

Title: Crazy Composting

Topic: Composting is a method of recycling natural resources.

Grade: First (1st)*

Time: Approximately 1-45 minute lesson plus care throughout the next two months

Objectives	<p>1.L.1 Understand characteristics of various environments and behaviors of humans that enable plants and animals to survive.</p> <p>1.L.1.3 Summarize ways that humans protect their environment and/or improve conditions for growth of the plants and animals that live there (e.g., reuse or recycle products to avoid littering).</p> <p><i>* Can be adapted for other grade levels. Related objectives are:</i></p> <p>K.P.2.2 Compare the observable physical properties of different kinds of materials from which objects are made and how they are used.</p> <p>3.L.2.2 Explain how environmental conditions determine how well plants survive and grow.</p> <p>3.L.2.4 Explain how the basic properties and components of soil determine the ability of soil to support the growth and survival of many plants.</p>
Materials	<ul style="list-style-type: none">• To create a compost pile: roll of chicken wire, brown leaves, straw, grass clippings, fruit/vegetable peelings, egg shells (no animal products), coffee grounds, etc.• Poster-making materials such as: posters, markers, crayons, construction paper, etc.• Paper• Pencils• Science Notebooks• Internet Access
Engage	<ul style="list-style-type: none">• The teacher will begin by explaining that today they will learn how to recycle their food scraps, dead leaves, and even old coffee ground that your parents used! We will be able to make our own fertilizer. The teacher will ask the students: What is fertilizer? How do we use it? Why do we use it? The students and teacher should discuss how fertilizer is used to help plants grow larger and produce more fruits and vegetables than they would have normally. They spread the fertilizer around the plant on the soil and then add water. Farmers and gardeners like to use it because they can grow extra fruits and vegetables.• The teacher will explain that this month our class will work together as a team to become more sustainable. What does that mean? It means that we are going to try following the 3 R's: reduce, reuse, and recycle! The teacher will ask the students to brainstorm together in order to think about what each "R" word means. Students will then share what they discussed with their teams. The teacher should ensure that the students understand that to reduce means to lessen the amount of trash we are throwing away and lessen the amount of natural resources we use. Reuse means that we can use materials over and over again, such as water bottles and plastic bags from the grocery store. Finally, recycle means that we will send our paper and plastic materials to a recycling plant so they can be reformulated into a "new" material.• Extra Activity: The teacher and students can manage a recycling program at your school. (Or, if older students currently manage the recycling program, connect your first graders with an older "buddy" students that can show and teach them how they help the school recycle.)
Explore and Explain	<ul style="list-style-type: none">• The teacher will show the students a video from: http://video.nationalgeographic.com/video/environment/going-green-environment/green-home-makeover/compost-gg/ in order to learn more about composting and how it is done. Discuss with the students: What materials did they use to make their compost pile? What did the compost turn in to?

	<ul style="list-style-type: none"> • The teacher and students will create the compost pile together: The students will place the “brown ingredients” at the bottom. They will be sure to place the brown leaves so that they are not packed down too tightly. Then the students will place in green materials, such as grass clippings. Then the students should place in fruit/vegetable peelings, eggshells, and coffee grounds, if available. There should not be any animal products placed into the compost bin. (Only biodegradable materials) • Each week throughout the next two months, the teacher should choose responsible students to “turn” the compost pile so that it is mixed around. Or, the teacher may choose to “turn” the compost pile together during recess or a set time each week. • Optional: The students can keep a weekly compost log to track the changes they notice in the compost bin. The students may include: Day/time, sketch with labels, changes they observed, and a description of their general observations. • After about 2 months, the students will have created natural fertilizer that can be used by placing it around plants in a garden or flowerbed. • Throughout the process, the teacher should use this time to discuss why composting is important, why they should care about composting and practicing the 3 “R’s” they learned about, and what they can do to share their new knowledge with others.
Elaborate	<ul style="list-style-type: none"> • The students will work in groups to create posters around the school to teach other students: What is composting? Why is it important to compost? How do you compost materials? The students should include diagrams, pictures, a title, and informational sections in order to convey their knowledge clearly. • The students may also share their posters on a school morning news broadcast or in another classroom.
Evaluate	<ul style="list-style-type: none"> • The teacher will use the composting poster rubric in order to evaluate the student’s understanding of composting. • The teacher may also choose the use the composting quiz to evaluate the student’s understanding.

Resources

Extra Website Support:

<http://www.michigan.gov/kids/0,4600,7-247-49067-62499--,00.html>

<http://aggie-horticulture.tamu.edu/kindergarden/kidscompost/compostingforkids.pdf>

<http://www.benefits-of-recycling.com/compostingforkids/>

Evaluate:

Composting Poster Rubric	3	2	1
Graphics/Pictures	The pictures and diagrams are all accurate.	Most of the pictures and diagrams are accurate.	Many of the pictures and diagrams are not accurate.
Content	All labels and information in the booklet are accurate.	99%-85% of the facts and labels on the poster are accurate.	Less than 85% of the facts and labels on the poster accurate.
Participation/Focus	Consistently stays focused on the task and what needs to be done. Very self-directed. Participated throughout the poster-making process.	Focuses on the task and what needs to be done most of the time. Participated throughout most of the poster-making process.	Focuses on the task and what needs to be done some of the time. Other group members or the teacher must remind to keep this student on-task and participating.

Rubric adapted from: http://rubistar.4teachers.org/index.php?screen=NewRubric§ion_id=9#04

Picture References:

<http://martincareymeats.com/meatGuide.html>

<http://www.goodhousekeeping.com/home/green-living/reuse-eggshells-460809>

http://www.naturalhealth365.com/food_news/apple.html

<http://www.sheknows.com/food-and-recipes/articles/805766/easy-carrot-raisin-muffins>

<http://www.myrecipes.com/recipe/lemon-oregano-chicken-breasts-10000001904976/>

<http://englandacres.com/strawhay.html>

<http://immunetreeblog.com/milk-and-weight-loss/>

Composting Quiz

Name _____ Date _____ Teacher _____

1. Circle the materials below that could be included in a compost bin.



2. What are the 3 "R's"?

3. Explain why composting is important.

