Lunch Bags

Concept
Each of us is responsible for the size and composition of the stream. Reusing can help reduce waste.

Objective
Students will measure how much lunch waste they produce as individuals and as a class, will categorize the content of their lunch waste and identify reusing as a way to reduce solid waste.

Method
Students will examine, classify and record the content of their lunches before and after eating.

Materials
Lunches and lunch remains, workshop sheets, scales, chart

Subjects
Mathematics, Health, Social Studies, Science

Skills
Analyzing, applying mathematical concepts, collaborating, collecting data

Time
Two class periods (before and after lunch)

Vocabulary
Organic, renewable, nonrenewable, waste generation

Resources
Betty Miles, Save the Earth; Lawrence Pringle, Throwing Things Away; Sabbithry Persad, Where do Recyclable Materials Go?

3R’s of the Common Core
Parallel Activities
7 - 8, Throwing It All Away
7 - 8, School Trash Analysis
Information
Components of the Waste Stream
Resources
General

Background
Dr. Rathje was an archeologist with the University of Arizona who studied solid waste from the 1970s until the early 2000s. “His study reveals that Tucson’s residents throw away 15% of their edible food at an annual cost of $11 to $13 million. Most of this is not in tiny bits but in large, usable amounts, such as whole steaks and half-used packages of soup. Comparing different neighborhoods, the study showed that middle-income people waste more food (and usable tools and appliances) than the poor or rich. Interviews with people in their homes, compared with actual evidence from garbage collected from their neighborhoods, revealed that people throw away much more edible food than they like to admit…”

Lawrence Pringle, Throwing Things Away

Leading Question
How much of your lunch do you eat and how much do you throw away?

Procedure
1. Before lunch, have students examine their lunches and complete the attached worksheet. Each student should record the weight of the lunch on class chart. Compare the different packaging (e.g.: plastic bags, plastic or foil wrap, waxed paper, paper bags) and discuss how much came from non-renewable and how much from renewable resources. Ask students to bring everything they do not eat and all the wrapping back with them after lunch. Make sure they do not change their eating habits just for this experiment.

2. After lunch, have each student weigh the packaging and food remaining from lunch. Working singly or in groups of four or five, add this information to the class chart. Calculate the percentage of lunch actually consumed and the percentage of organic waste. If working in groups, have each summarize their findings and report to the class using a graph, interactive diagram, picture, etc.
3. Find a class total and calculate the waste generated by the class in a week, a month, the school year. Multiply times the number of classes in the school to get an approximate number for the school lunch waste. There are about 55 million students in public and private schools across the United States. Using an individual average from the class total, have the students figure out how much school lunch waste is generated in the United States each year.

4. Discuss the types of waste produced. What are similarities between individuals in the groups? Which category had the most waste? Discuss ways to reduce the amount of waste produced. How might some of the waste be reused or recycled?

**Evaluation**

Each student should be able to correctly measure, categorize and chart his or her lunch waste and identify potentials for reduction in waste through recycling or reuse.

**Classroom Activities**

A. Discuss the pros and cons of using plastic vs. paper grocery bags. Paper bags are made from a recycled renewable resource and can be reused and recycled again. A paper bag is biodegradable. Plastic bags are made from a non-renewable resource, can be reused, but are not recyclable. Most plastics are not biodegradable and when burned, can emit toxic fumes. Which bags are better to use? Encourage students to act in response to their opinions by making conscious choices and requesting the bag they think least harmful to the environment at checkout counters.

B. Discuss alternatives to requesting either bag at the check-out counter. For example, for small purchases choose not to use a bag at all, bring back and reuse the bag you got from your last grocery trip, make a permanent grocery bag from durable fabric which can be refilled and reused every trip to the grocery store.

C. Begin a class or school composting program to recycle organic lunch wastes.

D. Discuss the use of reusable lunch boxes, sandwich containers, thermos bottles, etc., to help reduce the amount of solid waste produced by carrying lunch to school or work.
School Lunch Waste

<table>
<thead>
<tr>
<th>ITEM</th>
<th>FOOD</th>
<th>NON-FOOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample:</td>
<td>Made of</td>
<td>Renewable</td>
</tr>
</tbody>
</table>

1. Which category had the most waste?

2. Which had the least?

3. Which types of waste were reusable?

4. Which types of waste were recyclable?

5. What can we change to reduce our lunch waste?
"No Bag, Please"

a one-hour project

Everyone knows that when you save paper, you save some trees that would have to be cut down to make new paper.

Everyone knows this. But you can find out how hard it is for people to get used to saving paper.

Try this project when you are going shopping. Take a big shopping bag with you to put things in. When you pay for something watch carefully. Does the person at the counter start to put it in a bag for you?

If this happens, say "I don’t need a bag, thanks."

Then see how the store person acts. Surprised? Pleased? A little bit angry? Confused?

Then see how you feel. Ordinary? Embarrassed? Good?

It is sometimes easier to try new ways if you can get other people to try them with you. Maybe a friend or two from school would try the "no bag, please" experiment with you.