Lesson Plan: Recycle Right at Lunch

This lesson plan was adapted with permission from Planet Ark – www.planetark.org

Goal: Students will survey and analyze lunchtime packaging waste in order to identify how much of it is recyclable.

Assessment: Students will carry out a lunchtime waste survey, draw conclusions from the survey and discuss ways that packaging waste can be reduced.

Age Group: Grades 6-8

Time: This activity is carried out over a week of lessons. The first and last lesson may require up to an hour to complete, while the interim sorting periods may only require 20 minutes/day.

Materials:
- 5 large boxes with labels
- Washing up gloves
- Magazines or grocery store ads
- Glue and scissors
- Poster board/butchers paper
- Plastic ground sheet

Background Information for Teachers
In 2010, Minnesotans recycled 2.43 million tons of materials, which was 43.2% of waste generated. The state goal is to reach a recycling rate of 50%.

Please note that before you begin, you may need to obtain parental consent for participation in this activity as students will be handling waste. Check this with your principal.

It is also helpful to announce this activity to the whole school at a school assembly prior to conducting the waste survey to ensure maximum participation.

Activity

Class Research
- Find out what is recyclable in your local area by visiting DakotaValleyRecycling.org
- Write up on the board what is and is not recyclable in your area.
- Pay particular attention to the different types of plastic. Make sure students are aware of the seven different types and what is recyclable in their area.
- If there is a recycling system in place at your school, discuss the way this system works (what is accepted and where it goes for processing).
School Announcement

- Choose a representative from the class to make an announcement at a school assembly, asking all students to place recyclable packaging from their lunch into the recycling bins organized by the class in the week you have selected. Explain that this is part of a class survey on recyclable playground waste.

Recyclable Packaging Survey

- First, label each of the 5 large boxes with one of the following labels: plastic containers (soft drink bottles, milk bottles, takeaway containers, etc.), glass, cartons (milk and juice cartons), paper (including cardboard), and metal (aluminum cans, steel cans, foil).
- Divide the class into 5 groups and allocate a box to each group. This will be theirs to monitor and sort over the week-long experiment. To start, each group could decorate their box with pictures from magazines and grocery store advertisements that represent the category on its label.
- For five days at lunchtime, students put the 5 boxes out into the part of the playground that receives the most waste. Other students in school are asked to separate their garbage into 5 categories. Where their garbage doesn’t fit any of the categories (food scraps, chip bags, cling wrap, etc.) it should go into the normal school trash bin. A ‘bin monitor’ from each group should supervise their box each day to ensure the other students are separating their garbage correctly and not putting any food scraps, liquids or non-recyclables into the boxes.
- At the end of each day, each group sorts their allocated box. This is best done on a plastic sheet in a sheltered area outdoors. Any student handling waste should be given a pair of gloves to wear.
- Using a table (like the one below), each group should fill in the number of the items in their box for that day. Slowly across the week, the content for a recyclable waste graph will build up. Once the details have been recorded for that day, dispose of the recyclables correctly (either by taking it home or through a school system if available).

Thinking it through

- At the end of the week, design a large wall chart as a class, summarizing the results of the survey:
  - Approximately what proportion of the school’s lunchtime waste was collected as recycling rather than garbage?
  - How many items of each category were collected throughout the week?
  - Which was the most commonly thrown out? Which was the least common?
  - How much of each category would there be over a month or a year if the same amount of packaging was collected every week?
  - The data could be used to work out pie graphs and percentages if this fits within curriculum stage.
- These results could be presented to the school board as an encouragement to institute a recycling program at the school.
- Discuss as a class how the students rate their own lunchbox when it comes to recyclable and reusable packaging (very good, good, okay or bad). How could they reduce the amount of packaging they have in their lunchboxes?
Use reusable containers and drink bottles, eat more fruit and vegetables that come in their own “natural packaging”, etc.

**Extensions**
- A competition could be held between classes to see which class can have the ‘least waste’ in their lunch boxes, or the whole school or grade could hold a “waste-free” lunch day.

**School Lunchtime Recyclable Waste Tally**

<table>
<thead>
<tr>
<th>Item</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic Containers</td>
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<td>Glass</td>
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<td>Cartons</td>
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<td>Paper</td>
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<td>Metal</td>
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</table>

**Minnesota Teaching Standards**

**6th Grade**
Science: 6.1.3.4.1

**7th Grade**
Science: 7.1.1.1.1, 7.1.1.2.3
Social Studies: 7.2.1.1.1

**8th Grade**
Science: 8.1.1.2.1
Social Studies: 8.2.1.1.1