



Waldo County 4-H Program
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What's in the Garbage?

Purpose of activity: The purpose of this activity is for youth to discover how much food waste they are producing and to learn new options for handling their food waste.

Materials:

- Face covering
- Goggles
- Disposable gloves
- Apron
- [Data sheet](#)
- Kitchen tongs or long handled spoon
- Tarp
- Bathroom scale
- Trash can
- Plastic garbage bag
- One bag of household garbage
- Four small buckets or containers

Instructions:

Prepare:

1. Prior to setting up this activity, spend some time researching what happens to your waste after it leaves your house. Where does your waste end up?
2. Set up a workspace outside by laying your tarp down on a flat surface. If you do not have a tarp, you can use a large plastic bag.
3. Put on your apron, face covering, goggles and plastic gloves.
4. Review the [safety handout](#) and the procedure for sorting your waste.

Waste Audit:

5. Open the bag of household garbage and carefully place the contents on your tarp.
6. Sort through your waste and put items from each of the categories into a container. Sort the waste into the following categories; paper products, food waste, plastics, and cardboard.
7. Weigh each of the containers with the categorized waste in them and determine the weight of the waste. Report what you find on your data sheet.

Investigate:

8. Investigate what was the odor being caused from. What could be done differently in order to eliminate the odor?



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9. Which one of the containers had the most waste in it? What about the least. As a family or on your own, brainstorm what could be done to reduce your waste. Perhaps some of the items could be composted or recycled.
10. Optional: With the vegetable waste, set up the extended experiment activity “Compost in a Bag”.
11. Research what your community transfer station or sanitation service provider (trash collection) requirements are for recycling items.
12. If you came up with ways to reduce your waste, try implementing them in your home for a month. At the end of the month, repeat the waste audit and see if there are any changes in your waste from the first audit.



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Compost in A Bag

Purpose of activity: The purpose of this experiment is for youth to explore how food scraps can be re-purposed into compost and to learn the process of decomposition.

Materials:

- Two 1-gallon, sealable freezer bags
- Permanent marker
- Quart measuring cup
- Measuring cups
- 2 quarts dry, slightly crumbed leaves or chopped straw
- 2 quarts of fresh grass clippings
- 2 cups of garden soil
- Food scraps
- Water
- Notebook and writing utensil

Instructions:

Assemble Your Bag:

1. Label one freezer bag “Bag “1 – do not disturb” and the other bag “Bag #2 – mix as scheduled”.
2. Assemble the compost layers, making each bag identical. Start by putting 2 cups of leaves or straw into each bag.
3. Sprinkle $\frac{1}{4}$ cup of soil over the straw or leaves in each bag.
4. Sprinkle 3 tablespoons of water into each bag.
5. Add 2 cups of fresh grass clippings to each bag.
6. Sprinkle each bag with $\frac{1}{4}$ cup of soil and then with 2 tablespoons of water.
7. Add 1 more cup of leaves or straw, followed by 1 cup fruit and vegetable scraps (identical types for each bag).
8. Sprinkle $\frac{1}{4}$ cup of soil over the scraps in each bag.
9. Add 2 cups of fresh grass clippings to each bag.
10. Add 1 cup leaves or straw on top of the grass.
11. Sprinkle $\frac{1}{4}$ cup of soil over the top of each bag, followed by 3 tablespoons of water.
12. On your [compost record sheet](#), record what you put into each bag and the date that you assembled them.

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Composting:

13. Do not shake either bag. Close the zip top of each bag and set bags in a warm place away from direct sun.
14. Do not open the bag marked #1 – do not disturb”.
15. Open bag #2 after three days to let in fresh air. Reseal the bag and shake it so the ingredients are well-mixed.
16. Three times each week, open the bag to let in fresh air, reseal and shake to remix the ingredients. Do this for weeks.
17. On your record sheet, record what days you opened bag #2 and mixed it on your record sheet. On your record sheet, record your observations for each bag three times a week.
18. Allow three or four weeks before opening bags to observe what has happened.
19. Open both bags and pour contents of each bag into two separate piles.
20. Observe the contents of each bag and record what you see on your record sheet.

Vocabulary

Decomposer- an organism that decomposes, or breaks down, organic material such as the remains of dead organisms. Decomposers include bacteria and fungi.

Decompose- to break down organic matter, like vegetables decaying into simpler components; making compost

Compost- organic matter that has been decomposed in a process called composting.

Anaerobic Decomposition- decomposition that occurs using microorganisms that do not require oxygen to survive.

Aerobic Decomposition- decomposition of organic matter using microorganisms that require oxygen.

For more information how to set up a home composting system, check out these extension resources.

- Bulletin #1143- Home Composting extension.umaine.edu/publications/1143e
- Bulletin #1159- How Compost Happens extension.umaine.edu/publications/1159e