

## Compost

### Discussion

- What can we do with our food scraps and food-soiled paper instead of throwing them in the trash? They can be collected with curbside yard waste and made into compost.
- What is compost? It looks like soil and it's full of vitamins and nutrients. Add it to a garden to help new plants grow. Compost is a special way to recycle our food scraps and food-soiled paper.
- What are some items that can be collected for compost? Fruit scraps, bread crusts, vegetable peelings, chicken bones, cheese, paper napkins, pizza boxes. Any leftover food scraps and food-soiled paper.



### Earth Challenge

Have individual students or groups of students place food scraps from lunch – orange or banana peel, apple core, bread crust – in sealed jars. Students should observe and record in their journals the details of how their items decompose, and draw or describe any changes seen each day. They can address the following questions: Does the color, moisture, or texture change? What will eventually happen to your item? What do you think is needed for something to decompose?

### Facts

- In a typical school, food scraps and food-soiled paper, such as napkins and pizza boxes, make up about 32 percent of a school's garbage.
- A student with a disposable lunch that results in non-recyclable, non-reusable packaging and thrown-away food generates an average of 67 pounds of waste per school year.

## Ready for your own Earth Challenge? Take action and get assistance.

- Find more classroom activity ideas on reducing, reusing, recycling, and on setting up a worm bin on the King County website. [your.kingcounty.gov/solidwaste/elementaryschool/index.asp](http://your.kingcounty.gov/solidwaste/elementaryschool/index.asp)
- Request a Green Team specialist to help your classroom with projects. Find project ideas, mini-grant applications, and additional resources at [your.kingcounty.gov/solidwaste/elementaryschool/greenteams.asp](http://your.kingcounty.gov/solidwaste/elementaryschool/greenteams.asp). Contact 206-583-0655 or [greenteam@triangleassociates.com](mailto:greenteam@triangleassociates.com) to receive assistance or request a Green Team workshop.
- Get resources and hands-on assistance from the King County Green Schools Program in setting up or improving your school's waste reduction, recycling, and resource conservation programs. [your.kingcounty.gov/solidwaste/greenschools/index.asp](http://your.kingcounty.gov/solidwaste/greenschools/index.asp)



For more information on these and other programs, or to request this material in alternative formats, contact the King County Solid Waste Division:

206-296-4466, 1-800-325-6165, ext. 6-4466, TTY Relay: 711

[your.kingcounty.gov/solidwaste/education/index.asp](http://your.kingcounty.gov/solidwaste/education/index.asp)



**King County**

Department of  
Natural Resources and Parks  
Solid Waste Division

# Earth Challenge Assembly Discussion Guide



- **Rethink**
- **Reduce**
- **Reuse**
- **Recycle**
- **Compost**

## About the Assembly

More than half of what ends up in King County's Cedar Hills Regional Landfill is recyclable or compostable. King County's interactive assembly Earth Challenge encourages students to take responsibility for proper waste reduction and recycling at home and in school. By doing so, they prevent the waste of natural resources and cut down on greenhouse gas emissions that contribute to climate change. When everyone takes the responsibility, everyone wins.

- The primary version of the assembly emphasizes keeping valuable materials out of the landfill through proper sorting of trash into recyclables, reusable items, compostables, and garbage.
- The intermediate version helps students recognize the role that waste reduction and recycling can play in reducing the factors that lead to climate change.

## Standards-Aligned

Students use listening and observation skills to gain understanding of environmental and resource issues. They learn about the inputs and outputs of systems and cycles.

## Discussion Questions and Activities

Teachers may wish to introduce some of the concepts in this guide prior to the assembly so students can watch and understand what the characters are learning about garbage, natural resources, and the practice of the 4 Rs.

- During the assembly, have your students **watch for**
- what happens to materials that get thrown away.
  - examples of how students can reduce their waste.
  - the kinds of items students can reuse.
  - ways to help improve recycling at home and at school.



**King County**

Department of  
Natural Resources and Parks  
Solid Waste Division

## Garbage



### Discussion

- What is garbage? *Things we can't use or don't want anymore. Things that no longer have value.*
- What are the items we use and throw away made from? *Natural resources such as trees to make paper, oil to make plastic, metal to make cans, etc.*
- Where does your garbage go? *All of the garbage in King County (except the city of Seattle) goes to King County's Cedar Hills Regional Landfill where it just sits, potentially forever.*

### Earth Challenge

Record what is in the classroom garbage can over the course of a day. Sort and graph the types of materials. Weigh the garbage and calculate the average amount each student throws away. Discuss ways to reduce what was thrown away. Were there items that could be reused or recycled? Use ideas from the assembly. Set a goal and put ideas into action, then weigh the garbage at a later date to see if the average amount per student decreased.

### Facts

- Most of our garbage is food (22%) and paper (21%), materials that can be either composted or recycled. Other compostable or recyclable components include wood and yard waste (14%), plastic (12%), metal (6%), and glass (3%).
- As garbage slowly decomposes at the landfill, it releases methane – a greenhouse gas. Greenhouse gases are a leading cause of climate change. Using less stuff means sending less trash to the landfill, which means less methane released.



## Recycle

### Discussion

- What does it mean to recycle? *Make or reprocess a used product into something new.*
- Give an example of something that belongs in your classroom recycling bin. *Paper, cardboard, empty plastic bottles, cups, and tubs, aluminum cans, and milk cartons are examples of recyclable items.*



- What is contamination? *Anything that does not belong in the recycling bin such as paper towels, food waste, snack wrappers, pencils and other non-recyclable things is a contaminant.*

### Earth Challenge

Improve recycling in the classroom by making it easy. Make sure the recycling bin is labeled with what can and cannot go in it, and place it next to the garbage can. Discuss challenges to recycling with your class and think of ways to encourage better

## Rethink

### Discussion

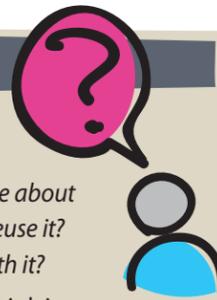
- What does it mean to “rethink” your garbage? *Rethinking means thinking twice about the choices you make. Do I need it? Can I reuse it? What should I do with it when I'm done with it?*
- What are some purchases you could rethink in terms of cutting down on waste? *Borrow or rent books or movies instead of buying them. Buy snacks in large rather than individual packages.*
- What are ways you could rethink when it comes to things that you recycle? *Choose reusable containers instead of single-use plastic bottles; use durable cloth bags instead of paper shopping bags.*

### Earth Challenge

Have a waste-free day in your classroom or lunchroom. Challenge the class or school to bring snacks or lunch in reusable containers. Or choose a day for the students to create zero paper waste. Record the waste for that day with the amount on a non-waste-free day. Or track the amount of resources saved through your waste-free behavior. Hold a waste-free day several times throughout the school year or even every week. Continue to rethink your choices and try to improve upon the results of each waste-free day.

### Facts

- We send 4.5 million pounds of waste to the Cedar Hills Regional Landfill each day. That amount would fill 188 school buses. Over half of those materials could have been reused, recycled, or composted. How can we rethink our choices to make less waste?
- Rethink creatively and turn trash into treasure. Some schools create murals from bottle caps or instruments and sculptures from recyclable materials.
- Practicing the 4Rs reduces waste, saves energy and resources, and releases fewer greenhouse gases, which cause climate change.



## Reduce

### Discussion

- What does it mean to reduce? *To use less in the first place and create less garbage.*
- Why is using less stuff more important than reusing or recycling? *Buying and using less stuff save resources, energy, and money. Fewer materials go to the landfill and fewer greenhouse gases are produced.*
- What are some ways we can reduce waste to help the environment? *Use a rag or sponge instead of paper towels, buy durable items instead of disposable ones, and avoid products with excess packaging.*

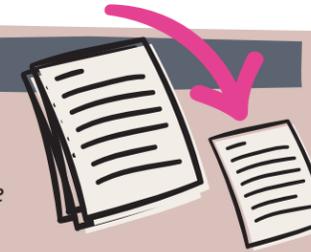
### Earth Challenge

For primary students, review the natural resources used to make products (trees, metal, oil, water). Ask students to pick an item in the room and name the natural resources used to make it. For intermediate students, review the journey of a piece of paper as seen in the assembly. What could you do instead of using a new paper product? What would be saved if you reused the paper before recycling it?

Ask students to pick an everyday item and draw its journey from raw materials to disposal. What are the inputs (resources and energy needed to make and transport it) and outputs (waste, pollutants, greenhouse gases)? How long will you use the item? Where will it end up when you're finished with it? Rethink an ending to the landfill for this item. Is there an alternative?

### Facts

- Bringing reusable bags to the store reduces the use of trees or oil to make paper or plastic shopping bags. Reducing the use of one ton of paper bags saves three cubic meters of landfill space and spares 13 to 17 trees.
- Trees absorb carbon dioxide, one of the greenhouse gases responsible for climate change. Each tree we save by reducing our use of paper absorbs almost 15 pounds of carbon dioxide from the air each year.



## Reuse

### Discussion

- What does it mean to reuse something? *Use an item more than once. For example, use reusable drink bottles, food containers, and utensils, cloth napkins, and durable shopping bags to reduce waste.*
- What is one way to reuse paper? *Use the back side or use it as wrapping paper. Set up a reuse bin in your classroom for paper used only on one side, leftover construction paper and other still usable paper.*
- How is reuse different from recycling? *Recycling, which changes an item into something new, requires energy and other resources, while reusing the same item does not.*

### Earth Challenge

Look at what's in the trash can and recycling bin. With students, make a list of things that could be reused instead. Examples might include using a durable water bottle, or replacing snacks in disposable wrappers with snacks stored in reusable containers. Hold a book, clothing, or school supply swap so students and families can bring in items to swap with others.

### Facts

- Americans use 38 billion plastic water bottles a year, which account for over 10 billion barrels of oil. Think of the resources saved and greenhouse gases reduced by using a reusable bottle or cup. Just wash, rinse, and use it again!
- One elementary school switched from Styrofoam to durable trays in the lunchroom, resulting in an 82 percent reduction in waste and 47,000 fewer Styrofoam trays in the landfill annually.



participation. Take action! Make posters and signs describing what belongs in the recycling bin and post them around your school. Make morning announcements to encourage students and staff to practice proper recycling.

### Facts

- Recycling saves energy and reduces greenhouse gas emissions from the manufacturing process. Making a can from recycled aluminum uses 95 percent less energy than making it from

newly mined aluminum. To put it another way, you can make 20 cans from recycled aluminum with the same amount of energy used to make just one can from newly mined aluminum.

- An elementary school can recycle 50 percent or more of the school's waste by including classrooms, offices, and the lunchroom in a school recycling program. Recycling one ton of paper saves 17 trees, 380 gallons of oil, and 7,000 gallons of water.