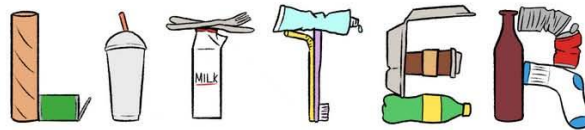


TEACHERS GUIDE
OPEN YOUR EYES TO LITTER – VOLUME 1

OPEN YOUR EYES TO



A fun activity and coloring book for kids!

English:

CC.1.4.K.E With prompting and support, illustrate using details and dictate/write using descriptive words.

CC.1.4.PK.W With guidance and support, recall information from experiences or books

CC.1.4.2.H Identify the topic and state an opinion.

6.1.2.C Explain how choices have consequences.

CC.1.4.PK.O With prompting and support describe experiences and events.

CC.1.5.K.A Participate in collaborative conversations with peers and adults in small and larger groups.

CC.1.4.1.E Choose words and phrases for effect

Ecology:

4.5.PK.B Identify things in the natural environment that can be harmful to people, pets and other living things.

4.5.3.C Identify different types of pollution and their sources.

4.5.PK.C Identify ways people pollute the environment.

4.5.2.C Identify how people can reduce pollution.

4.1.1.C Describe a simple food chain within a terrestrial habitat.

4.1.3.C Identify sources of energy

4.3.PK.A Identify how the environment provides for the needs of people in their daily lives.

4.5.3.D Describe how waste is generated. • Identify and propose a solution for a waste issue in the school setting

4.5.1.C Describe how pollution affects the health of a habitat.

4.5.2.D Describe how people can help the environment by reducing, reusing, recycling and composting.

4.2.1.A Explain the path water takes as it moves through the water cycle.

4.2.3.A Define the term watershed. • Identify the watersheds in which you reside.

4.2.3.C Identify plants and animals that live in lakes, ponds, streams, and wetlands.

4.5.PK.D Describe how everyday human activities generate waste.

Social Studies:

5.2.2.D Explain responsible community behavior.

5.1.K.B Explain the need for rules.

5.2.K.C Identify classroom projects/activities that support leadership and service.

5.2.K.B Identify a problem and discuss possible solutions.

6.4.3.G. Identify local geographic patterns of economic activities.

Mathematics:

CC.2.1.K.A.1 Know number names and write and recite the count sequence.

CC.2.1.K.A.2 Apply one-to-one correspondence to count the number of objects.

CC.2.1.K.A.3 Apply the concept of magnitude to compare numbers and quantities.

CC.2.4.2.A.1 Measure and estimate lengths in standard units using appropriate tools.

CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass, and length.

CC.2.4.3.A.4 Represent and interpret data using tally charts, tables, pictographs, line plots, and bar graphs.

CC.2.2.2.A.1 Represent and solve problems involving addition and subtraction within 100.

Introduction:

Our goal in creating this guide was to provide teachers with resources to help teach students about litter and the impact they can have on their environment by taking responsibility for litter in their own community. The *OPEN YOUR EYES TO LITTER* book can be used as a singular activity, or as part of a larger cross curricular curriculum. Activities can be adapted to suit a variety of grade levels and abilities. Feel free to pick and choose the activities that work best for your classroom.

Our experience is that the more hands-on, real-life activities you involve your students in, the more they integrate their own personal connection with the environment and understand that one person can make a difference. If you live in an area that has a Keep Pennsylvania Beautiful affiliate, the folks there can be a valuable resource. Keep Pennsylvania Beautiful also offers support for anyone in a county where there isn't an affiliate. Visit www.keppabeautiful.org for an affiliate listing. The booklet was carefully written so as not to encourage young readers to pick up trash. Likewise, if you choose to use any of the following teaching suggestions, be sure to use common sense and build safety into all activities. Encourage parents and volunteers to accompany students involved in research out into the community. Use gloves where necessary and don't go anywhere alone.

Suggested Activities:

Cover:

Use your own discretion to see what is appropriate for your students. We suggest you start by examining the cover and talking about how beautiful our state is. Then briefly introduce how litter can impact the beauty and health of our environment and the people and animals who share it.

Writing/Drawing Prompt -

Standard - CC.1.4.K.E With prompting and support, illustrate using details and dictate/write using descriptive words.

We encourage you to keep these lessons positive. This prompt encourages students to share their opinion on the most beautiful part of Pennsylvania. Discuss how keeping these areas clean will help protect ecosystems.

Page 2 KWL:

Standard - CC.1.4.PK.W With guidance and support, recall information from experiences or books.

In order to build from prior knowledge, we suggest having students fill in what they already **KNOW** about litter in the KWL chart. This can be done individually or as a group depending on the age, prompting may be required to get them started, such as asking them if they know what litter is.

Next, have students write questions or topics they **WONDER** or would like to know about litter. This can help drive the lesson by choosing activities that students are interested in learning about. After completing the activities, go back to review these questions and see if students can answer them. Some additional research may be required. We encourage

finding ways to pique their curiosity about the topic. At the culmination of the lessons, have students fill in what they have **LEARNED** about litter from the lesson.

Page 3 Open Your Eyes to Litter:

Standard - 4.5.PK.B Identify things in the natural environment that can be harmful to people, pets and other living things.

Standard - 4.5.3.C Identify different types of pollution and their sources.

Help students recognize litter by pointing out the definition and examples of litter. You can have students start a definition list in a notebook if it is appropriate to their age and ability. Allow students to connect to the prompt by having them color the litter they have seen in their community. Discuss this as a class. Then answer the question of where litter comes from, perhaps by using the Think-Pair-Share method.

Page 4-5 Circle the Differences:

Standard - 4.5.PK.C Identify ways people pollute the environment.

This activity helps students see the differences litter can have on ecosystems. Allow students to circle the 10 differences they see in the pictures and then answer the discussion questions: "Which park would you rather play in? Why", "What's something that can be done to clean up the littered park?", "Which park seems safer?" and "What animals might be affected by litter in a park?" Help students recall parks that they enjoy playing in and thinking about how litter affects their enjoyment and safety and the safety of animals in the ecosystem.

Math Standard

CC.2.1.K.A.1 Know number names and write and recite the count sequence.

CC.2.1.K.A.2 Apply one-to-one correspondence to count the number of objects.

CC.2.1.K.A.3 Apply the concept of magnitude to compare numbers and quantities.

CC.2.4.3.A.4 Represent and interpret data using tally charts, tables, pictographs, line plots, and bar graphs.

Encourage an Eye Spy Litter counting activity. Have students count how many items of litter the SPY on their way home from school (or to and from another activity). Identify and graph, either pieces of litter or categories of litter, (bottles, paper, cans, etc.).

Math Standard

CC.2.4.2.A.1 Measure and estimate lengths in standard units using appropriate tools.

CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid volume, mass, and length.

Count the number of pieces of litter in a square foot of littered space. Measure how many square feet of littered area there is. Using that information, estimate how many pieces of litter are in the whole area.

Page 6 Letters to Litter Hawk:

Standard - 4.5.2.C Identify how people can reduce pollution.

Build curiosity in students by reading the letter from a student to the Litter Hawk. Encourage them to write their own letters about a litter topic they are interested in. Stress that each student can make a difference in big ways.

Writing Prompts:

Standard - CC.1.4.2.H Identify the topic and state an opinion.

Have students write a Collins Writing assignment (if age appropriate) about the prompts: “What if every human in the world littered?” “What if every human in the world helped clean their community of litter?”. This can alternatively be used as a class discussion to emphasize the importance of the impact each person plays on a community.

Page 7 Food Web:

Standard - 4.1.1.C Describe a simple food chain within a terrestrial habitat.

Standard - 4.1.3.C Identify sources of energy

Discuss where our energy comes from. You can start by asking students what they ate for lunch and where that food came from, tracing the energy back to the sun. Stress that each animal plays an important role and if one animal is affected by litter, it affects others. Students can color the food web provided or make their own to deepen their understanding.

Ecosystem - Living and non-living things:

4.1.PK.A Identify living and nonliving things in the immediate and surrounding environment.

4.1.K.A Identify the similarities and differences of living and nonliving things within the immediate and surrounding environment.

4.1.PK.D Identify basic needs of living things.

4.1.K.D Observe and describe what happens to living things when needs are met.

4.1.1.D Identify living things that are threatened, endangered, or extinct.

Discuss that humans are part of the ecosystem and so is the litter we leave. Then have them identify if something is living or non-living. Further questions can include: “Are living things affected by non-living things?” “What do all living things need to survive?” You can also discuss that some living things are more sensitive to changes in their environment than others. Just because humans can survive with litter in their environment doesn’t mean other organisms can.

Food chain & food web:

Standard - 4.1.1.C Describe a simple food chain within a terrestrial habitat.

Standard - 4.1.3.C Identify sources of energy

Help students understand the concept of energy moving through the food chain by correctly ordering the food chain and food web through the activities.

Pages 8 & 9 Who Does Litter Affect?:

Standard - 4.3.PK.A Identify how the environment provides for the needs of people in their daily lives.

Standard - 4.5.3.D Describe how waste is generated. • Identify and propose a solution for a waste issue in the school setting

Students can color each person/animal and discuss ways in which they may be affected by litter. On page 9, they can explore ways in which litter adversely affects each organism.

RESEARCH PROJECT - Talk about how litter affects us and our environment. Have students choose a topic to research and present, about how it is affected by litter. Topics include waterways, cities, crime statistics, health, farmers, animals, birds, plants, business owners, tourists, taxes, hikers/runners/walkers, and kids. Let students suggest topics. Include pictures (hand drawn, as well as photos) and create a class book. Share with others at school, take to other places (retirement homes, libraries, town offices, etc.). Take turns bringing home to share with families.

WRITING - Get in small groups and share how litter has affected you or your environment in some way. Use this as the starting point for a writing activity. Help someone to SEE the littered area that affected you and to FEEL your feelings about it and then put what you SEE and FEEL into words.

Page 10 Word Search:

Help students become familiar with important environmental vocabulary words with the word search. To further their understanding, have them keep a notebook of definitions of each word. These definitions can be in their own words, from the OYEL book, or come from further research. Younger students can skip this page or simply color the Litter Hawk.

Some students might like to create their own Word Search. Give them appropriately sized graph paper to work with. Make copies and staple together into a book for each student. Share with others.

Page 11 Robin

Standard - 4.5.1.C Describe how pollution affects the health of a habitat.

Have students color the picture while taking a look at how litter may affect a bird. Further discussion can be looking at a different animal and how it is affected by litter.

Page 12 Make a Birdfeeder:

This project can be done as a classroom project (younger and older children could work together) or as an at-home family activity. Look for other projects that help you to recycle your throw away items. Many art project books now contain such environmentally friendly activities. Create your own. Share with others. Encourage kids to teach kids.

Page 13 Word Poetry:

Standard - CC.1.4.1.E Choose words and phrases for effect

Read the poetry made from each letter of an environmental vocabulary word. Then, allow students to create their own word poetry dealing with litter with their own names or a different vocabulary word from the book. Encourage students to keep a positive attitude and remember that they can make a difference to keep our planet clean.

WRITING - Either individually or as a group, complete the poem and share. Have the kids bring in or find pictures online that help explain their poem. Use them as a prompt for student's own poems or stories.

WRITING/ART - Be creative. Make your own Word Poem. Using your best printing or interesting computer fonts, create a work of art using your poem as the focal point. Mount on

colored paper and add a colorful illustration. Display on a bulletin board or in the hall (or refrigerator at home).

Page 14 Crossword Puzzle:

Students can use environmental vocabulary words to complete the crossword puzzle. Younger students may skip this page or color the pictures.

Pages 15 & 16 How long will litter last?:

Standard - 6.1.2.C Explain how choice has consequences.

This maze activity helps show that some litter breaks down easily, or is biodegradable, while other forms of litter may be around for a long time. Discuss what types of litter they think may last longer than others.

RESEARCH/SCIENCE - Do research to find out how long it takes other common household items to biodegrade.

SOCIAL STUDIES - Invite an “antique bottle expert” in to talk to your class about their finds in old dumps. Many old farms had dumps and families discarded lots of household items in them. (Up until the 1970’s, the Penn State Extension Office offered farmers guidelines for disposing of their own trash on their own lands.) We’ve all learned a lot about the environment—even the experts!

Standard - 6.4.3.G. Identify local geographic patterns of economic activities.

HISTORY - Much of what we know of early civilizations, both at home and abroad, has come from studying what archaeologists have dug up. You might want to have an interested small group (or speaker) present a mini-lesson on archaeological finds from your local area. Also, in many areas, curbside pickup was not available until the 1950’s. Find out when curbside pickup was first available in your area and discuss how trash was disposed of prior to that time.

Standard - CC.2.2.2.A.1 Represent and solve problems involving addition and subtraction within 100.

A great MATH prompt. Using the student’s ages, look for the litter that was deposited about the time they were born. How old would they be when a leather shoe would finally decompose? Would they ever see the day when an aluminum can would decompose? Create math problems. Ex. What year would a food can (tin-coated steel) have been deposited if it decomposed in the year 2005? Encourage students to make up their own problems.

Page 17 See for Yourself:

Standard - 4.5.2.D Describe how people can help the environment by reducing, reusing, recycling and composting.

Conduct an experiment to see which items are biodegradable. Have each child bring in something to “plant” and compare after 4 weeks, 2 months, 6 months, etc., for a year-long project. Discuss composting and how decayed leaves, grass and vegetable food scraps can make valuable nutrients to improve and fertilize gardens and soil. The Pennsylvania Department of Environmental Protection (DEP) website can be of help here too.

Pages 18 & 19 Waterways:

Standard - 4.2.1.A Explain the path water takes as it moves through the water cycle.

Standard - 4.2.3.A Define the term watershed. • Identify the watersheds in which you reside.

Standard - 4.2.3.C Identify plants and animals that live in lakes, ponds, streams, and wetlands.

Introduce the concept of watersheds to your students. Whenever rain falls, snow melts, or people put something on or into the ground, eventually it drains into the nearest creek or stream, which then flows into a river, which then flows into the ocean. Help them to understand the impact humans have on the plants and animals in a watershed. How do waterways become polluted? Storms, litter, drainage pipes, etc. What are the items found on these pages? What happens when it rains or in the spring when the snow melts?

SCIENCE - Encourage children (with a parent if younger) to examine a stream or river nearby. List the types of litter they see. How do they think it got there? What effect does it have on the water? If the water is clear, how much trash is visible on the streambed?

Invite a DEP waterway specialist to share their expertise with the children. Many schools in PA have students and teachers trained to test water samples. Take samples from several locations and test it. Discuss your results. Explore ecosystems with your students. What are they? Talk about the kinds of plants, animals, and nonliving things in the ecosystems pictured on these pages. Explore how they depend upon each other. Are ecosystems only what we can see? What happens when something from outside (like litter or illegal dumping) impacts that ecosystem? Explore what educational programs your local watershed association or environmental education center may offer. Many of them have wonderful programs to share with your students or offer teacher training so that you can become more knowledgeable about watersheds.

Pages 20 & 21 The Road to Your House:

Standard - CC.1.4.PK.O With prompting and support describe experiences and events.

Discuss the litter around your home and neighborhood. Is it in the city or the country? Look at the expressions on the children's faces. What do you think they are feeling?

Page 22 Draw a Picture:

Standard - 4.5.PK.D Describe how everyday human activities generate waste.

ART - Draw a picture of where you live and the litter you find there. Allow students to be creative.

Page 23 Take Pride:

Standard - 4.5.2.C Identify how people can reduce pollution.

Standard - 4.5.2.D Describe how people can help the environment by reducing, reusing, recycling and composting.

What items could be repaired? (sock, football) Although the children might never have seen anyone mending, they may have read about it or been told about it by a grandparent. What items could be reused? And how? (milk jug, jar, box, newspaper) What items could be recycled? (can, paper, plastic bottle, newspaper, cardboard, glass, computer, electronic, apple core (discuss composting), some people use newspaper to pack things in or for wrapping paper) What items are trash? (candy wrapper, band aid) Share Pennsylvania's

Recycling Law. Log on to the Department of Environmental Protection's (DEP) website at www.dep.pa.gov to find out lots more and locate recycling information. Is your school mandated to recycle? (Call your local municipality.) Does your school have a recycling policy? (The DEP site can help.) Is it being implemented? Does your community provide recycling opportunities for the residents? Does your family recycle? If so, what items? Could they do more?

– Learn about nature's recyclers. Worm bins are available to schools for learning about vermiculture and what wonderful recyclers worms are. Watching these little critters turn lunch scraps and newspaper into valuable planting medium is like magic. Some science catalogs offer bins at a very reasonable cost or try the science/environmental education department of a local college. They are also available through your local recycling coordinator. They often have materials available to share with teachers. It's amazing what is out there if you just ask!

RESEARCH - Find out what your school or classroom does with its waste. (Paper, boxes, books, food, desks, chairs, trash) Is there a way your class could have a positive impact on this?

ART - Make your own paper from scraps. Many art/project books have directions for this using common household items such as a blender and screens. Experiment with plant dyes for interesting colors. Small grants are often available to teachers through their school districts or state programs, to help cover the minimal expenses for this wonderful learning experience.

Page 24 Friends don't let friends litter:

Standard - CC.1.5.K.A Participate in collaborative conversations with peers and adults in small and larger groups.

Standard - 5.2.2.D Explain responsible community behavior.

Discuss how students can talk with a friend who may not understand the impact of littering. Talk about different ways to stand up for what you believe in without making others feel bad for not knowing better.

VALUES - Have you every hung out with friends and just tossed your pop cans, candy wrappers, or fast food wrappers? Were you ever with someone who has? What were your feelings at the time? Did you feel any peer pressure? Did you say anything? If you had the opportunity to say something to the person who littered, what would it be? Have small groups write and perform a short "litter skit" aimed at litter awareness.

Page 25 Community Cleanups:

Standard - 5.1.K.B Explain the need for rules.

Standard - 5.2.K.C Identify classroom projects/activities that support leadership and service.

Research community cleanups in your area and try to get students and their families involved. Explain how working together can help clean communities and keep them safe. Discuss safety measures taken when cleaning up litter.

Illegal dumpsites can be found all over Pennsylvania and across the United States. Thoughtless and uncaring people choose to dump trash on the sides of roads or over banks, rather than paying for trash pickup or disposing of it responsibly. Why do you think they do

this? What problems do you think it causes to the people living in the area, the people visiting the area, the animals and the environment? What happens when people throw garbage and food scraps into illegal dumps? (Insects, rats and other animals are attracted to it.) How do those pests affect humans? How do we get rid of them? How do you think this affects the creatures living in the stream? Along the banks of the stream? What happens when rainfall drips through all that trash and is absorbed into the soil? Suppose someone dumped old paint, pesticides, or motor oil onto the ground? Explain the role of the Department of Environmental Protection - to protect Pennsylvania's air, land and water from pollution and to provide for the health and safety of its citizens through a cleaner environment. Invite someone from their office to speak with your class. They have many programs available.

Page 26 Litter, Litter Everywhere, You're the one who has to Care:

Standard - 4.5.2.C Identify how people can reduce pollution.

Standard - 5.2.K.B Identify a problem and discuss possible solutions.

Discuss things you could do to show you care about the environment.

- Collect information about programs from the Internet and share with others.
- Teach others something you have learned about litter.
- Get involved in a project to make your world a better place. Kids can make a very big difference.
- Draft letters on a litter issue you care about, edit and send them to people in government or business who could help you promote positive change. Share your concerns with others in "Letters to the Editor" of your school or town newspaper.
- Present what you have learned to others: other classes in your school or at an Earth Day celebration.

Page 27 Survey

Please have students fill out the survey and mail it to Keep Pennsylvania Beautiful. The information will be used to create data about children's environmental and litter education awareness.