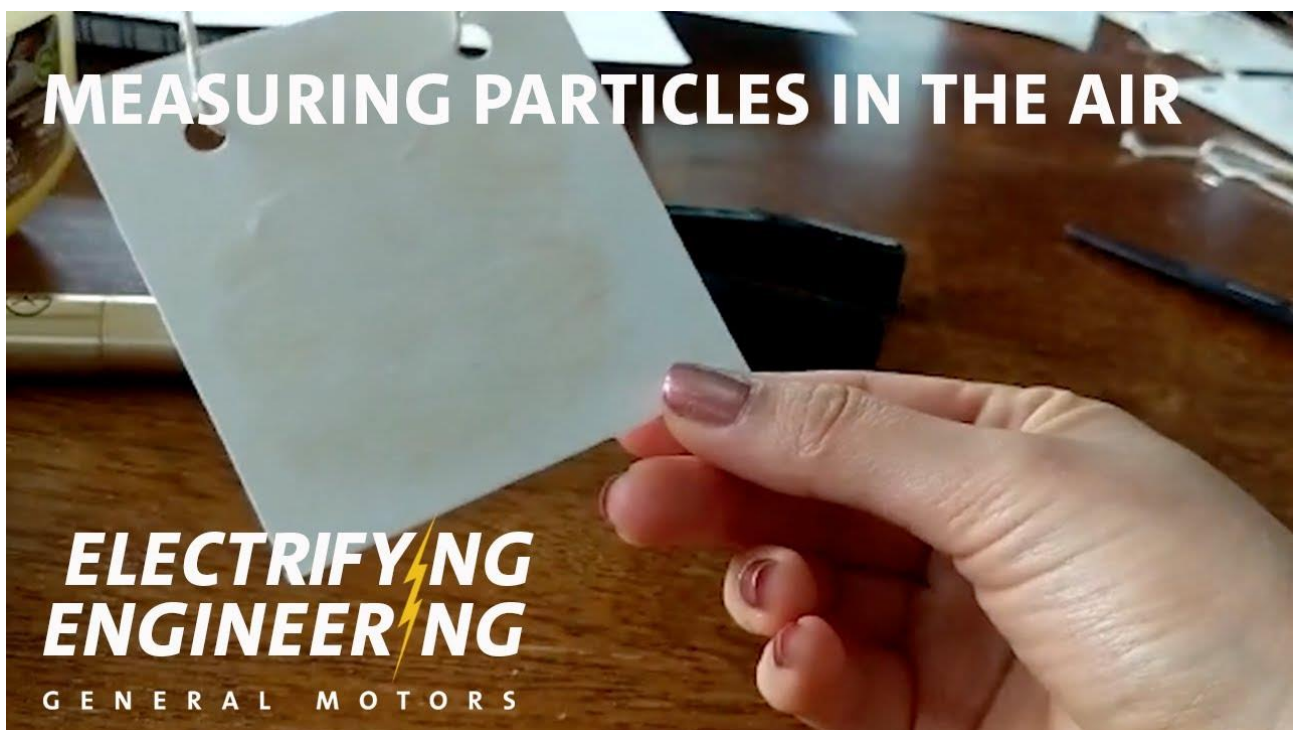




How to Measure for Particles in the Air

Adapted from GM's Electrifying Engineering Series

1-2 HOURS + PERIODIC OBSERVATION CHECKS | INDOOR ACTIVITY | AGES 5-7



SUMMARY

General Motors Environmental Engineer, Sophia Borroni-Bird, demonstrates how students can measure air quality with this at-home experiment.

OBJECTIVES

Students will

- Identify air pollution contributors
- Describe advantages of the electric cars
- Create and test a particle air testing setup



MATERIALS

- petroleum jelly
- string (about 24-36 in long)
- pen or pencil
- thick construction paper or poster board
- scissors
- hole punch
- notebook

ESSENTIAL QUESTIONS

1. What causes air pollution?
 2. What contributes to air pollution where you live or go to school?
 3. What are ways we can reduce air pollution?
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Lesson – How to measure for air pollution?

INTRODUCTION

GM is working toward converting all of their gas/fuel-powered vehicles to electric so as not to create tailpipe emissions. Tailpipe emissions are the fumes that come off the back or top of vehicles and contribute to air pollution.

Burning fuel releases gasses like CO₂ into the atmosphere. CO₂ and other greenhouse gasses contribute to climate change.

Activity – Testing for Air Particles

PREPARATION

Before beginning, you will need to clear a space in your home that can get dirty – e.g., kitchen counter or dining table to prepare your cutouts. You may also want to watch the [demonstration video](#) in its entirety.

BUILD A BATTERY

- Identify three areas in your home, yard, or other location of your choice where you want to test for air particles.
- Cut the pasteboard or construction paper into 3-inch x 3-inch squares. Repeat until you have three squares.



- Use the hole punch to cut two holes at the top of the paper in each corner. You can also use scissors to create holes if you do not have a hole punch.
- Cut three pieces of string about 12 inches long.
- Thread your string through the holes and tie it together.
- Use your finger to apply a small layer of petroleum jelly to cover one side of your poster board/ paper.
- Hang you three squares in the areas you identified.
- Leave your square hanging for 6-12 days.
- Take notes every few days to identify any changes you see on your squares.

Activity – What’s Up in the Atmosphere?

1. Read, What’s Up in the Atmosphere? Exploring Colors in the Sky. This is a free printable or downloadable PDF, <https://www.globe.gov/web/elementary-globe/overview/air-quality>.
2. Print and color Ms. Patel teaching her students about aerosols, <https://bit.ly/3uim23W>.

More Information on air pollution.
<https://youtu.be/e6rglsLy1Ys>

