Concept
Solid waste is everything we find useless and throw away.

Objective
Students will define solid waste, identify major components of the waste stream and begin to question their throw-away habits.

Method
Students will create a classroom trash bag.

Materials
Waste basket, typical trash items from the attached Garbage Bag Recipe, diagram of a landfill. Classroom activity: fish tank, clay, small rocks, plastic wrap, soil, chopped up trash

Subjects
Language Arts, Social Studies, Mathematics

Skills
Conducting investigations, gathering information, communicating, using mathematical and computational skills, collaborating

Time
One to two class periods, homework

Vocabulary
Trash/garbage, resource, waste, reuse, recycle, landfill

Resources
Current waste stream composition studies; Erika L. Shores, How Garbage Gets from Trash Cans to Landfills (Here to There); Marlene Targ Brill, Garbage Trucks (Pull Ahead Books); Barbara Odanaka, Smash! Mash! Crash! There Goes the Trash!

Background
According to the EPA, approximately 70% of what we throw away still has a value and could be reused, recycled or composted. Diverting these resources from the waste stream begins with recognizing the resource potential of what we throw away each day. This activity sets the stage for many different lessons by creating a classroom prop you can use repeatedly.

Leading Question
What kinds of things do we throw away?

Procedure
1. Begin by examining the objects in the classroom trash can. Discuss the differences between trash in different places. What kinds of trash would be found in the cafeteria or in different rooms at home?
2. Cut up the attached list so that each student has only one or two items. Ask them to bring either the item itself or a drawing of the item pasted on cardboard to class the next day. Put all of the ‘recipe’ items into a clean garbage bag.
3. When all the components have been assembled, the garbage bag can be used for different lessons. The contents can be sorted and classified by different packaging types, objects with different resource bases, biodegradable or nonbiodegradable, made from renewable or nonrenewable resources, recyclable or reusable, etc. Count, categorize and compare numbers of 3 or more groups of garbage (e.g.: recycle, reuse, compost). Graph the results. What can they be recycled into? How could they be reused? Pick an item and draw and/or write to show how you can reuse the ‘garbage’ item.

Evaluation
- What is waste? (things we don’t use/want anymore)
- What are resources? (things that we do use/need or value)
- Name one thing that is waste and one thing that is a resource.
- Name one thing that you throw away which could be a resource instead of waste.
### Classroom Activities

**A.** Who wants to go to the dump? Hand one trash object to each student and have all the students stand together in a group representing one large trash bag. The teacher can be the trash collector who will take the trash away. Show the diagram of a landfill. Describe what happens at a sanitary landfill and ask if anyone really wants to go to the dump. If not, they can be rescued by thinking of a way they can be reused or recycled. Try to save all the items of the trash bag by thinking of alternatives. Discuss ways to redesign products that cannot be recycled or reused. Continue until all the students have been rescued.

**B.** Make a trash can display showing typical breakdown of different types of trash, similar to the attached illustration. Use magazines cutouts for a collage and bring in real items.

**C.** Find magazine pictures of things that get thrown out after one use (or a short period of time) and things that last a long time. Make posters or a display of the two types. Compare each throw away object to the same object fifty or one hundred years ago.

**Examples of Things Thrown Out After One Use (or Short Period of Time):**
- Paper towel/napkin
- Paper grocery bag
- Disposable razor
- Plastic sandwich bag
- Plastic utensil
- Straw
- K-cups for coffee makers
- Dryer sheets
- Disposable diaper/wipe
- Plastic water bottle
- Pen

**Examples of Things That Last a Long Time:**
- Reusable water bottles
- Cloth napkins
- Canvas grocery bag
- Reusable sandwich/snack container
- Metal utensil
- Cloth diapers
- Clothes
- Books
- Tools

**D.** Have the children work together to create a sanitary landfill model or provide a teacher-created landfill model to be used throughout the lessons in this Guide. Have students examine the diagram of
a landfill below and then take turns adding items to a fish tank in layers. The fish tank is ideal because the children can see the contents.

E. As an alternative activity, build a 3-D model of a landfill using cereal boxes covered in construction paper labeled with a layer name. Stack the boxes horizontally.

Cross Section of a Landfill

Trash Can Display
How can we save our resources from being landfilled?

Paper 27.4%
Food Waste 14.5%
Yard Waste 13.0%
Plastics 12.7%
Metals 8.9%
Rubber/Leather/Textile 8.7%
Wood 6.3%
Glass 4.6%
Other 3.4%

Garbage Bag Ingredients
This list represents the contents of a typical three-pound residential trash bag, as determined by The United States Environmental Protection Agency’s 2012 municipal solid waste composition study.

<table>
<thead>
<tr>
<th>paper plate</th>
<th>glass jar</th>
<th>an old rag</th>
<th>six-pack ring</th>
</tr>
</thead>
<tbody>
<tr>
<td>brown paper bag</td>
<td>aluminum can</td>
<td>egg carton</td>
<td>some junk mail</td>
</tr>
<tr>
<td>corrugated paper box</td>
<td>plastic fresh produce bag</td>
<td>Styrofoam cup</td>
<td>plastic detergent bottle</td>
</tr>
<tr>
<td>plastic film</td>
<td>newspaper</td>
<td>apple core</td>
<td>banana peel</td>
</tr>
<tr>
<td>some dead flowers</td>
<td>dead leaves/branches</td>
<td>plastic container</td>
<td>milk container</td>
</tr>
<tr>
<td>juice container</td>
<td>fast food packaging</td>
<td>plastic milk jug</td>
<td>coffee grounds</td>
</tr>
<tr>
<td>disposable diaper</td>
<td>chicken bones</td>
<td>cereal box</td>
<td></td>
</tr>
</tbody>
</table>
Garbage Bag Recipe

Name: ___________________________ Date: __________________

Save these from the trash.

Draw a line from the trash object to its bag of recyclables

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3R's of the Common Core: K-3