MAKING A PLAN TO REDUCE WASTE IN YOUR AREA.

Most people don’t think about what happens to the trash they throw away. Unfortunately, garbage doesn’t just disappear once it goes into a garbage can. Paying attention to what actually is garbage helps us be more efficient at reducing waste so we don’t needlessly send everything to landfills.

Here’s how:

1. **Tackle a real-world problem.** Introduce the SciGirls Challenge: Conduct a waste audit (e.g., at your school, home, community center, or other institution) and use your findings to implement a plan for reducing trash. 

   To see girls tackle the trash in their school, watch the SciGirls Go Green DVD. (Select Going Green: Identify the Problem.)

2. **Select a site.** If you choose your school, for instance, collect two bags of garbage from the cafeteria. Make sure you get permission as needed (e.g., from the principal) before digging in!

3. **Research.** If appropriate, coordinate with the custodial staff to learn trash collection times and plan accordingly. You want to make sure there is garbage in the bags when you pick them up! Get a copy of local recycling guidelines so you know what should and should not be in the trash.

4. **Plan.** Have girls brainstorm questions they want to answer through this investigation. (e.g., What percentage of the total waste could have been recycled?) Now have them figure out the tasks necessary to answer their question. For example, they’ll need to decide how to measure the waste (by weight, volume, or visual estimate) and what tools they’ll need to do so. They’ll want to measure the total amount of trash, sort it, measure each type, and record their data.

   To gather some sorting ideas, watch the SciGirls Go Green DVD. (Select Going Green: Classify.)
Here are some ways girls might decide to measure the trash:

**Weight** Use a bathroom scale to weigh each trash bag and record the results. If the bag is not stable on the scale, weigh a garbage can alone first, and then weigh the can filled with trash. Subtract the weight of the can from the total weight to find how much the trash weighs.

**Volume** Estimate the volume by comparing the trash to known volumes, such as a 5-gallon bucket.

**Percent** Visually eye the volume of each type of trash. If the total amount collected is 100%, girls can guesstimate the percent of each type of waste.

5. **Divvy up tasks.** You may want to assign small groups specific tasks (e.g., collecting trash, weighing trash, estimating volume, recording data, sorting garbage) or let girls designate tasks based on their plan. Do not sort bathroom or health room waste. Wear gloves, safety glasses, and close-toed shoes (or cover shoes with plastic bags).

6. **Start the Sort!** First, have girls measure the total amount of garbage using the method they’ve determined. Then, have the girls empty the trash onto a tarp and begin sorting into piles (e.g., cardboard, food waste, plastics—see table below for types of material).

<table>
<thead>
<tr>
<th>Type of Material</th>
<th>% by Volume (estimate)</th>
<th>Compostable?</th>
<th>Recyclable?</th>
<th>Trash?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardboard/paper (with food waste)</td>
<td>10%</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardboard/paper (clean)</td>
<td>10%</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum cans</td>
<td>5%</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food waste</td>
<td>20%</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glass</td>
<td>10%</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plastics</td>
<td>40%</td>
<td>X (some)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>5%</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Visit pbskidsgo.org/scigirls for videos and projects!
Going Green continued

**POINTER:** As the sorting progresses, encourage girls to take the experiment in any direction they like and research. For example, they may wonder why some cardboard can be recycled and others cannot, or why only some plastics can be recycled. (Cardboard containing food, such as a pizza box, cannot be recycled, but could be composted. In many areas, #5 plastics aren’t recycled, not because they can’t be, but because there is no market for the recycled products made from them.)

7. **Calculate.** Now ask girls to measure each type of waste and compile their data in a table. (See below, left.) Which type of waste makes up most of the trash? Using their initial measurements, ask girls to figure out what percentage of the total each type represents. Plastics (although very light) take up a lot of space in a waste sort and in a landfill!

Share your results with other girls on our website, at pbskidsgo.org/scigirls.

8. **Clean up.** Ask the girls to return non-recyclables to garbage cans, sort recyclables into recycling bins, and compost perishables, if possible. They’ll need to wash the tarp and buckets and sweep the floor. Don’t let them forget to wash their hands.

9. **Share.** Have girls make a presentation of the data. Be creative! (See right.) Were there items that could have been recycled, composted, or simply reused instead of thrown away? Have kids brainstorm ideas about what they could do to reduce the amount of waste at their site. (clearly mark all recycling bins, place recycling bins near trash cans, make posters of what can and cannot be recycled) The girls may decide to reuse waste to create a new product. To see how SciGirls reused yogurt cups, watch the SciGirls Go Green DVD. (Select Going Green: Prototype.)

10. **Continue exploring.** Reward girls’ efforts and encourage them to implement their waste reduction plan and then conduct another waste sort one month later. (You may need to obtain permission or discuss ideas with appropriate authorities.) Did anything change?

1-7 See SciGirls Seven strategies on page 3.