disposed of again, thus slowing down the entire team. The winning team is the one that properly disposes of all its items first.

6. The referee makes sure the item is properly disposed of in the trash or in the correct recycling bin. For each item correctly disposed of, the team gets one point. Continue until all the items have been properly placed in the correct containers.

**Extensions/Modifications**
- To further complicate the game, add other items that are more confusing. Call your local recycling center and find out if there is a guide to curbside recycling for your area.

### 3. Start With Your Own Lunch

#### Subjects:
Environmental Science, Math, Language Arts

#### Process Skills:
Observing, identifying, recording, making decisions, effecting personal change

#### Grades:
3–6

#### Cognitive Task Level:
Average

#### Time for Activity:
15 minutes after several lunch periods

#### Key Vocabulary:
Compost, landfill, packaging, recycle, reduce, replace, reuse, source reduction

#### Intended Learning Outcomes:
Completing this activity will allow students to:
- Take a survey of the items in their lunch boxes and observe what they’re packaged in
- Consider less wasteful packaging alternatives
- Create bar graphs to see the difference they can make in the amount of waste they produce by making small simple changes.

### Background
There is no “away.” The garbage we throw away actually goes to a sanitary landfill. Because we throw away so much garbage, our landfills are filling up at an alarming rate. Unnecessary waste comes from over-packaging, uneaten food, not reusing durable products like bags and containers and from not recycling containers that can be recycled. A look at the typical student lunch shows that everyone contributes to the garbage crisis.

In the past, people produced much less garbage. Thermoses carried drinks, bottles and cans were recycled, lunch boxes were reused and food waste was composted. We can still use these waste-reduction techniques today. The goal of this lesson is to practice source reduction in a small way. Even small changes can result in big changes in attitudes and awareness.

### Materials
- Handout
  - *My Lunch Tally Sheet*
Procedure

1. Prepare an example of a lunch box filled with disposable items that produce unnecessary waste. Prepare a second one with examples of recyclable/reusable alternatives for the wasteful items. Use the “What Can I Replace It With?” section of the handout and use this to help your students come up with their own ideas.

2. Tell your students to bring their lunch waste to class after lunch, including all leftover food, plastic bags, paper bags, dishes, beverage containers and napkins.

3. Hand out the My Lunch Tally Sheet for Day 1. Under “Items from my lunch” column, have them list everything that would have thrown away, including uneaten food, napkins, plastic bags, beverage containers, plastic plates or boxes, apple cores, orange peels, etc. In order to have an effective experiment, every single item must be listed!

4. For each item listed, enter the appropriate check or response in the following six columns. For example, a plastic container could be reused, or perhaps is already being reused. A juice box is garbage and must go “away” to the landfill. Next time it could be replaced with something reusable, like a thermos, or recyclable, like an aluminum can or glass bottle.

5. Discuss with the students how they can create a garbage-free lunch. Use your sample lunch box to show them how you replaced disposable items with reusable and recyclable ones. Make an overhead transparency of the “What Can I Replace It With?” section of the handout and use this to help your students come up with their own ideas.

6. Discuss composting with your students. All food waste can be composted, except meats, cheese and very oily items, like a mayonnaise-smeared piece of bread. Your class may want to try starting a bucket of compost in the classroom to compost such food waste as fruits, vegetables and grains. See the “Owl Unit — Composting” for more ideas. Untouched food may be donated to a food bank.

7. Continue the experiment for at least three days. Students should replace disposable items with reusables, and reuse these items each day, indicating this on their tally sheets.

8. At the end of three days, have students tally up the totals in each column for each day. Have them draw a graph that shows these totals. The number of items thrown “away” should decrease and the number of items reused or recycled will increase over the period. The student will see that he or she made a big difference in the amount of garbage he or she produces.

9. Repeat this activity periodically throughout the school year.
Extensions/Modifications
- Make a large poster illustrating the results of this activity. Have it displayed in a prominent place in the school, encouraging other classes to reduce their lunch-time garbage. Or make a school-wide policy to reward students who have garbage-free lunches. Be sure the reward does not produce more garbage! A cloth lunch bag or extra recess time would be a suitable reward.
### My Lunch Tally Sheet

**Name**

<table>
<thead>
<tr>
<th>Day</th>
<th>Lunch Item</th>
<th>What material is it made from?</th>
<th>Disposable</th>
<th>Reusable</th>
<th>Recyclable</th>
<th>Is it reused from previous day?</th>
<th>Less wasteful alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sample juice bottle</td>
<td>plastic</td>
<td>√</td>
<td></td>
<td></td>
<td>No</td>
<td>Thermos or glass bottle</td>
</tr>
</tbody>
</table>

#### What can I replace it with?

<table>
<thead>
<tr>
<th>Disposable Item</th>
<th>Replace with</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper bag</td>
<td>Reusable bag or lunch box</td>
</tr>
<tr>
<td>Paper napkin</td>
<td>Cloth napkin</td>
</tr>
<tr>
<td>Disposable drink container</td>
<td>Thermos, recyclable glass or aluminum, reusable plastic</td>
</tr>
<tr>
<td>Plastic baggie</td>
<td>Rinse and reuse</td>
</tr>
<tr>
<td>Disposable box or plate</td>
<td>Reusable container, like reusable margarine tub or yogurt container</td>
</tr>
<tr>
<td>Individual packages (chips, raisins, cupcakes)</td>
<td>Buy in bulk. Less packaging and cheaper, too! Reuse the bag.</td>
</tr>
<tr>
<td>Uneaten food</td>
<td>Save for next day or donate to food bank</td>
</tr>
<tr>
<td>Food waste: Apple cores, banana peel, crackers, etc.</td>
<td>Compost</td>
</tr>
</tbody>
</table>

*Recycling Plastics and Glass*
WHY PACK A WASTE-FREE LUNCH?

- LANDFILLS ACROSS NORTH AMERICA ARE REACHING CAPACITY—New landfills are built farther from the source of the waste, leading to increased disposal fees, truck traffic, air pollution, and wear and tear on local roads.

- INCINERATORS CREATE AIR POLLUTION—If your trash is incinerated, creating less trash will reduce the amount of harmful emissions in the air you breathe.

- CHILDREN LEARN TO CARE FOR THE PLANET—Packing a waste-free lunch is just one way that children can learn to REDUCE, REUSE, RECYCLE, AND COMPOST.

- SCHOOLS SAVE MONEY—Money normally spent on waste hauling can be used in the classroom instead.

HOW CAN I PACK A WASTE-FREE LUNCH?

- PACK LUNCHES IN THE EVENING and store them in the refrigerator overnight.

- MAXIMIZE LEFTOVERS. Prepare extra servings for dinner. Pack the leftovers in lunchboxes in the evening while you're cleaning up.

- Stock your kitchen with FRESH FRUITS, VEGETABLES, WHOLE GRAINS, AND OTHER NUTRITIOUS FOODS.

- Keep NUTS AND DRIED FRUIT on hand.

- Buy from BULK BINS to reduce costs.

- Buy from a CSA (Community Supported Agriculture) program or FARMERS' MARKET. Visit www.localharvest.org for locations near you.

- WRITE YOUR NAME ON ALL YOUR CONTAINERS before leaving the house.

WHAT'S A WASTE-FREE LUNCH?

- START WITH A REUSABLE LUNCHBOX, BACKPACK, OR BRIEF CASE—Avoid disposable plastic and paper bags.

- PACK YOUR FOOD IN REUSABLE CONTAINERS—Avoid plastic bags, plastic wrap, aluminum foil, and prepackaged foods whenever possible.

- INCLUDE A DRINK IN A REFILLABLE BOTTLE—Avoid single-use, plastic bottles, drink bottled water, and souces wherever you can.

- ADD REUSABLE UTENSILS—Eliminate disposable utensils.

- USE A CLOTH NAPKIN—Eliminate paper napkins.
The Waste-free Lunchbox

Printing Instructions:

1) Print pages 2 and 3 back-to-back on size 8 1/2 X 11 paper.
2) Print on recycled paper made of at least 30% post-consumer content.
3) Fold the flyer in three vertically.
4) If you have any questions, please feel free to contact us
   by phone at: 831-457-0301
   by email at: info@obentec.com

For more info on waste-free lunches, visit www.wastefreelunches.org.
WHAT CAN YOU DO?

Visit:
www.wastefreelunches.org
You'll find:
- tips for implementing a waste-free lunch program
- waste-free lunch success stories
- strategies for reducing waste
- lunch waste statistics
- links to important waste-free lunch sites
- this free downloadable brochure

Visit:
www.laptoplunches.com
For:
- waste-free lunch kits
- nutritious lunch ideas
- tips for picky eaters
- creative lunch menus
- kid-friendly recipes
- school programs
- free e-newsletter subscription

REDUCE — Cut down on packaging and food waste by purchasing fresh produce and bulk bin items and reusing your bags.

REUSE — Pack lunch in reusable containers. Use a refillable drink bottle, a cloth napkin, and reusable utensils.

RECYCLE — Search out recycle bins instead of tossing recyclables in the trash. If you can’t find a recycle bin at work or school, take your recyclables home.

ROT — Start a compost pile at home, work, or school. If you’re low on space, opt for a worm bin.

A child taking a disposable lunch to school creates an average of 67 pounds of lunch waste annually.

The Waste-free Lunchbox

Make YOUR lunches waste-free!

TEL: 831-457-0301
EMAIL: info@obentec.com
Creating less Trash at School

There are lots of ways that we can reduce waste at school. By thinking ahead and being creative, you can reduce your impact on the environment and save money at the same time.

What’s the problem?

Garbage follows us everywhere we go. We generate waste at home, work, and school. In fact, in one week, the average Minnesotan throws away more than 40 pounds of garbage. The garbage generated in Minnesota in one year would fill four lanes of trucks, bumper-to-bumper, stretching from Albert Lea to International Falls. Even with our best efforts to recycle and compost, the amount of garbage keeps increasing every year.

Packaging amounts to 32 percent of Minnesota's garbage. Typically, the more packaging a product has, the more expensive it is. You can save up to 50 percent of the cost of a product by buying the least packaged product.

The good news is that everyone can do something to reduce the amount of trash they throw away.

Even while at school each of us can have a major impact on the amount of garbage produced in our state by becoming aware of how much we throw out and changing some of our habits when buying and using things.

What can I do?

Pack a no-waste lunch

A no-waste lunch is a meal that does not end up in the trash. You can buy food items in bulk then put them in reusable containers to carry to school.

Example: Use a reusable lunch box or bag and fill it with your lunch in reusable containers. You could also include a cloth napkin - don't forget to bring it home so you can wash it and use it again. Another idea is to ask your school cafeteria to use items such as reusable trays, napkins, and silverware.

Benefits: You create less waste by using washable containers to pack your lunch. Packing your food in reusables is typically less expensive than buying food that comes in disposable containers.
**Carry a few reusables**

At the beginning of each school year, it seems as if we need to buy lots of supplies. When you go to the store, look for durable, long-lasting supplies.

**Example:** Refillable pens and pencils, a durable backpack, and a lunchbox are all great examples of products that can be used over and over again.

**Benefits:** Items that can be used more than once will reduce waste. If you take care of them, they will last a long time — and maybe you won’t have to buy new ones next year!

**Take only as much food as you will eat**

More than 20 percent of the food we buy gets thrown away. One way to figure out how much food you waste is to measure and track all the food you throw away from your lunch over a fixed period of time. Then you could brainstorm ways to reduce how much food you are throwing in the garbage.

**Example:** If you are bringing lunch from home, you can use an ice pack so that it stays fresh until it is eaten. If you buy from the school cafeteria, only take a small portion of food; if you’re still hungry, go back for seconds!

**Benefits:** About 48 million tons of food are thrown away in the United States each year. By taking only what you can eat or sharing your extras with a friend, you are taking steps to waste less and save money.

**Use less paper**

Even though we recycle much of the paper we use, it is still a significant part of what we throw in the trash. Think about all of the paper you’ve thrown away that only had writing on one side. Those pieces of paper could have been used a second time, potentially cutting your paper use in half. Also, by buying paper and notebooks that contain recycled paper, you complete the recycling loop.

**Example:** Make room in your classroom or at home to put paper that has only been used on one side. Use that paper for notes, or feed the blank side into your printer for draft documents. You can also make scratch pads out of that single-sided paper by binding one side. Can you “go paperless?” Ask your teacher if you can hand in assignments on a computer disk or via e-mail instead.

**Benefits:** Because paper and packaging make up such a large part of our garbage, by using less paper you can reduce up to 40 percent of the trash that is thrown away.
Conduct a junk mail campaign
Another large source of paper that is thrown away every day is unsolicited mail. You can help your school office collect unsolicited mail and contact the companies to get off their lists.

Example: Make this into a project by measuring how much unsolicited mail your school receives in a week. Tear off the mailing labels and send them back to the mailer along with a note saying, “Please take us off your list.” After a few months, measure the unsolicited mail again. You can then determine how much waste has been eliminated; think about the staff time saved by not having to go through all of that unwanted mail.

Benefits: Decreasing junk mail not only saves paper and reduces paper waste, but takes less time to sort and recycle the mail each day.

Organize a school-wide rummage sale
Rummage sales are a great way to pass along items that you no longer want to someone who might need them. Instead of throwing your unwanted items away, they will be put to good use.

Example: Plan a class or school-wide rummage sale with your teacher. Collect donations for the sale. Sell used items such as clothes, furniture, and sporting goods at an end-of-the-year sale.

Benefits: Buying used items is not only cheaper, but someone else's trash might be your treasure!

Duluth School gets A's in Reduceology 101

Stowe Elementary School in Duluth instituted a waste reduction program in the school that focused on the cafeteria. They switched from disposables to reusables, started to separate recyclables, increased food ordering accuracy, and set up a vermiculture project (worm bins) to compost food waste.

In a second project, they created model service learning projects. The projects took what students learned within the classroom and applied it outside of the classroom for the benefit of the Stowe enrollment community. Projects included reseeding a bare field adjacent to the school, building a composting system for the zoo, helping control trail erosion along some park trails, and creating awareness of how drains link directly to the river by stenciling them. They also organized a community-based service learning project by creating a nature trail near the school.

Their most recent project focuses on alternative energy. Stowe School purchased solar panels, a wind turbine, and an inside meter to measure the energy created and the electricity used in the school's worm composting building. The school will teach students about energy generation and consumption for grades kindergarten through fifth grade.