

Lesson Title: A Lot of Litter

Ohio Standards Connection:

Standard(s): Earth and Space Sciences,

Benchmark(s): (grades 3-5)

Grade 5 Benchmark C Describe Earth's resources including rocks, soil, water, air, animals and plants and the way they can be conserved.

Indicator(s):

Grade(5) Indicator 6 Investigate ways Earth's renewable resources (e.g., fresh water, air, wildlife and trees) can be maintained

Benchmark (s): (grades 6-8) **Life Sciences**

C. Explain how energy entering the ecosystem as sunlight supports the life of organisms through photosynthesis and transfer of energy through the interactions of organisms and the environment.

Indicator(s):

Grade(7) 3. Explain how the number of organisms an ecosystem can support depends on adequate biotic (living) resources (e.g., plants, animals) and abiotic (non-living) resources (e.g., light, water, soil). **6.** Summarize the ways that natural occurrences and human activity affect the transfer of energy in Earth's ecosystems (e.g., fire, hurricanes, roads, oil spills).

Lesson Summary: Students will be able to: identify sources of litter as they read through a play; take a leadership role and address public issues as they deliver a presentation to their peers; and identify and assess the possibilities of group decision making, cooperative activity and the elements of the rules of fair play.

Estimated Duration: class period

Background: Waste material can be found anywhere people live, work and play. Waste that is not properly contained is called **litter**. It is important to learn about litter because people create the problem. Litter, such as paper, cans, food scraps, tires and other waste materials improperly disposed of, can be unsightly and often present a health hazard. Litter can result from a direct action (throwing trash out the car window) or an indirect action (failing to secure trash can lids tightly). Deliberate littering is an improper form of waste disposal similar to **illegal dumping**. In both cases, harm may be done to the environment in one or more ways, including injury to wildlife and threats to human health. The environmental impact of litter depends on the nature of the littered items and the characteristics of the land or water where it is deposited. Food scraps, when left in a natural

environment in small amounts, may not be harmful to the environment because they become part of nature's recycling system. Food waste on city streets, however, is a health **hazard**.

Human-made materials, such as plastic, glass, steel and aluminum, are both unsightly to the landscape and a potential hazard to wildlife and people. These objects may become a home to disease-spreading insects, such as flies and mosquitoes. They can also cause external injury to animals and humans. For example, it is common for birds to ingest waste materials or become trapped, causing injury or death.

Litter comes from many sources. The following is a list of seven sources of litter, as identified by the Keep America Beautiful organization. It is estimated that 80 percent of all litter originates from the first five sources.

- **Household refuse:** Improperly covered household trash cans or trash contained in plastic bags are a potential source of litter. Animals or people can knock over cans and open bags. Wind can also blow trash from open cans.

- **Commercial refuse:** Stores and businesses generate large amounts of waste. If garbage cans and dumpsters do not have tightly-fitted lids or locks, the waste can be easily scattered.

- **Construction/demolition sites:**

Scrap building materials can be blown or carried away from these areas to become litter if fences are not put around the site and containers with secure lids are not used.

- **Uncovered vehicles:** Material can fall or blow from trucks or trailers creating serious hazards for other motorists. Loads should be tied down or covered with a tarp.

- **Loading docks:** The constant loading and unloading of vehicles can produce all kinds of debris. Storage bins and dumpsters should always be kept closed.

- **Motorists:** Drivers and/or passengers create litter when they throw waste from their vehicles. Car litter bags and trash cans conveniently located at parks, rest areas, gas stations and fast food stores help reduce this type of litter.

- **Pedestrians:** Waste is often dropped or thrown on the ground by people on foot. Containers along sidewalks and in recreation areas provide an opportunity to avoid littering.

Littering isn't just unsightly, unhealthy and wasteful; it's illegal. Under Ohio law, litter is any trash thrown, discarded or dropped by a person onto public property, private property not owned by the individual, or into Ohio's waterways. Littering is a serious offense, punishable by fines up to \$500 and 60 days in jail.

Law enforcement officers can issue tickets for casual littering from motor vehicles as they do for traffic violations, such as speeding. In addition, the driver of a motor vehicle or watercraft can be held responsible for litter discarded onto the roadway or waterway by passengers.

*****See Life Depends on Water website to learn how litter and floatables affect water quality.**

Instructional Procedures:

1. Copy the play (one per student). Props are needed if the play is performed with an audience. Each "source of litter" character will need to hold a sign that has the poem they will be reciting on the back. For example, on the front of the sign print their character with a bold marker, so when the student reads the poem, the name of the character (COMMERCIAL SOURCE) faces the audience.
2. Using the Background information, discuss the causes of litter with the class.
3. Distribute copies of the play and assign parts.

4. Read through the play. Before reading Act II, which takes place at a city council meeting, pause for a short discussion. Talk about local government and the democratic process. Explain to students that the family in the play uses the city council to help them solve a problem and improve the community.
5. Finish reading the play. Discuss the sources of litter emphasized in the play.
6. Discuss the play and make and needed changes that would improve it.
7. If students will be performing the play for other classrooms or other audiences, discuss props, costumes, and encourage creativity in performing the play. If needed, find and/or make the costumes and props.
8. After several practices, perform the play.
9. **Assessment** is embedded in the performance of the play by evaluating the speaking, listening and delivery of a presentation to peers.
10. **Extensions:**
 - The play can be performed in one short period by reading the litter poems in Act II only.
 - After reading the litter poems in Act II, have the students write their own poems to describe the seven sources of litter.
 - Students can write to government officials and share their own ideas of reducing littering.

Materials and Resources:

Copies of the play (one per student)
Props for the play (litter items, baseball mitts, baseball, etc.)
10 pieces of cardboard or chart paper (12 x 18 in.)
Markers
2 long tables (or use several desks)
Chairs (one per student)

Vocabulary:

Adapted from Windows on Waste: An Elementary, Environmental Studies Activity Guidebook about Solid Waste and Environmental Issues, ODNR, 1999. For information, contact:

Education Specialist
Ohio Department of Natural Resources
Division of Recycling and Litter Prevention
1889 Fountain Square Court, Bldg. F-2
Columbus, OH 43224
www.ohiodnr.com/recycling
(614) 265-6333

A Lot of Litter

Cast of Characters:

Greg
Kelly
Mom
Dad
Kitten
Council President
Council Member 1
Council Member 2
Council Member 3
Council Member 4
Household Refuse Source
Uncovered Vehicle Source

Pedestrian Source
Loading Dock Source
Motorist Source
Commercial Source
Construction Source
Extras
Group Choral Chant
Members (*consists of the remainder of the class or group along with the “Sources of Litter” speaking together*)

ACT I

TIME: Early spring, the present

SETTING: An empty lot, filled with litter and trash items (such as cans, plastic bottles, newspaper, broken toys, old furniture, tires, boxes, etc.).

STAGE DIRECTIONS: Greg and his younger sister Kelly enter from stage left, followed by their parents (Mom, Dad). They've been playing baseball at the ball field, which is next to the littered lot.

GREG:

I think the ball went this way (*crosses stage and rummage through junk to locate baseball*).

KELLY:

Wow, look at this place. It's a junkyard.

MOM:

(*enters stage left*) Greg, did you find...(*stops*) This place sure has changed.

DAD:

(*yelling from off stage*) Hey, where did all you guys go?

(*enters behind Mom*) Oh, here you are.

MOM:

(*turns to Dad*) Adam, look at how run-down this lot is.

Remember when we were kids, it was the perfect place to play kickball?

KELLY:

You and Dad played here? No one plays here anymore.

GREG:

Yeah, we don't go any farther than the ball field...too much junk.

MOM:

You're right, you shouldn't play here, but 10 to 15 years ago, it was as nice as the ball field over there. I guess times have changed.

DAD:

It's a shame when you think about how much more room kids would have to play ball, if they cleaned up this place.

KELLY:

(walking around the lot) Who let people throw all this junk here? Shouldn't there be a law or something?

GREG:

Who cares? Let's find the baseball and get back to our game.

MOM:

That's the problem Greg. No one cared enough to keep the place clean. All it takes is one person to start littering and a few years later, you've got an illegal dumpsite.

DAD:

Mom's right. People tend to litter where they already see litter. It doesn't take long before a nice grassy lot turns into *(points around)* this.

KELLY:

Yeah, kind of like Greg's bedroom *(everyone laughs, but Kelly stops to listen to meowing from stage right)*

KITTEN:

Meow *(Kitten is curled up in box, not seen by audience)*. Meow, meow.

KELLY:

Hey, did anyone hear that? I think it's a cat.

DAD:

Kelly, I hear it. *(Dad walks toward the kitten, clearing trash and debris out of his way.)* I think it's coming from over here in this old box. *(Kitten crawls out of box with wire or electrical cord wrapped around entire body, limps toward Dad and Kelly)*.

KITTEN:

Meow, meow.

KELLY:

(She rushes past Dad to Kitten.) It's stuck in the wire *(cord)* and looks hurt. Dad, help me untangle the wire. *(Greg also goes over to help, and moves garbage out of their way.)*

MOM:

(She helps too) You kids should learn from this. Litter isn't just ugly, it's dangerous. *(She puts the tangled wire back in the box where Kitten was.)*

GREG:

(petting Kitten who settles down to nap on the ground) The wire's all off and the cat looks okay. And, here's my baseball.

KELLY:

Can't we do something so that more animals and people won't get hurt?

GREG:

I can't believe I'm saying this, but can't we clean up the lot?

DAD:

(laughing) I want to see that...no, seriously kids, I think cleaning up this lot would be a great community project and I know just the right place to begin.

GREG:

Me too, with lots of trash bags.

DAD:

Not so fast Greg. I think this land is part of the ball field and it belongs to the city. We should go talk to the city council.

KELLY:

Who do we have to call?

MOM:

It'll take more than a phone call Kelly. We can organize a cleanup, but because it's public land, we need to take our plan and present it at the next city council meeting.

DAD:

Are you willing to talk about what we saw today in front of the city council members?

GREG:

I am. Maybe they'll even turn this lot into a playground or something?

DAD:

Now you've got the idea, son. Let's go home and start calling some of our neighbors. (*Mom and Dad start to exit stage left*).

KELLY:

But what about the kitten, can we keep her Mom?

MOM:

We'll have Dr. Evans take a look at her, and then we'll talk about it.

KELLY:

Okay, Mom. (*turns to coax Kitten off stage*) Here, Kitty, Kitty. You're going home with us.

KITTEN:

Meow! (*smiles and purrs*) Meow! (*Licks paw and follows Kelly and the rest of the family as they exit the stage.*)

CURTAIN

ACT II

TIME: Two weeks later.

SETTING: City Council meeting. Members of the council are sitting on the right side of the stage at a long table. (Four desks can substitute for the table.) A podium (this can be made from three stacked boxes) is center stage. Sources of Litter stand in a row on the left – each holding a sign (i.e., Pedestrian Source of Litter, printed in bold marker on the front of sign and Pedestrian Source poem taped to the back – for easier reading during the performance).

STAGE DIRECTIONS: Kelly and Greg sit on chairs in front of the Sources of Litter. Mom and Dad are seated in the real audience and come up to the podium when called.

COUNCIL PRESIDENT:

Ladies and Gentlemen, we are ready for comments and/or suggestions from the citizens in the audience.

DAD:

(*Comes up on stage with Mom. Both parents stand at the podium.*) Ladies and gentlemen of the council, thank you for letting us come here today to present our idea. Our children have been looking into some ways of cleaning up the vacant lot behind the city ball field.

MOM:

It has turned into an illegal dumpsite and they'd like to change that. Greg and Kelly, will you come forward?

GREG:

My sister Kelly and I researched the problem of litter and thought a skit could explain it best. Our friends are going to help us tell you how litter happens. We're also going to do the skit at school for our Earth Day project.

KELLY:

Greg and I asked each person to be one source or cause of litter. By learning the causes of a problem, we can prevent the problem from happening again. We'll start with a source or cause of litter that we all know well- the garbage can (*formally known as the Household Refuse Source*).

HOUSEHOLD REFUSE SOURCE:

Hi! I'm household refuse, better known as the garbage can.
This rhyme will help all of us understand the problem with me.

Oh, Michael put the trash out.

The trash was in two bags.

Mom thanked him and he went to bed.

They hadn't thought of Rags.

Rags was loose that very night.

He came by and smelled food.

He chewed one side and left a mess

Not meaning to be rude.

But then the wind began to blow

And trash began to scatter.

No one meant to cause the mess.

How can we change this matter?

Dad bought covered trash cans

And a nice recycling bin.

The next week when the trash went out
Everything stayed in.

While Haleigh waited for her bus
She saw a shiny can.

It had rolled there from Michael's yard.
Now Haleigh had a plan.

This good girl took it right to school.

The moment she went in,

She placed it in its proper place

The school recycling bin.

GROUP CHORAL CHANT

(*Everyone on stage, except the council, chants*)

Change a bad habit.

How can you make it good?

Don't let it drop- recycle it

And put it where you should.

UNCOVERED VEHICLE SOURCE:

Hi! I'm Uncovered Vehicle Source and this is my story in rhyme:

The truck went down the highway
Heading toward the rummage sale.
The whole rear cab was loaded
Way up above the rail.
The driver didn't notice
That from the rummage pile
Paper and clothes flew about
Down every single mile.
And these things became litter.
As they landed-there they stayed.
If the driver had just stopped to think
About the mess he'd made.

GROUP CHORAL CHANT

(Everyone on stage, except the council, chants)

Change a bad habit.
How can you make it good?
Don't let it drop- recycle it

PEDESTRIAN SOURCE:

Hello! I'm the Pedestrian Source of Litter, better known as people who litter and here is my rhyme:
The teens played ball after school,
They didn't have a care.
They threw candy wrappers and
Pop cans went everywhere.
A little kitten stopped to play
With pop cans in the field.
Its paw got stuck and badly cut
Don't litter-we repeat.

GROUP CHORAL CHANT:

Change a bad habit
How can you make it good?
Don't let it drop-recycle it
And put it where you should.

LOADING DOCK SOURCE:

Hello! I'm the Loading Dock Source and this is my story:
The loading dock was open
As the truck pulled to the gate.
The cartons were unloaded
But the workers couldn't wait.
They untied all the straps and ropes
And pulled new tables out.
But when the trucker drove away
Debris was strewn about!

GROUP CHORAL CHANT:

Change a bad habit
How can you make it good?
Don't let it drop-recycle it
And put it where you should.

MOTORIST SOURCE:

COUNCIL PRESIDENT:

Hi! I'm the Motorist Source and this is my story in rhyme:

Sue and Bob drive down the street
They're hungry so they stop.
They buy two double burgers
And each one drinks a pop.
They should recycle all the trash
But this is what they do;
They throw the garbage on the street
And now it spoils the view.
It changes all it touches
The road is not so nice.
Next time we hope that Sue and Bob
Will please take our advice.

GROUP CHORAL CHANT:

Change a bad habit.
How can you make it good?
Don't let it drop-recycle it
And put it where you should.

COMMERCIAL SOURCE:

Hi! I'm Commercial Source and this is my story in rhyme:
The sidewalk sale was held in June
And many shoppers came.
But when the sale was over
The place was not the same.
They put the leaflets on the cars
They passed them out all day.
But by the time the sun went down,
The leaflets blew away.
The merchants took the clothing in
But much was left behind.
Leaflets, bags and wrappers
Were left for you to find.

GROUP CHORAL CHANT:

Change a bad habit.
How can you make it good?
Don't let it drop-recycle it
And put it where you should.

CONSTRUCTION SOURCE:

Hi! I'm Construction Source and here's my rhyme.
The building crew worked all week long,
The house grew straight and tall.
The workers put the shingles on
But let the wrappers fall.
Cartons, twine and boxes
Were left out in the yard.
And some of it was scattered,
The crew was caught off guard.

GROUP CHORAL CHANT:

Change a bad habit
How can you make it good?
Don't let it fall-recycle it
And put it where you should.

I'm impressed! You children have gone to a lot of trouble to show us how litter happens and how we can correct the problem. Now, what about that illegal dumpsite?

COUNCIL MEMBER 1:

How can we help you. Do you have any ideas?

KELLY:

After we clean up the lot, we're asking the city to let us use it as a public playground.

COUNCIL PRESIDENT:

Is there any discussion?

COUNCIL MEMBER 3:

Will the children participating in the cleanup be properly supervised so no one gets hurt?

DAD:

My wife and I will take responsibility for supervising the clean-up, plus we'll contact the local litter prevention and recycling office for their help in organizing the clean-up.

COUNCIL PRESIDENT:

Do I hear a motion to turn the vacant lot into a playground if the neighborhood cleans it up?

COUNCIL MEMBER 2:

I move that we let the neighborhood children use the playground if they organize a cleanup and the place stays a safe and clean play area.

COUNCIL MEMBER 4:

I second that motion and ask that we vote on the motion.

COUNCIL PRESIDENT:

All in favor signify by saying "aye."

ALL COUNCIL MEMBERS:

Aye.

COUNCIL PRESIDENT:

It's unanimous! The motion carries.

ALL:

Cheer and shake hands.

COUNCIL MEMBER 1:

Council President, at next month's meeting, I'd like to look at fencing in the playground and maybe, find a way to add some playground equipment.

GREG:

Thank you so much.

KELLY:

We hear about it in class all the time, but this really is democracy in action.

COUNCIL MEMBER 4:

Thank you all for working together to make our town a better and cleaner place.

COUNCIL PRESIDENT:

And the next time one of us starts to litter, I'm sure we'll think of your skit and "don't let it drop."

ALL:

(Everyone on stage smiles and chants)

So change a bad habit

How can you make it good?

Don't let it drop- recycle it.

And put it where you should.

CURTAIN

Credits: *A Lot of Litter* was written by Beverly Klimp.