

Air Pollution

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Objectives:

1. To develop a greater awareness of the variety and amount of particulate matter in the air.
2. To determine relationships between amount of pollution and time of day or week.
3. To locate general sources of pollution for the area and to develop some suggestions for improving air quality.

Apparatus Needed:

1. Microscope slides
2. Petroleum jelly
3. Masking tape
4. Magnifying glass or microscopes

Recommended Strategy:

Coat one side of each slide with petroleum jelly. Select several different places within your city or residential area to place the slide; e.g., inside school classroom, outside of school classroom, inside your home, outside your home, window ledges, and field. Label the location on masking tape that you attach to each slide. Each student should have three slides to look at, and these slides should have been placed in the places that I mentioned above.

Expose all slides the same length of time (6 hours, 1 day, 1 week, etc.)

After collecting the slides, place them on a sheet of white paper with coated side up. Examine under strong light with magnifying glass or microscope. Each student should have a microscope for this purpose.

Compare exposed slides with control slides that were left indoors in a closed box or drawer.

I asked the students questions about what they observed on the slides. Some of the questions are as follows:

Which of your slides had the most particles?

Where was this slide placed?

Which of your slides had the fewest particles?

Compare results with your classmates find out who had the slide with the highest particle count. Where was it placed?

What is the likely source of this pollution?

How might this pollution be reduced?

What might be done by individuals, community groups, industry, or government to help to reduced air pollution?

The above questions can also be given on paper and handed out to the students to work on in class.

This lesson was originally developed for the Outdoor Classroom project.

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