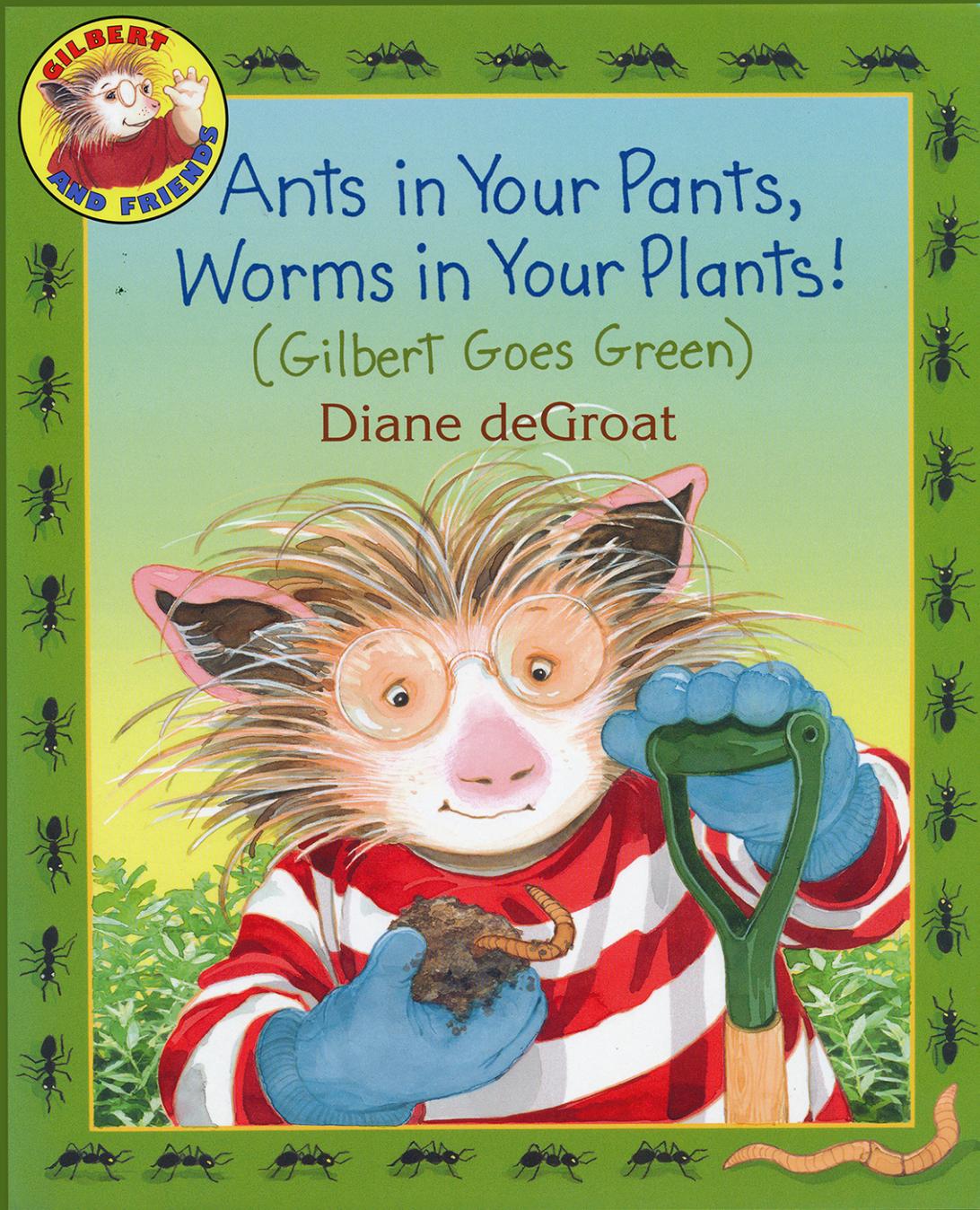


# Curriculum Guide and Activity Kit

Aligns with Common Core State Standards



[www.dianedegroat.com](http://www.dianedegroat.com)

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The green message is clear without  
being saccharine.  
—Publishers Weekly

# Ants in Your Pants, Worms in Your Plants!

## (Gilbert Goes Green)

Written and illustrated by Diane deGroat

Teacher friendly and ready to use, this guide aligns with the Common Core State Standards (CCSS) and is appropriate for kindergarten through grade three. It includes discussion questions, fun multidisciplinary activities, and printable sheets. It is a perfect tool to use for your Diane deGroat author study. Your students will be meaningfully engaged and ask for more books about their favorite opossum, Gilbert.

Guides for other Gilbert and Friends books can be found at [www.dianedegroat.com](http://www.dianedegroat.com).

### About this Book:

Gilbert has trouble coming up with ideas. First he can't come up with a springtime poem, and now he needs an idea for an Earth Day project. Everyone else in Mrs. Byrd's class is working on posters about recycling, conserving water, and saving electricity, but Gilbert wants to do something original. With a little help from his family and the beauty of nature surrounding him, Gilbert comes up with not just an Earth Day project, but with a poem that sends a meaningful message to his classmates.

### About the Author:

Diane deGroat didn't like to read when she was growing up. She only wanted to draw and paint. As a first grade student, she would often rush through her classwork to get to the painting corner of her classroom. It wasn't until many years later, when Diane wanted to become a writer, that she discovered her big mistake. In order to be a writer, one must first be a reader. She did become an avid reader, and eventually an author. Along with writing and illustrating the 19 books in the Gilbert series, she has illustrated over 130 books for other authors. A perfect day for Diane might include sleeping late, digging in her garden, riding her bike, and of course, writing and illustrating more books. She lives in Amherst, Massachusetts. Learn more about Diane deGroat and her books at [www.dianedegroat.com](http://www.dianedegroat.com).

This guide may be downloaded for home and classroom use. Not for resale.

Curriculum written by Kristy Graves, a first-grade teacher and a contributor to the Common Core curriculum for the Spencer-Brookfield School District in Spencer, Massachusetts.



RL1, RL2, RL3, RL4, RL7, RL10, SL1, SL2, SL3, SL4, SL6, L1, L6

### **Pre-reading Discussion Questions:**

Before reading this book, launch a discussion with students and invite them to engage in the story's theme.

- The title of this story is *Ants in Your Pants, Worms in Your Pants*. What does it mean if someone says you have “ants in your pants?”
- In parentheses here it says, *Gilbert Goes Green*. What does it mean if you “go green?”
- What do you think Gilbert is doing in the picture on the cover?
- What time of year do you think it is? Why do you think so?
- Is it a good thing to have worms in your plants? Why or why not?
- In this story Gilbert and his friends are looking for a place to have a picnic. (Show the art on pages 10-11 where the class finds the litter.) Do you think this is a good spot to have a picnic? Why or why not?
- This story is about Earth Day. What do you know about Earth Day?
- Can you think of some things that you can do to make a difference on Earth Day? Do you think we should be doing these things every day?

### **Post-reading Discussion Questions:**

- What happened that made Gilbert's class realize it is important to take care of our planet Earth?
- Gilbert had writer's block in this story when he tried to write a poem and when he tried to come up with an Earth Day project. What does it mean to have writer's block? Has that ever happened to you?
- Did Gilbert solve his problem? How did Gilbert come up with a plan for his Earth Day project?
- What was Gilbert's idea? Do you think it was a good idea? Why?
- What were some of the other ideas that his friends came up with to help protect our planet?
- Why do you think the author wrote this story?
- Can you make a connection to this story?
- What are some things that you can do to help care for our Earth?

## Activities

### Writing: (grades K-1) W3, SL1, SL 5, SL 6, L1

Talk to students about the importance of reusing things for other purposes rather than throwing them away and leaving more trash on our planet. For example, a paper towel tube can be made into an instrument. Paper grocery bags can be used to cover books. Tell students that they are going to reuse old pieces of broken crayons to make new crayons. This is a good way to make use of the old crayons in your classroom, but you will need to find an oven and muffin tins to use.

Preheat the oven to 150 degrees. **First:** Ask the children to peel the small bits of crayons that they find in their desks or in the class crayon bin. **Then:** Ask the students to break the crayons into smaller pieces (children may need help with this step). **Next:** Have them pile the crayon pieces into the muffin tins. Mini muffin tins, round or shaped, work best. You may line the tins with foil liners, though it is not necessary. Talk to the children about color combinations. If they need a crayon to color the sky, for example, they may want to use a combination of blues in one tin. On the other hand, a blend of random colors is beautiful too. **Finally:** Bake the crayons for 15-20 minutes. Allow the crayons to cool. If the crayons are sticking, place the tins in a freezer for a while, before popping them out.

While the crayons are baking and cooling, this is a perfect opportunity to talk to the class about the steps in the process. Ask the children to explain how they made the crayons. Inviting another adult into the class will help with this. For example, invite the principal into the room and have the children tell what they just made. Write the words: “first, next, then, finally” in a list on the board and encourage the children to use these words as they retell the steps in the crayon making process.

As a writing activity, using a four square graphic organizer will assist the children in organizing their ideas. Give each child a template such as the one on page 4 with the sequence words. Allow the children to either draw or write how they created their crayons.



# How to recycle crayons

**1** First,

**2** Next,

**3** Then,

**4** Finally,

## **Writing:** (grades 2-3) W4, W5, L1, L2

Talk to the class about Gilbert's class assignment at the beginning of the story. Mrs. Byrd asked all the students to write a poem about springtime. Explain to students that not all poems rhyme. One example is called an *acrostic* poem. Acrostics are easy to write because they don't need to rhyme and there isn't a rhythm to the lines. An acrostic poem is formed when the first letter in each line spells out a message from top to bottom. The message could be either a whole sentence or just a word.

Give children some guidance to create an acrostic poem. These steps will help. Model this process for the whole class before allowing students to try this process on their own.

1. First, decide what to write about and write the word vertically on chart paper using capital letters. Obviously, it should be Earth Day related. Let's say the students pick the word "Recycle" as a topic.
2. Next, brainstorm words or phrases that describe the idea. Accept all relevant ideas and jot them down on another piece of chart paper.
3. Then, place these words or phrases from the idea pool on the lines that begin with the same letters. A final product might be:

**R**eusing

**E**nvironmentally friendly

**C**hanges old into new

**Y**ou can help

**C**leaner planet

**L**ess trash

**E**arth will thank you

Children can now try to write their own acrostic poems. Try to encourage a variety of poem topics about Earth Day. Some ideas may be: TREES, REUSE, REDUCE, RECYCLE, EARTH, COMPOST, SAVE ENERGY, WATER, TRASH. The poems can be presented at a class Earth Day celebration or compiled into a "green" class book made of recycled paper.

**Math:** (grades K-I) 1.OA, 1.MD

This activity will help students learn what a plant needs to thrive. Ask the class if they know what seeds need to grow. Create a list of student responses on the board. Some students may have had experience with gardens and will be able to give specific ideas. Talk to the class about the importance of these resources. Ask the class what might happen if a seed is not given water, good soil, or sunlight. Tell the students that they will be conducting an experiment like a plant scientist, or a *botanist*.

Obtain four containers for planting, like yogurt cups, milk cartons, baby food jars, or plastic cups. Divide the class into four groups—A, B, C, and D—and mark their containers accordingly.

**Group A** will fill their container with planting soil and plant a bean seed about an inch deep. They will then place their container in a dark spot, such as a closet or behind a curtain. They will water it periodically.

**Group B** will also plant a bean seed about an inch deep in soil. They will place the container on the windowsill but will not water it at all.

**Group C** will plant the seed in sand but will place the container on the windowsill and water it.

**Group D** will be the group that gives the seed all of the above: water, light, and rich soil.

After about a week, Group D should see some results as the bean plant starts to sprout. At this time the class can start to keep track of the height of the plant's growth. Keep a chart on the board showing the progress of the seeds. It can be modeled like the chart on page 7. Have the children notice what is happening to the seeds and why they are seeing some differences. As the children start to see some slight growth in the other plants they will be able to subtract the differences in height. For example, plant D might be 8 cubes tall and plant B only 1 cube tall. The children can find the difference between the numbers and subtract 1 from 8.



Plant	Height in Cubes
<b>A</b> No light	
<b>B</b> No water	
<b>C</b> No soil	
<b>D</b> Light, water, soil	



Talk about the results of the experiment. Ask the students what they would need to support a successful garden in their own yard. Children will learn that the richer the soil, the more a plant will thrive. They'll also learn that plants need sun and water. The green parts of the plant catch the energy from the sun and use it to make its food. All plants need water, but talk about the fact that some plants need more water than others. Too much water or too little water can kill a plant depending on the type of plant. A cactus, for example, does not require the amount of water that a bean plant would.

Ask the children to think about what life would be like without plants. This dialogue will allow children to realize that if we had no plants we would be without many kinds of food. Animals that rely on plants for food would not exist. They will soon realize that all living things need sunlight and water, two valuable resources.

**Math:** (grades 2-3) 2.OA, 2.MD

Talk to the class about the amount of trash we create every day. Ask them to think about what we throw away each day at school. Soon the children will realize how much waste is created, especially with food and drink containers. Tell the children that this trash adds to our landfills and that we should try to reduce the amount of waste we create. For the next week they will be “trash detectives” and keep track of how many plastic utensils, sandwich bags, juice boxes, plastic bottles, paper bags, and plastic bags are thrown away each day in their classroom.

Create a chart on the board or use the graphic on page 8. Post it near the wastebasket. At snack time, the students will make a mark on the chart in the appropriate box for every piece of non-food trash they throw into the wastebasket. At the end of the day the students will help the teacher count the items on the chart and write the totals. As an alternative exercise, each child can keep track of his/her trash on their own chart handout, and the class results can be combined at the end of the day or at the end of the week.

Once the data is collected at the end of the week, ask the students how they can help to make a difference in the amount of trash they bring to school. For example, children may realize that by taking a reusable lunch box every day, the amount of brown lunch bags will decrease. If students use reusable containers for snacks and sandwiches, the number of sandwich bags will be reduced. If each member of the class will bring in a reusable water bottle, plastic bottles will no longer pile up.

During the second week of this activity, the children can try to reduce the amount of trash they bring to school. Create a new blank chart and have the children fill in the boxes again. Add the items and compare them to those collected in the first week. The children can then create equations to show the difference in the amount of trash produced. For example, 29 water bottles wasted in the first week, minus 4 water bottles brought in the second week, would be a difference of 25.

As an extension, the students can keep track of trash they create at lunchtime as well. If the school doesn't have a recycling program in the cafeteria, this would be a good time to explore alternatives. This activity shows that we all can make a difference to help our environment, no matter how small.

# What we threw away:



utensils



baggies



juice boxes



plastic bottles



paper bags



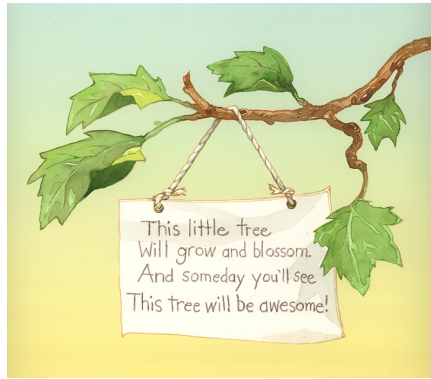
plastic bags

**Daily  
total:**

Monday						
Tuesday						
Wednesday						
Thursday						
Friday						

**Weekly total:** \_\_\_\_\_



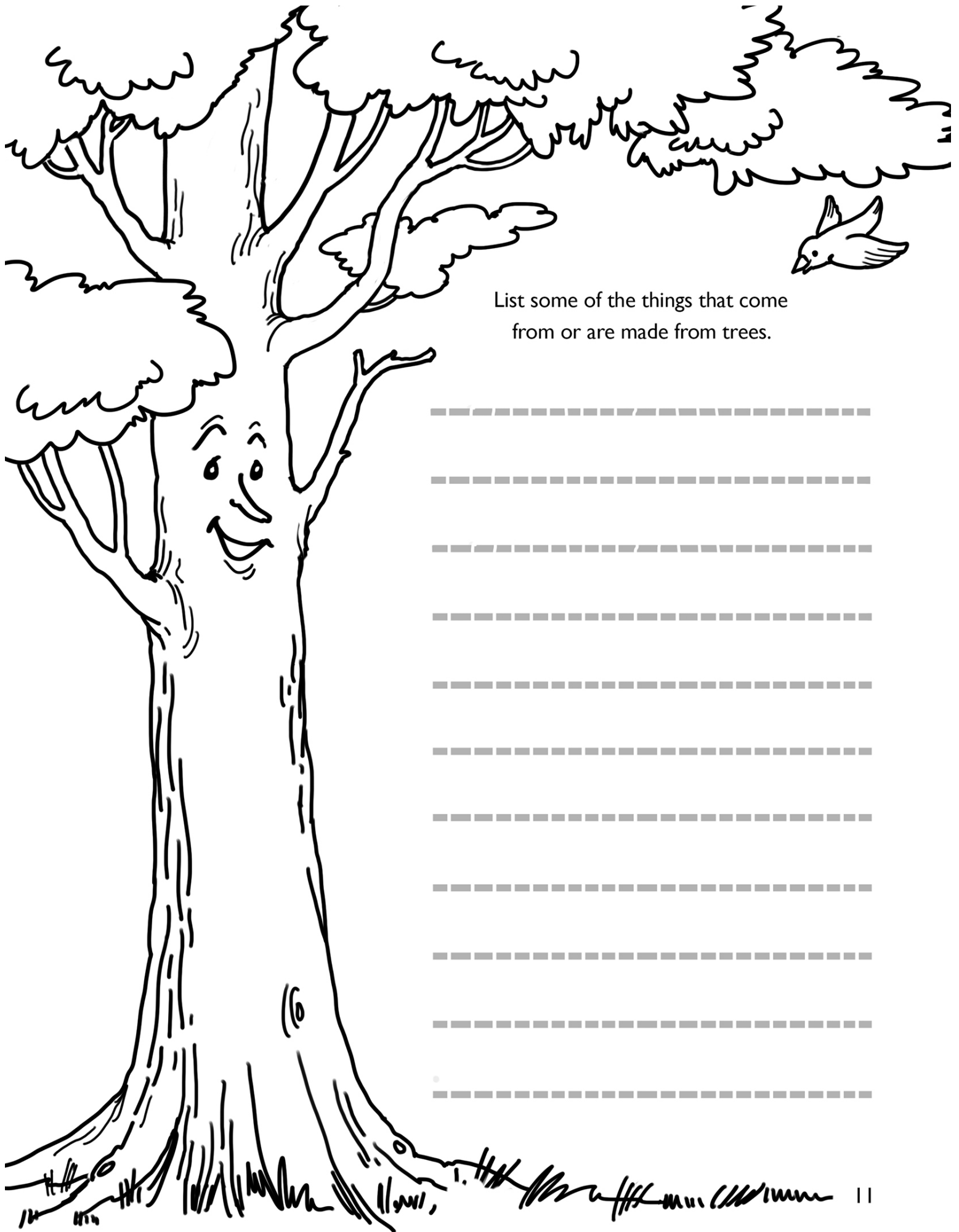


**Science:** (grades K-1) W8, SL1, SL2, SL5, SL6, L1

Talk to the class about the idea that Gilbert finally came up with for Earth Day. Ask the children if they thought it was a good thing for Gilbert to plant a tree and why. Begin a dialogue with the class about the role of trees on our planet. Brainstorm ideas with the class and create a list of reasons why trees are essential to our world. For example, trees combat the greenhouse effect, provide shade, give homes to animals, give off oxygen, grow food, show us the beauty of the seasons, give us wood, allow places for us to climb, and more!

Talk about what trees provide for us. Ask the children to think about their day and tell if they have used anything that comes from a tree. Ask if anyone has eaten anything that comes from a tree. If there is enough adult support, break up the class into small groups and go on a scavenger hunt around the school to look for things that are made or come from trees. When the class reconvenes have a discussion about all the things the children found. Discuss how trees give us wood, paper, food, furniture, among other things. Make a list of things on a piece of large chart paper. Children can copy this list onto their own tree templates (page 11) to take home.

As an extension, show the class a diagram of a tree and have them copy and label each part such as the trunk, roots, branch, needles (if it is an evergreen), and crown. Talk about the fact that each part of a tree has an important purpose. If possible, plant a tree in the schoolyard as a culminating activity. Have the students help to decide the best spot where the tree should be planted. This would be a spot with plenty of sun and well-drained soil as well as a place away from power lines or any underground utility lines. Have the children help in the process of digging and planting. This will create a feeling of pride in the students that they have added beauty to their own playground.



List some of the things that come  
from or are made from trees.

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**Science:** (grades 2-3) RI 1, RI5, W7, W8, SL1, SL2, SL3, L1, L2

Remind the children of Lewis' smelly idea for Earth Day. Define the word *compost*. Many young students may not know what compost is and why it is good for our Earth. If possible, have a sample of compost for the children to investigate. Ask the children what they think goes into compost. Make a list of items that could be added to a compost pile such as kitchen trimmings from fruits, herbs, and vegetables. Things such as leaves, straw, grass clippings, coffee grounds, and eggshells can be added also. Young children may need more background knowledge on this subject. Some helpful trade books to use as read-alouds include *Compost Stew* by Mary McKenna Siddals, *Garbage Helps Our Garden Grow: A Compost Story* by Linda Glaser, and *Composting: Nature's Recyclers* by Robin Koontz.

Discuss how plants thrive in compost because it is rich in nutrients and helps the soil to retain moisture to promote plant growth. Teach children that by composting you can enhance your garden's ability to grow healthy plants and also reduce the amount of trash you produce. Talk to the children about other types of soil and why compost is called "Black Gold" by gardeners.

As an extension to this activity, talk to the children about the worms found in Lewis' compost and their function. Tell the class that they are going to have an opportunity to investigate these amazing creatures called earthworms. In advance, dig up worms from your garden or yard. Before allowing the children to examine the worms lay out some strict guidelines for the activity. Remind the children that these are living creatures that need to be respected. Tell the class that the worms will be allowed to go back into the earth after the activity. Dump the worms into large tubs of dirt or compost and have the children watch as the worms dig and create tunnels. Have a flashlight on hand to see if the children notice what happens when the worms are exposed to light. Discuss the different parts of the worm, referring to the diagram on page 14. Allow the curious scientists to read on their own about worms from some great non-fiction resources such as *Wiggling Worms at Work* by Wendy Pfeffer, *An Earthworm's Life* by John Himmelman, and *Yucky Worms* by Vivian French.

After the children have observed the worms have them fill in the recording sheet on page 13 to see what their ideas are about worms.



**Describe the worm's body. What body parts do they lack?  
Can you tell which end is the front of a worm?**

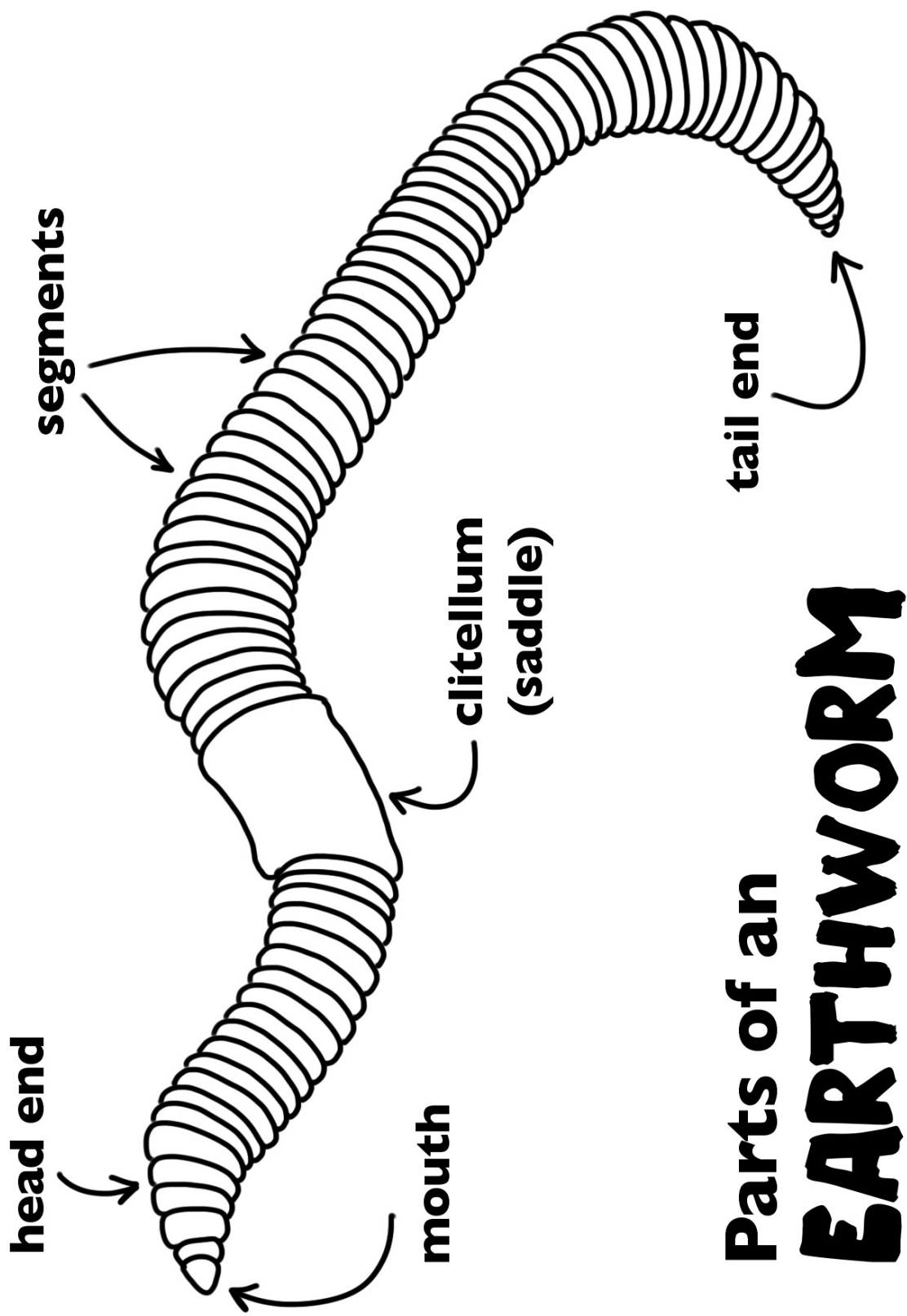
**What happened when the worm was exposed to light?**

**What kind of environment do you think worms like?**

**How do worms help our soil?**

**How do you think worms are born?**

**Draw a diagram of a worm below and label its parts.  
Remember what you have learned from books, discussions,  
and observations.**





**Art:** (grades K-I) RL2, SL1, SL2, SL5

Ask students if they have ever heard the phrase, “One man’s trash is another man’s treasure,” and ask what it could mean. Explain to the students that trash can be reused to make other things. By reusing things instead of throwing them away we are reducing the amount of trash in landfills. Talk to the students about other ways to eliminate trash such as reusing grocery bags or reusing water bottles. If possible show pictures of things that have been made out of other items. Tell the children that for this activity, they are going to be making musical instruments out of trash.

In advance, collect (or ask parents to help save) various household items such as paper towel and toilet paper tubes, coffee cans with lids, cereal boxes, oatmeal cylinder containers with lids, wrapping paper tubes, and popsicle sticks. Other items to have on hand could be wax paper, rubber bands, string, ribbon, scissors, and glue.

Tell the children that they are going to make an awesome trash band! You may need some premade instruments such as a guitar out of a cereal box or a drum made of a coffee can for students who need a model, but allowing the students to problem solve in this activity is key. Depending on the class the children may need some guidance with this activity, but for the most part children will be able to tap into their own creativity and surprise you with their musical creations.



**Art:** (grades 2-3) RL1, W8, SL1

Mrs. Byrd asked her students to create posters for Earth Day. Each student in Gilbert's class thought of a different way to help the Earth. Talk about some of the ideas they had, such as turning off the lights before leaving a room, using a clothesline, riding bikes instead of driving cars, turning off the faucet, reusing bags and water bottles, composting, planting trees, and recycling plastic, glass, as well as aluminum. Tell the children to think of one way that they can help to care for our planet.

In this activity the students will use their ideas to create bookmarks. Use the backside of already used paper that would have otherwise been recycled. Teach students to reuse paper whenever possible, rather than just using one side and wasting the other. The paper for the bookmarks can be cut ahead of time. 2 ½ x 9 inches is an ideal size. With materials of their choice, have the students add words and pictures to describe one way they could help our planet.

When the bookmarks are finished have each student find a piece of scrap construction paper in the class' art supplies and glue the bookmark onto it, art side up. This will give the bookmark a more finished look. Laminating the bookmark will help to protect it and make it last longer. If desired, add a piece of ribbon or yarn to the top of the bookmark by creating a hole with a paper punch and looping the ribbon through the hole.

If possible, contact a colleague that teaches kindergarten or first grade and ask how many students are in the class. The children in your class can make bookmarks to give to the younger students. By doing this, the younger children will get the message that small things do make a difference on our planet and that we can all make a change that will help the Earth. Encourage students to think of their audience (kindergarteners or first graders) and create neat and colorful bookmarks that have clear messages. When the project is finished, gather the two classes together and share the messages on the bookmarks. The younger children will be delighted to receive a gift from an older student.

### Author's Note

This story is meaningful to me because I'm a gardener. I compost and I grow organic veggies. I pick worms off the tomatoes, and I eat spring greens. I'm also an artist. I work with stone, shrubs and groundcovers to create beautiful spaces in Nature. I like that I can use many different materials to express myself. Sometimes it's watercolor paint, sometimes it's a Photoshop program, and sometimes it's a dwarf mugo pine placed just so amongst the junipers.

But how does it all begin? Children often ask me how I get my ideas. For the Gilbert books, I start with a major holiday or event for the theme, but I have to also think about Gilbert's story. Gilbert always has to deal with a problem, and hopefully, all will work out well for him in the end. When I started to write an Earth Day Book, I couldn't think of a related issue for Gilbert. For months I pondered different situations, but nothing worked. I just couldn't come up with an idea. I was stumped. And finally I realized what Gilbert's storyline was going to be—he just couldn't come up with ideas for his projects! As we learned from the story, sometimes the answer can be right in front of you.

Another difficulty was coming up with a title for this book. Unlike most of the other holiday books, there are no familiar jingles or sayings about Earth Day, so I proposed calling it simply *Gilbert Goes Green*. The publisher thought people might mistake it in the catalogue for a St. Patrick's Day Book, so I added the funny rhyming title that precedes it. Once I wrote the "Ants in Your Pants" phrase, I added the "ant" scenes to the story. Sometimes the title dictates the story too.

This book is humorous, but it deals with a serious topic. Please share this book with your students knowing that the author is committed to promoting everything that Earth Day represents—protecting natural lands, preserving the environment, and engaging children in conversations about a sustainable future. I hope you share that vision.

—Diane deGroat



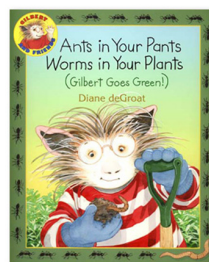
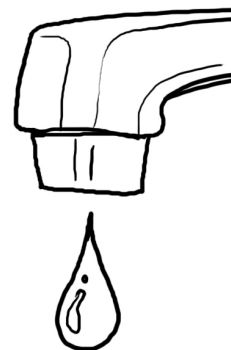
Gilbert and his friends learned how to “go green.”



# What Can You Do?

Check off the things that you did this week to help save our planet:

- \_\_\_\_\_ Recycle paper.
- \_\_\_\_\_ Recycle plastic and glass.
- \_\_\_\_\_ Use cloth instead of paper towels to clean up.
- \_\_\_\_\_ Bring your lunch in a reusable container.
- \_\_\_\_\_ Don't buy bottled water. Use a reusable water container.
- \_\_\_\_\_ Reuse paper and plastic. Make crafts instead of throwing it out.
- \_\_\_\_\_ Save fuel. Turn the thermostat down in winter and up in summer.
- \_\_\_\_\_ Save electricity. Turn off the lights when you leave the room.
- \_\_\_\_\_ Save water. Don't leave the water running when you brush your teeth.
- \_\_\_\_\_ Bring reusable bags to the grocery store.
- \_\_\_\_\_ Take a bus or bike or walk instead of using a car.
- \_\_\_\_\_ Carpool if you have to drive.
- \_\_\_\_\_ Start a garden.
- \_\_\_\_\_ Plant a tree.
- \_\_\_\_\_ Use a clothesline instead of the dryer.
- \_\_\_\_\_ Use rechargeable batteries instead of disposable ones.
- \_\_\_\_\_ Pick up litter!
- \_\_\_\_\_ Turn off the computer when not in use.
- \_\_\_\_\_ Turn off the TV and play outside!



## Reduce Reuse Recycle

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