

What's in Your Waste?

Objectives:

- 1) Students will understand the importance of waste reduction.
- 2) Students will demonstrate data collection skills.

Background Information:

According to the EPA, Americans produce about 4 lbs of trash every day. In 2012, Americans recycled about 34.5% (87 million tons) of all waste (257 million tons). The landfill in New Hanover County is permitted at 170' high, and is 689 acres in area. We are not at full capacity yet. Recycling diverts waste away from the landfill. If we are conscientious, we can find many items in our trash that can be recycled.

Materials Needed:

- Trash bags
- Tarp or mat
- Scale
- Gloves
- Waste Audit worksheet
- Buckets (4-5)
- City of Wilmington recyclables poster

Lesson Time:

40-45 min

NC Essential and Common Core Standards

CCSS.Math.Content.4.MD.A.1

Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.

CCSS.Math.Content.4.MD.A.2

Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

Procedure

Activity	Notes	Materials
Discussion (5-10 min)	Q: What happens to our trash after we throw it out? A: Goes to landfill. NHC landfill is full of our trash. Some of the things we put in the landfill can actually be reused or recycled.	
Waste Audit (30 min)	<ul style="list-style-type: none"> - Lay out tarp or mat in the classroom. - Have students wear gloves for safety. - Students use scale to measure empty weight of bucket. - Students sort through trash and separate out plastics, paper, glass, metals, and compostable food items into buckets. - Students weigh each category of 	Tarp Gloves Buckets Scale Worksheet

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Contact: City of Wilmington, Public Services Department, Solid Waste Division

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	waste and estimate the volume. - Students record data on the worksheet.	
Wrap-Up (5 min)	What was in your trash? How much can be recycled? How much space in the landfill does our classroom save by recycling?	City of Wilmington recyclables poster

Assessment

1. Use class discussion and/or writing assignment to determine if students understand the importance of recycling as a way to reduce waste in the landfill.
2. Students summarize the data they collected on their worksheet, in a short paragraph.

Extensions

1. Landfill Ban Worksheet – use this simple word search as a homework assignment and conversation starter about items that are legally banned from landfills in NC.
2. Students can do a waste audit at home, and share their information with the rest of the class. Graph the data as a class and calculate how much waste is diverted away from the landfill.
3. “Where Does It Go?” worksheet – use this worksheet to emphasize the importance of recycling versus landfill-bound garbage. Students will learn the difference between linear and cyclical systems.

Useful Resources

EPA’s Solid Waste Facts http://www.epa.gov/waste/nonhaz/municipal/pubs/2012_msw_fs.pdf

EPA’s Educational Materials on Waste <http://www.epa.gov/epawaste/education/index.htm>

New Hanover County Landfill <http://recycling.nhcgov.com>

City of Wilmington Recyclables Poster

http://www.wilmingtonnc.gov/public_services/trash_recycling/trash_collection/recycling/education_and_outreach

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