1st Grade Science Fair. (A)

Purpose

Safe Cleaners

To determine whether vinegar is just as effective as a cleaning agent as a chemical-based supermarket cleaner.

Additional information

The biosphere is at danger. As wonderful as technology has been in enhancing our lives and creating longevity, it's also been a double-edged sword. Human activity and the constant drive to expand has come at the expense of the global environment. Greenhouse gases are contributing to global climate warming as emissions caused by human activity continue to increase. The depletion of the ozone layer, essentially the protector of life on earth, has never been greater. Chemical agents sprayed into the atmosphere rise-upward and take their toll on the ozone and our environment. Empty containers often end up in landfills indefinitely. We need to do our part and take action now through use of natural and biodegradable products.

Required materials

- Diluted vinegar
- Supermarket cleaning product that is safe on glass (such as Windex)
- Cleaning cloth
- Old newspaper

Estimated Experiment Time

Less than 5 minutes

Step-By-Step Procedure

- **1.** Find a dirty mirror or window. It should be a surface that is visibly dirty all-around.
- **2.** Scrunch up your newspaper and pour some vinegar on it. The paper should be saturated, but only so it's partially wet with vinegar (enough to clean the surface). Scrub one-half of the window/mirror for about a minute, making sure to scrub in a swooping circular motion.
- **3.** On the second-half of the window, spray your supermarket cleaning agent. Take your cleaning cloth and clean the second-half of the window for a

minute, usnig the same swooping circular hand motion.

- **4.** When you're done, observe the window / mirror. Which half is cleaner? Is there a noticeable difference?

Note

With an eye on the environment (and the consumer pocket-book), many big-name companies are starting to jump on the "natural" bandwagon. You'll find more natural-based cleaners these days than in the past, but be weary of labels! Some companies use clever marketing gimmicks to make their products appear to be "natural", when in fact they are not. A common ploy is to label a bottle with "natural orange/lemon scent". When a consumer glances at the product they see "natural" and assume the cleaner is natural. Always check the listed ingredients to see if the product you're purchasing is truly made of natural ingredients.

Observation

Which method of cleaning the window do you think is the most environmentally friendly? Was there enough of a different between the chemical cleaning agent and the vinegar to justify its use and its potential negative effects on the environment?

Result

In most cases, there is little to no difference in the result of the window cleaning. Many supermarket cleaners contain harsh chemicals that are dangerous to the environment and atmosphere. Vinegar is a non-toxic acidic liquid that can clean just as effectively as many chemical based agents, without the damaging side-effects. The newspaper was used to demonstrate how recycled material can make a viable substitute for cleaning clothes, which requires a lot of energy to produce.

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1st Grade Science Fair (B)

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Bringing learning to life

Reusing Your Trash

by Alexa Bach McElrone

Type

Environmental Sciences

Grades

1-3

Difficulty of Project

Easy

Cost (Approximate Cost of completing the project)

Less than $15

Safety Issues

None

Material Availability

Common

Approximate Time Required to Complete the Project

Approximately 1-2 hours, variable depending on complexity of designs selected.

Objective

To become familiar with items your family regularly throws in the trash and to find a new use for one or several of these items.

Materials

- 1-5 items collected from household trash
- Materials necessary for repurposing these items (examples may include scissors, crayons, glue, tape, construction paper, string, markers, etc.)
- Blank white paper
- Poster board
- Markers or crayons

Research Questions

1. What kinds of things do you throw away at home?
2. Where do they come from? (clothes, food, art projects)
3. Where do you put your trash? (all in one bin, several, a recycling bin, donation bin?)
4. What kinds of things do you recycle at home?
5. What could you do to reduce your trash?
6. How could you reuse items you usually throw out?

Terms, Concepts and Questions to Start Background Research

Fun (and not so fun) facts about trash and recycling in the United States:

From the Clean Air Council:

1. Only about one-tenth of all solid garbage in the United States gets recycled.
2. Every year we fill enough garbage trucks to form a line that would stretch from the earth, halfway to the moon.
3. Each day the United States throws away enough trash to fill 63,000 garbage trucks.
4. Throwing away one aluminum can wastes as much energy as if that can were 1/2 full of gasoline.
5. Recycling an aluminum soda can saves 96% of the energy used to make a can from ore, and produces 95% less air pollution and 97% less water pollution.
6. It takes 90% less energy to recycle an aluminum can than to make a new one.

Experimental Procedure

1. Walk around the house and look in each garbage container. Notice what you see inside and make a list.
2. Put a special mark, such as a star, next to any item that could be recycled through your local government or other program instead of thrown out.
3. Collect one to five items that would normally be thrown out in your house.
4. Sit down with a piece of paper and brainstorm several ways you could reuse these items instead of throwing them in the trash (certain containers can be painted and turned into a flower vase, food scraps can be used to start a compost pile, shoe boxes or other cardboard could be used as your poster board for the presentation).
5. Pick one idea per item.
6. Assemble all materials needed to reinvent these pieces of trash and begin to create!
7. The completed items can be brought on site for a science fair presentation. If you are not able to bring the completed items on site (eg. Compost pile) try taking a picture and adding this to your poster board.

Bibliography

U.S. Environmental Protection Agency Recycle City http://www.epa.gov/recyclecity/

National Geographic Recycling Plastic
http://www.nationalgeographic.com/resources/ngo/education/plastics/index.html

RecycleWorks County of San Mateo, California
http://www.recycleworks.org/kids/trash.html

Second Grade Science Fair

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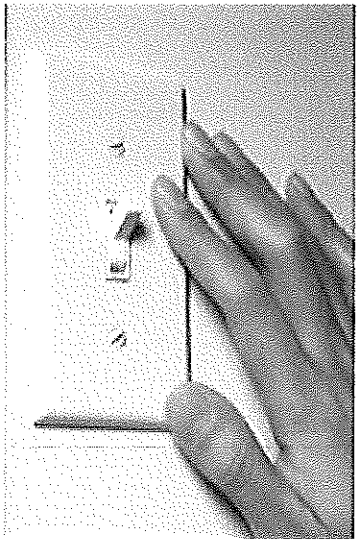
Mapping the Energy Use of My Classroom



by Alexa Bach McElrone

Type

Environmental Science

Grades

1-6

Difficulty of Project

Easy to Medium

Cost (Approximate Cost of completing the project)

Less than $10

Safety Issues

None

Material Availability

Common

Approximate Time Required to Complete the Project

Less than four hours.

Objective

- To enhance the understanding and awareness of energy use
- To explore the concept of energy efficient

Materials

- Graph paper
- Pencil
- Colored pencils, crayons, or markers

Introduction

Each day we are surrounded with and use many fantastic technologies. While not always obvious, these technologies require energy to operate. This energy use can add up in terms of monthly power bills as well as the natural resources required to produce that power off site. Numerous energy efficient tools exist today to help us conserve resources and reduce our monthly payments. This experiments helps you identify what is using energy in our classroom and encourages you to brainstorm strategies for your school to reduce its consumption and monthly fees.

Research Questions

1. What is energy? Does your classroom use much energy during the day?
2. What items need energy or power in your classroom?
3. After finishing your energy drawing, or energy audit, did you find more or less items than you expected?
4. Do you notice any energy efficient devices or features in your classroom?
5. If your school wanted to save money on their monthly electricity bills, what could they do?

Research Terms

- Energy/power
- Energy audit
- Conservation
- CFL lightbulbs
- Motion-sensors
- Energy efficient
- EnergySTAR
- Natural resource

Experimental Procedure

1. Select a classroom in your school to use for this experiment.
2. Using the graph paper and pencil, draw the walls of your classroom. Mark where any doors or windows are located.
3. Pick one wall to start. Walk back and forth along that wall to identify anywhere an electrical outlet is located. Mark these on your drawing with color #1.
4. Select a second color to mark anywhere there is a power cord plugged into the wall.
5. Repeat steps 3 and 4 on all remaining walls until you have made a circle around your classroom and are back to where you began. Use color #1 and color #2 to show outlets and power cords on all walls for consistency.
6. Select a third color pencil, crayon, or marker. Walk around the room and identify any objects that need energy but are not plugged in to a wall. They may be plugged in to a floor, battery operated, or not plugged in at the moment. Mark these on your drawing.
7. Either turn your sheet of graph paper over or select a new sheet. Draw the walls of your classroom but this time label the drawing 'Ceiling'.
8. Examine the entire ceiling and identify any objects that require energy to operate (including lights and overhead projectors). Mark these on your graph paper.
9. Sit back and examine your drawings.

Bibliography

U.S. Department of Energy – Kids Saving Energy
http://www.eere.energy.gov/kids/

Alliance to Save Energy – Energy Hog Game
http://www.energyhog.org/

Roofus' Solar and Energy Efficient Home Tour
http://www1.eere.energy.gov/kids/roofus/

Energy Kids/Energy Ant
http://tonto.eia.doe.gov/kids/

Energy STAR Kids
http://www.energystar.gov/index.cfm?c=kids.kids_index

3rd Grade Science Fair

The Big Dig

Print Return

Abstract

Even though many cities have recycling programs, a lot of trash still ends up in the dump. Find out which materials will break down and which materials won't. Will the results of this experiment change which products you often buy?

Objective

In this experiment you will test how biodegradable different materials are.

Introduction

Every year each household contributes waste products by using and consuming disposable products and materials. Sometimes these things are recycled, like many paper, plastic and glass products. Other times the items are re-used, like old tires that are chipped and used to build playground surfacing materials. Some people even save kitchen scraps to add to a compost pile in their yard.

Everything else ends up in a landfill, the place where the garbage man takes all of your trash. Landfills are huge piles of trash that are often buried to help the waste products break down, or decompose. Products that decompose rapidly are called "biodegradable materials." These products are good for the environment because they will break down in the landfill and will not leach harmful chemicals into the soil.

How do you know which products are biodegradable? Sometimes products that are biodegradable will say so on the package. This way a consumer can make an informed choice about which types of products to buy. In this experiment, you can conduct your own survey of selected materials to investigate if they are biodegradable or not in the soil. Which types of products are biodegradable? How does this effect your choice as a consumer?

Terms, Concepts, and Questions to Start Background Research

To do this project, you should do research that enables you to understand the following terms and concepts:

- landfill
- biodegradable
- biomass
- composting
- recycling

Bibliography

Here are some helpful web sites from the Energy Information Administration Kid's Page that discuss the use of plastics (recycling and new degradable plastic materials), landfills and biomass:

- MacIntyre, Stacy and Altman, Paula. 2005. "Conserving Energy: Recycling Plastics." Washington, D.C.: EIA Kid's Page, Energy Information Administration. [3/2/2006] http://www.eia.doe.gov/kids/energyfacts/saving/recycling/solidwaste/plastics.html
- MacIntyre, Stacy and Altman, Paula. 2005. "Energy & Waste: Landfilling." Washington, D.C.: EIA Kid's Page, Energy Information Administration. [3/2/2006] http://www.eia.doe.gov/kids/energyfacts/saving/recycling/solidwaste/plastics.html
- MacIntyre, Stacy and Altman, Paula. 2005. "Biomass: Renewable Energy from Plants and Animals." Washington, D.C.: EIA Kid's Page, Energy Information Administration. [3/2/2006] http://www.eia.doe.gov/kids/energyfacts/sources/renewable/biomass.html

Materials and Equipment

- shovel
- backyard or other place to bury items
- soil
- popsicle sticks
- permanent marker
- different products and materials to test:
  - diapers: cloth, Huggies, Pampers, Luv's...
  - plates and cups: paper, wax coated paper, Styrofoam, plastic...
  - paper: notebook paper, gift wrap, magazine paper, construction paper, cardboard...
  - wood: redwood, pine, bamboo, fir...
  - bags: paper bags, plastic grocery bags, garbage bags, sandwich baggies...

- any other consumer product made by different brands or materials!

Experimental Procedure

1. First decide which types of materials you are going to test. You can use any type of disposable item that is made by different brands or with different materials. You should pick something that will have at least five different samples. For this example, I am going to use different types of disposable cups.
2. Label one popsicle stick for each item using permanent marker.
3. Find a spot to bury your items that is out of the way of traffic, like near a fence, the corner of the yard, or in the garden.
4. Get your parents permission to dig a hole there. If they say it is okay, then dig a small trench large enough to fit all of your items in a row. For example, if I am burying 5 cups, I would dig a hole about 1 foot deep, 1 foot wide and 2 feet long.
5. Line the five items in a row in the trench.
6. Bury each item, placing the matching labeled popsicle stick in the dirt to mark each item.
7. Leave the items buried for at least 3 weeks, preferably 6 weeks or more. This is the most difficult aspect of the experiment because you need to plan ahead!
8. While you are waiting, you will need to develop some kind of a way to measure how much an item has decomposed in the ground. To do this you can develop a scale to help you assign number values to your data. For example, one type of scale might rate the materials from 1 to 10 depending upon how much material was left:

1	2	3	4	5	6	7	8	9	10
No degradation, all material still there	Material is soft but whole	Few holes	Some holes	More holes	About half of the material is gone	Many holes	Large tears, material is falling apart	Scraps of material left	Fully degraded, no material present

9. When time is up (you will want to keep track of the time buried using a calendar), go out with your shovel to dig up your items one at a time. As you dig up each item, rate the item according to the scale you developed. Record your data in a data table:

Number	Item Description	Rating
1		
2		
3		
4		
5		

10. When you are finished you will want to make a graph of your data. Make a bar graph by writing your scale on the left side (Y-axis) and drawing a bar for each type of material. Remember to label and color code the bars of your graph.
11. Which materials degraded the most? The least? Which materials will break down best in a landfill? Which materials do you think we should buy?

Variations

- In addition to being biodegradable, many materials are compostable. Kitchen waste, paper products, and wood products are examples of things that can be used in a compost pile to make fertile, nutrient rich soil. Do an experiment composting different materials. Compare and contrast different methods of composting: open vs. closed, covered or uncovered, with or without turning, with or without watering. You can also experiment with vermiculture, or worm composting.
- Much of the trash that ends up in a landfill falls into distinct categories. Conduct a survey of a landfill and what types of things are dumped there. You can sometimes find these statistics online from your city or county landfill. Make graphs to show the frequency and distribution of different landfill materials. Which things are the most common items in a landfill? Are there any common problem materials, like tires?
- For more science project ideas in this area of science, see Environmental Science Project Ideas.

Credits

Sara Agee, Ph.D., Science Buddies

Last edit date: 2006-04-20 00:46:02

Career Focus

f you like this project, you might enjoy exploring related careers.

Materials Scientist and Engineer
What makes it possible to create high-technology objects like computers and sports gear? It's the *materials* inside those products. Materials scientists and engineers develop materials, like metals, ceramics, polymers, and composites, that other

Environmental Scientist
Have you ever noticed that f it can sometimes be especia the middle of a busy city? O exhaust from vehicles. Cars, motorcycles add pollution to

4th Grade Science Fair Oil Spill

Purpose

To demonstrate the effect that an oil spill will have on marine life.

Additional information

Many environmentalist and volunteer groups go out to sea after an oil spill to help clean up. Why? What effects does an oil spill have on marine life?

Required materials

- Large glass or plastic jar (a large, washed out pickle jar will work well)
- 1 gallon distilled water
- Blue food coloring
- Cooking oil
- Logbook or notebook
- Rubber duck
- Rubber whale, fish or other marine life bath toy

Estimated Experiment Time

A few hours.

Step-By-Step Procedure

- **1.** Wash the jar and dry thoroughly. Fill the jar ½ full with distilled water and add food coloring, stirring to disperse the color. This will simulate your ocean.
- **2.** Place the bath toys in the water so they float.
- **3.** Pour the cooking oil into the jar, avoiding pouring directly on the bath toys. If your jar is not big enough, you can use the rubber duck or only one bath toy if you'd like.
- **4.** Record your observations at this point.
- **5.** Gently swirl the water around in the jar to simulate waves. Record your observations.

Note

A great way to record your observations is through pictures – if you have a digital

camera or a traditional camera, ask an adult to help you take photographs of each step of your experiment.

Observation

What happens during step four, after you add the oil to the water to simulate an oil spill? What happens at step five, when the water is swirled around to simulate waves?

Result

During step four, the oil added will float on top of the water in your jar, the same way oil spilled in the ocean floats on top of the ocean water. It will coat the bottom of the rubber duck. During step five, when you simulate waves, the water and the layer of oil on top of it will splash the rubber duck and coat it with oil. How do the results of this experiment apply to oil spills in real life? Do you think ocean life is affected by an oil spill? What do you think happens to animals that come to the surface to breathe, such as whales and dolphins? Do they get coated with oil as they surface? How can marine life benefit from the volunteer groups that help clean up the oil spills?

Take a moment to visit our table of Periodic Elements page where you can get an in-depth view of all the elements, complete with the industry first side-by-side element comparisons!

5th Grade Science Fair

Purpose Oil Spill Clean Up

To replicate the effects of an oil spill and apply an effective system to clean it up.

Additional information

An oil spill occurs when liquid petroleum hydrocarbon is released into the environment due to human error. This form of pollution can take months, even years to effectively clean from the environment. The effects can be devastating, especially to birds and amphibious life that's effected by oceanic spills. Birds that are exposed to the ravages of an oil spill are prone to kidney damage, liver malfunction, dehydration, and metabolic imbalances. Unless human intervention is applied, most bird exposed to oil spills die.

One of the most devastating oil spills occurred in 1989 in Prince William Sound, Alaska. The Exxon Valdez oil tanker was carrying 53 million gallons of crude oil to Washington when it struck Bligh Reef. Over 10 million gallons of crude was released into the pristine sea of Prince William Sound, covering over 11,000 square miles of ocean.

There are several methods currently available to clean up oil spills. These include:

- Boats equipped with skimmers designed specifically for skimming oil from water surfaces
- Dispersants, a special chemical that works like a detergent to help break up oil so that bacteria and other natural organisms in the ocean can digest it
- Burning off the oil (which in itself leads to other environmental concerns)
- Sorbents that are used to soak up the oil

Required materials

- Small piece of aluminum foil
- Vegetable oil (or other suitable cooking oil)
- Deep baking dish
- Water
- Several cotton balls

Estimated Experiment Time

About 15 minutes

Step-By-Step Procedure

- **1.** Pour water into the baking dish so it's about 1/2 full
- **2.** Shape the piece of foil into a small canoe or boat, roughly the size of your thumb.
- **3.** Fill your canoe with the cooking oil and place it on top of the water in the baking dish
- **4.** When you want to create your "oil spill", tip the canoe over
- **5.** Wait a few minutes as the oil contaminates the water and begins to spread
- **6.** Now it's time to clean up the mess. Use your cotton balls to soak up the oil by placing the cotton over the contaminated areas.

Note

You'll find it will take a LOT of cotton balls to soak up that small amount of oil that was spilled into the water. Imagine the effect of millions of gallons of oil being spilled into the ocean and how much effort would be required to "absorb" it all.

Observation

You'll note that the oil stays on the surface of the water and begins to dissipate at an almost exponential level. If you were to mimic rough waters, the oil would spread at a greater pace. What other methods to you suppose we could have used to clean up this spill? What do you think would be the hardest to clean up in the case of an oil spill, an ocean, lake, or river?

Result

The cotton ball fibers absorb the oil from the water, but also take a lot of water along with it. The number of cotton balls required to clean up that small amount of oil is staggering! If you were to try to clean the spill with something such as a ladle (to replicate skimming) you'd find you'd have even greater difficulty cleaning it.

Take a moment to visit our table of Periodic Elements page where you can get an in-depth view of all the elements, complete with the industry first side-by-side element comparisons!

6th Grade Science Fair

Air Particles and Air Quality

Abstract

What does the phrase, "Like a breath of fresh air," mean to you? This common phrase can have different meanings: calming, relaxing, invigorating, energizing or CLEAN! After all, you never hear anyone say, "Like a breath of dirty air," do you? Find out how clean the air is in this simple experiment.

Objective

In this experiment you will test the quality of air by measuring the number of air particles from different locations.

Introduction

The air we breathe has a lot do do with our health. As we breathe in fresh air, our lungs absorb oxygen from the air and pass it into our blood stream so it can be transported throughout our bodies. Oxygen is important for our whole body to have the energy it needs to survive.

It is important for all of us to have clean air to breath. People living in industrial areas are more likely to develop asthma. People who smoke are more likely to suffer from lung disease. You may have seen an example of the lungs from a smoker which are small, black and unhealthy looking. Years and years of breathing particles of tar and smoke can cause the lung tissue to develop cancer, and can even cause death.

Breathing clean air is important for keeping your lungs nice and healthy. Tiny particles of dust and soot in the air can enter your lungs when you breathe, and can block the movement of oxygen. Harmful particles can come from pollutants in the air like dust, smog, soot, smoke, and other chemicals. Because of the importance of clean air to our health, most cities keep track of air pollution by issuing smog warnings on days when there is a high level of air pollution.

How clean is the air where you live? What about around your school, where you play at the park, or where your parents go to work? Is the air at a park cleaner than air near a busy intersection? You can do a simple experiment with Vaseline to find out the answers to these questions.

Terms, Concepts, and Questions to Start Background Research

To do this project, you should do research that enables you to understand the following terms and concepts:

- air quality
- smog
- particles
- lungs
- asthma

Bibliography

Here are some helpful websites:

- PBS, 2003. "PBS Now, Science and Health: Deadly Smog," Public Broadcasting Service (PBS). [accessed 3/3/2006] http://www.pbs.org/now/science/smog.html.
- EPA, 2006. "U.S. Environmental Protection Agency," U.S. EPA. [accessed: 3/3/2006] http://www.epa.gov/.
- ALA, 2004. "Defending the Clean Air Act: State of the Air 2004," American Lung Association. [accessed: 3/3/2006] http://www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=50353.

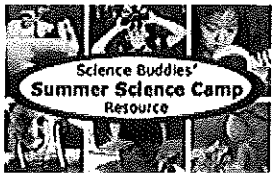
Materials and Equipment

- Vaseline
- string
- black permanent marker
- milk carton
- hole punch
- magnifying lens

Project Summary

Difficulty	1
Time required	Average (about one week)
Prerequisites	None
Material Availability	Readily available
Cost	Very Low (under $20)
Safety	Use caution and have parents with you at test sites with automobile traffic nearby.

- digital camera



Summer Science Camp Resource

Experimental Procedure

1. Save a milk carton to use for your experiment. Clean and dry the carton thoroughly before use.
2. Cut the carton into four flat pieces by cutting along the side seams of the carton. Cut each side into 3 square pieces, each piece will be approximately 3 inches long and 3 inches wide. You will have a total of 12 squares when you are done.
3. Using the hole punch, punch a hole in one corner of each square.
4. Tie a piece of string through the hole to make a loop for hanging the square up, on a tree branch for example.
5. Make a data sheet to record where you place your squares, and what data you later will collect from them:

Location:				
Square 1				
Square 2				
Square 3				
TOTAL				
Average				

6. Decide on your four locations. Good locations are: your back yard, a busy street corner, your school, a park, a shopping center, a parking lot, etc.
7. Write the name of each location in your data table. Include the cross streets (Cedar and Sacramento Street), the address (1234 Maple Street) or the name of the location (Tilden Park or Valley Mall) in your table.
8. Using your black permanent marker, draw a 1 inch by 1 inch box in the center of the white side (what used to be the inside of the carton) of each square.
9. Write the name of the location on the bottom of each square, you will use three squares for each location.
10. At each location, find a place to hang up three of your collection squares. You can hang the squares from a tree branch, sign post, light post, or any other safe landmark. If the location is busy with traffic, be sure to have an adult with you for safety.
11. Before you hang each square up, spread a thin layer of vaseline in the black box in the center of each square with your finger. Hang up the collection square.
12. Leave your collection squares for 3–5 days. It is best to leave them on days when there is no rain, so if you hear it is going to rain be sure to go and collect them even if you have not left them out for a full five days.
13. After you have waited, it is time to collect your data from the squares.
14. Revisit each location bringing your data table, magnifying glass and a digital camera.
15. Remove the squares one at a time. Each time, use your magnifying glass to count the number of visible particles you see stuck in the Vaseline inside the boxed area. Write the number in your data table.
16. Take a picture of the square. If your camera has a micro-setting for close ups, the pictures will turn out better.
17. Proceed to the next square and/or location until you have collected all of your data and filled out your data table.
18. For each location you will have collected three sets of data, so you will want to average the data to get a better result. First add together the three counts and write the answer in the "TOTAL" box. Then divide this number by 3 and write the answer in the "Average" box.
19. Now you are ready to make a graph of your data. Make a bar graph by writing a scale for the number of particles on the left side (y-axis) and then by drawing a bar up to the correct number of particles for each location. Remember to label each bar of your graph, or make a color key.
20. Print out your photos for your poster too.
21. Which sites had the most particulate matter in the air? Is this what you expected? Were each of your three counts the same or different? What do you think this tells you about the relative air quality at each location?

Variations

- Try testing the air quality at the same location over a course of several weeks, replacing the collection squares every few days. How does the air quality change over time? Compare your data with the air quality forecast in your local newspaper; how

well do they match up?

- A rainy day can be very cleansing for the air. Compare air samples before and after a rainy day; are there less particles? Where do you suppose those particles go? What does this have to do with acid rain?
- For more science project ideas in this area of science, see Environmental Science Project Ideas.

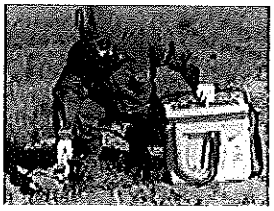
Credits

Sara Agee, Ph.D., Science Buddies

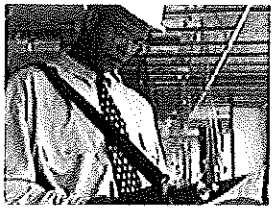
Last edit date: 2006-04-20 00:43:33

Career Focus

If you like this project, you might enjoy exploring related careers.



Environmental Compliance Inspector
Our environment on planet Earth is made up of the air, water, and land. Environmental compliance inspectors work to protect and preserve our environment and the public by making sure communities, individuals, businesses, and state and local governments are in compliance with pollution laws and regulations.



Industrial Health & Safety En
Think of all the jobs in the w machinery, chemicals, toxins or travel to places above or all of these jobs carry an ele workers. Industrial health an work to minimize this risk. Tl and help workers and compa comply with safety laws. The of mechanical processes, ch psychology and performance hazardous conditions. Protec excellent communication skil of responsibility.

Environmental Scientist
Have you ever noticed that for people with asthma it can sometimes be especially hard to breathe in the middle of a busy city? One reason for this is the exhaust from vehicles. Cars, buses, and motorcycles add pollution to our air, which affects our health. But can pollution impact more than our health? Cutting down trees, or deforestation, can contribute to erosion, which carries off valuable topsoil. But can erosion alter more than the condition of the soil? How does an oil spill harm fish and aquatic plants? How does a population of animals interact with its environment? These are questions that environmental scientists study and try to find answers to. They conduct research or perform investigations to identify and eliminate the sources of pollution or hazards that damage either the environment or human and animal health. Environmental scientists are the stewards of our environment and are committed to keeping it safe for future generations.

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