



Title: Litter From Lunchtime

Grade: Pre K-2

Subjects: Science, Health, Language Arts

Time: 45 minutes

Objectives:

Students will be able to...

- Describe litter, and explain where it comes from, what happens to it and why that matters.
- Identify ways humans can help improve the environment by reducing, reusing and recycling.
- Describe objects by their relative location and how they move.
- Make observations and draw conclusions about a litter related event.

Standards:

Technology Standard 3: Understand the relationship among science, technology, society and the individual.

- **Benchmark # 3:** Know that man-made materials, products, and systems can affect the environment adversely, yet there are things that can be done to circumvent this process (e.g., disposing of waste properly, reusing old objects in new ways).

Science Standard 10: Understand force and motion.

- **Benchmark # 3:** Know that the position of an object can be described by locating it relative to another object or the background.
- **Benchmark # 5:** Know things move in many different ways (e.g., straight line, circular motion).

Science Standard 12: Understand the nature of scientific inquiry.

- **Benchmark # 1:** Know learning can come from careful observation and simple experiments.

Health Standard 2: Know environmental and external factors that affect individual and community health.

- **Benchmark # 1:** Know the sources and causes of pollution in the community.

Language Arts Standard 6: Use reading skills and strategies to understand and interpret a variety of literary text.

- **Benchmark # 1:** Use reading skills and strategies to understand a variety of familiar literary passages and texts (e.g., picture books, predictable books...).
- **Benchmark # 5:** Relate stories to personal experiences.

Materials:

- Trash bags
- Paper lunch bag
- Plastic sandwich bag
- Plastic utensils
- Empty drink can
- Paper napkin
- Wrapper from granola bar
- Portable fan with multiple speeds
- Shallow container filled with water
- Copies of "Litter From Lunchtime" handout (provided below)
- Pencils and crayons
- Copy of "The Day the Trash Came Out to Play" by David Beadle

Overview:

Litter is an environmental issue than spans the globe. Since a significant number of human activities produce some type of waste, and many individuals feel no sense of ownership for the trash they generate, or the places in which they leave their trash behind, the potential for littering is considerable. The Keep America Beautiful organization has studied this issue at length and identified four types of general locations where litter will most likely accumulate. These include:



- Outdoor venues, such as concerts, fairs, and special events that attract large crowds.
- Highways, including on and off ramps.
- High traffic locations with convenience stores, fast food restaurants, parks and picnic areas, and businesses that host food vendors.
- “Transition points” where people gather temporarily, such as train and bus stations, entrances to public buildings and elevators.

While recognizing there is no definitive description of a potential litter candidate or site, some of the most likely sources and origins of litter have been identified. These include:

- Individuals who discard waste on the ground rather than in trash receptacles.
- Drivers who toss trash out their vehicles or neglect to cover loads in truck beds.
- Business owners who neglect to properly maintain and cover dumpsters.
- Owners of recreational and commercial sites (marinas, loading docks, construction and demolition sites) who fail to provide adequate storage and disposal facilities.
- Homeowners who fail to cover trash and recycling bins before collection and collectors who neglect to secure trash during collection.

Regardless of where trash is left, when it is inappropriately disposed of it becomes litter. At that point nature’s forces, wind and weather, move litter from place to place. It finds its way into highways and waterways, backyards and playgrounds, just about anywhere on Earth.

Litter is a menace, contaminating our natural resources. Some studies suggest that almost 20% of all litter becomes water pollution, posing a threat to our drinking water, and the plants and animals that live in those habitats. Litter is also dangerous. Motorists who toss trash out car windows and flying debris from trucks are accidents waiting to happen. Litter is costly. Millions of taxpayer’s dollars are diverted every year away from needed services to clean up debris that, if left unchecked, can negatively impact neighborhoods, decreasing property values and encouraging other problems, such as graffiti and vandalism.

Kid’s Speak:

Litter is trash that has not been properly recycled or thrown away. People sometimes throw trash on the sidewalk, street or out a car window instead of putting it into a garbage can or litterbag. Sometimes it blows out of trucks or away from construction sites. Sometimes animals rip open trash bags left out for trash collectors. When people leave trash behind, not taking responsibility for it, it becomes litter and a problem for everyone.

Litter doesn’t stay where it is dropped. Wind and water move it from place to place. It can be found on the ground, in bushes and trees, and in ponds, rivers, and streams. It can be found almost anywhere on Earth. It can pollute our drinking water, harm plants, animals and their habitats, cause accidents and cost a lot of money to clean up. If everyone reduced the amount of trash they made, reused the things they could use, recycled what they couldn’t use and carefully threw away what was left, then litter would not be as much of a problem.

Eco-Fact:

In many states, such as Georgia, littering is a criminal offense. People caught littering may be fined and/or sentenced to cleaning up a litter-filled area of the community.

Procedures:

Before Conducting the Lesson:

- Plan a picnic. Depending on the school’s location and schoolyard amenities teachers may want to picnic somewhere on school grounds or make arrangements to take students to a nearby picnic area or other suitable location.

- On the day of the picnic pack a lunch that will leave the following items leftover for the lesson: a plastic sandwich bag, plastic utensils, a drink can, a paper napkin, and a wrapper, perhaps from a granola bar. The lunch should be packed in a paper bag.
- Before going on the picnic, introduce the topic of litter. Explain to the students that litter is trash that people do not throw away properly. Remind the students to keep all their trash in their lunch bags and boxes until it can be collected. Enjoy the outing!
- Following lunch, collect all the trash and recyclables for proper disposal. Make a big show of this procedure having students participate. Next gather students in a circle. Take out the lunch bag containing the plastic sandwich bag, plastic utensils... Use this trash to open a discussion on litter, asking questions similar to the following:
 - What should we do with the wrappings our food comes in when we are finished with them?
 - Where should we throw the trash? What is the proper way to get rid of trash?
 - Which pieces of this trash can be recycled or reused? Which pieces cannot?
 - Why is it our responsibility to dispose of trash properly?
 - What do you think would happen if we left the trash here on the ground?
 - What kind of problems do you think it would cause? Who could it hurt? How would it move?
 - What else can be used to pack lunches so there is less trash to throw away?
 - Why are reusable containers and lunch boxes a better choice for packing a lunch?
- Before returning to the classroom, read the story "The Day the Trash Came Out to Play" by David Beadle. Tell the students they will be conducting an experiment to see how trash becomes litter. Be sure to take the lunch bag of trash back for the experiment.

Litter from Lunchtime Lesson:

1. Give the students a brief explanation about litter: when trash becomes litter, what happens to it and what potential problems it can cause. (See Kid's Speak section.)
2. Show the students the contents of the paper lunch bag again. Place each piece of trash on a table in front of a fan. Explain to the students that the fan represents the wind and the trash is litter that has been left on the ground. Place a shallow dish of water on the other side of the trash, in the path of the fan's breeze. This represents a water habitat. Ask students what they think will happen to the pieces of trash when the fan is turned on? Record their predictions.
3. Turn on the fan. Start at a low speed and increase as necessary for desired results. Observe what happens to the trash. Some trash should move further than other pieces because of the difference in weight. Some may get caught in the water. Others may get caught up on furniture or other obstacles in the classroom just as they would if they were outside. Some may not move. Open a discussion based on how the trash is dispersed and how accurate the predictions were. Questions might include:
 - Which piece of trash moved the greatest distance?
 - Why did some of the pieces move farther than others? What obstacles were there?
 - What does this tell us about how trash moves from one place to another?
 - What kind of obstacles can trash get caught in?
 - If the trash that landed in the water was in a real stream or river, what might happen to it next? What kind of problems might this cause?
 - What things can we do so there is less trash left over from our lunchtime?
4. Close the lesson by making a class chart that reminds everyone there is something they can do to help solve the litter problem. A printable sample chart is provided below this lesson.

After Conducting the Lesson: - Ask for volunteers to pick up and properly dispose of the trash used in the experiment. - Students complete the "Litter From Lunchtime" worksheet (provided below) that asks them to decide how to properly dispose of each piece of trash and suggest an alternative container to use next time.

Adaptations:



- In locations where it is not possible to take students on an outside picnic rearrange the classroom furniture to provide inside picnic space. Scatter some picnic blankets on the floor and play a nature CD to provide water and animal sounds for background noise.

Extensions:

- To provide practice in counting skills and whole number concepts have students count the number of pieces of trash used in the experiment. How many pieces are in the water? How many pieces are recyclable? Are there fewer pieces in the water or on the floor of the classroom? How many more pieces blew into the water than blew around the classroom?
- Save all the trash collected at the picnic. Sort through the trash selectively. Ask students to classifying each piece shown to them as either true trash that needs to be thrown away properly or items that should be reused, recycled or composted. Be sure to wear rubber gloves and use caution when sorting. Chart the information in a chart shown above in Step 4