



Lesson Plan:

How much can you *Reduce, Reuse, Recycle?*

Big Idea: By practicing the three R's – reduce, reuse and recycle – we can cut our trash by significant amounts and lower our impact on landfills and the planet.

Learning Goals:

- Children will understand how household trash affects the environment.
- Children will recognize that there are actions we can take to limit the amount of trash we create, therefore helping the planet.
- Children will develop a grasp on the differences between reducing, reusing, and recycling and understand their role in trash reduction.

Related Cyberchase Episode: “Trash Creep” (Ep.903)

Grades: 3rd - 5th grade

Materials:

- 4 large bins or bags (or more depending on how many items you use)
- Bathroom scale
- Plastic gloves
- Digital camera or mobile device with camera
- Chart paper (to create a class trash graph)
- Large graph, reproduced on chart paper prior to class (sample below)
- “Master’s of Trash” degree (included)

Prep:

- Print enough “Master’s of Trash” degrees for all of your students.
- Reproduce large graph.
- Cue up the provided video clip from “Trash Creep.”

Before Watching the Video Clip:

- Explain what the words *reduce*, *reuse*, and *recycle* mean.
 - *Reduce* – Be thoughtful about the things you use or buy. Avoid those that could end up as trash in a landfill. For example, instead of drinking bottled water, drink tap water from refillable bottles.
 - *Reuse* – Fix or donate items that can still be useful, such as clothing and toys you’ve outgrown.
 - *Recycle* – Many materials can be broken down and made new again. These items include paper, cardboard, glass, plastic, and metal.
- Have students brainstorm ways they can reduce, reuse, or recycle trash. List students’ answers on the chalkboard or whiteboard.

Find more math games and activities at pbskids.org/cyberchase

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Watch the Video Clip:

In this clip, the Mayor of Perfectomundo enlists the help of the CyberSquad to get rid of a mountain of trash in time for the cybersite's anniversary celebration. The kids get to work on a plan to sort the trash, and loyal aide Waldo rises to the occasion with a rap about ways to reduce the rubbish.

The lyrics of Waldo's rap are:

*Refill your bottles of water, don't buy them new.
Buy toys made of wood, for a much longer view.
Take cloth bags to the market, buy things in bulk.
Use both sides of the paper, no need to sulk.
If you do all these things, and remember them true.
The environment will be grateful.
And thank you, thank you!*

After Watching the Video Clip:

Activity 1:

- Talk about Waldo's rap. Ask students whether he was talking about reducing, reusing, or recycling. (Reducing.) If needed, replay the clip, and discuss anything that's unfamiliar, like "buying in bulk."
- Divide the class into groups of four, and ask each group to come up with its own rap. Since Waldo has described reducing, their assignment is a rap about reusing or recycling.
- Give the students about 15 minutes to work. Then ask groups to perform their raps for the class.

Activity 2:

- Once each group has performed, tell the students they'll be conducting a Classroom Trash Audit for the rest of the week to learn how much trash being thrown away could actually be reused or recycled. Participants will earn their "Master's of Trash" degree.
- Set up the 4 large bins or bags in your classroom. Label the first three: "Reuse," "Recycle," and "Trash." Discuss local rules about recycling, and post reminders to indicate what's okay to recycle. Start with an item or two that belongs in each bin, and have students discuss where it goes and why. Announce that at the end of the day, the class will weigh each bin and see how much trash that's been thrown away can actually be reused or recycled. (If students point out that the fourth bin has no label, offer a vague "Oh, you're right, what could that be for?" and promise to discuss it at the end of the day.)
- Assign several students the role of **Sanitation Engineer**. Their job is to check the trash bins throughout the day, making sure items are going into the right bins. Model this behavior for the first check-in or two, continuing until students can tackle the job on their own.
- At a designated time toward the end of the day, conduct a Weigh-In. Assign one student the role of **Recorder**. (S/he'll document the daily results on a graph.) Assign two more students the role of **Photographers**. (They'll capture the day's trash in photos, labeling what's been collected each day. Tech-savvy students can upload photos to the computer, print, and post.)
- Ceremoniously weigh the contents of the "Reuse" and "Recycle" bins. Show the Recorder how to chart the results on the graph. Use a different color for each day, so you can track any changes over the week.



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- Dramatically remove a compostable item from the trash bin, and describe the function of the fourth (Compost) bin. Label the bin, and ask Sanitation Engineers to move any compost from the “Trash” bin to the “Compost” bin. Complete the weigh-in.
- Complete the weigh-in process at the end of each day for a week. Then review the graph and photos with the class, and discuss the following:
 - Take a look at the “Reuse,” “Recycle,” and “Compost” bins. How many pounds were you able to save from the landfill?
 - Are there any ways they may have been able to reduce the amount of trash they created? Are there a lot of snack pack cups, plastic forks, etc.? How could they have reduced this kind of trash?
 - In the reusable pile, are there items that the students can swap?

Lesson Extension:

- Host a Swap-n-Trade Day. Students bring in one item they no longer want. All items are pooled together and students can select new item(s) they would like.
- Take this extension one step further and do a small donation drive in your classroom where students can bring in several reusable items they no longer want. Set up a bin or bag in your classroom. Before taking the items to a charity, weigh the bin or bag to show the students how many pounds of trash they saved from the landfill.



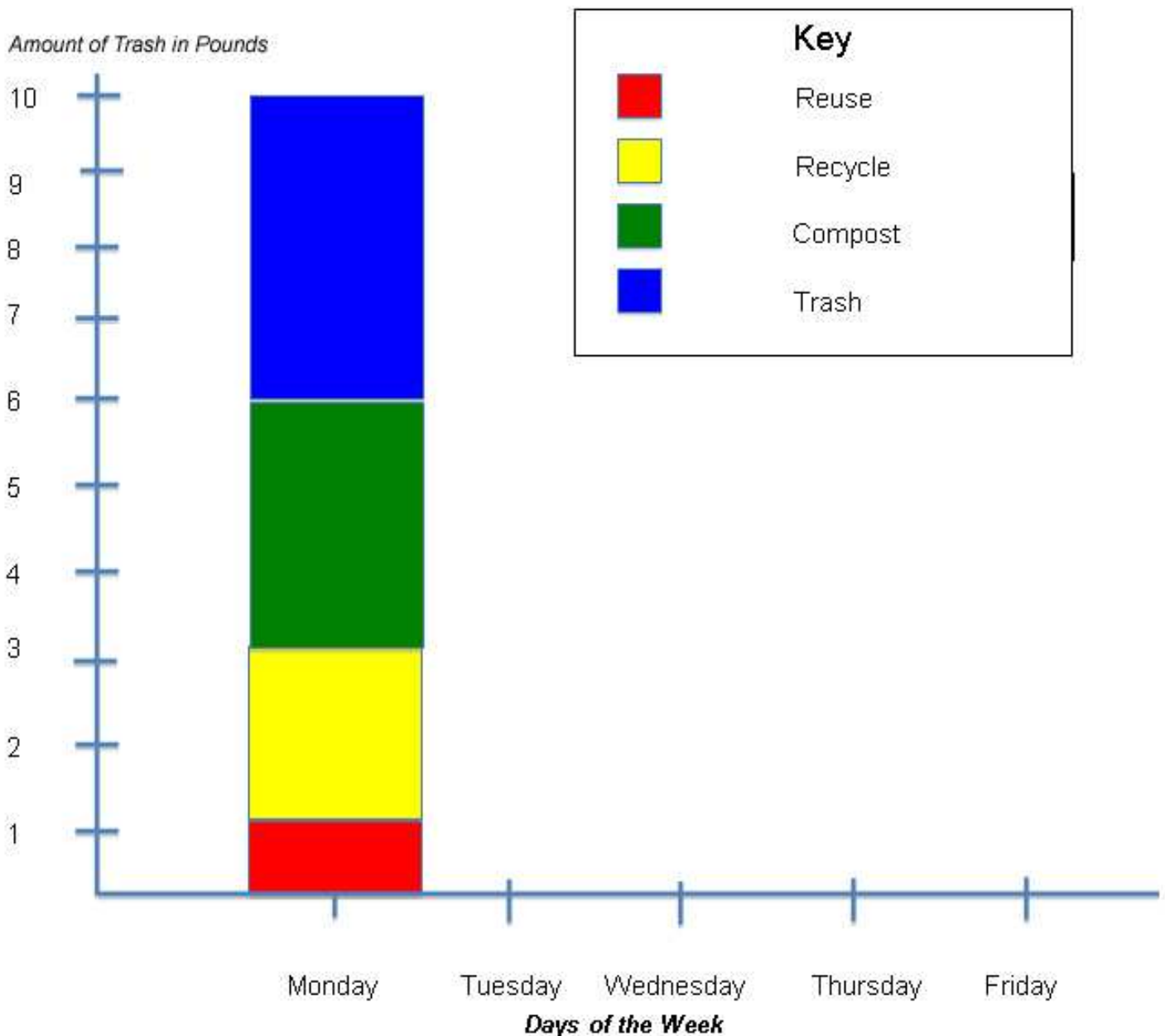
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Sample Trash Graph:

Use chart paper to create a large bar graph to document your class's daily trash consumption, as shown below.

- Choose a scale that works for the amount of trash your class produces in a day. (You might want to weigh the trash before beginning the project so you'll know whether the y-axis should be 10 pounds, 25 pounds, or something in between.)
- Use a different color for each kind of trash. Include a key to show what each color represents.
- Demonstrate how to show an amount that doesn't start from zero. (For example, the yellow bar starts at 1 and ends at 3, representing 2 pounds of recyclable trash.)





Cyberchase

Master's Degree in Trash

On the _____ day of the month of _____ in the year of _____,

The Garbology University of Cyberspace hereby confers upon

**the Master's Degree in Trash,
with all the rights honors and privileges thereunto pertaining.**

For the Board of Trustees

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For the Faculty

[Signature]

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