

“Closing the Loop” Composting Lesson – supplemental virtual lesson

Note to Educators:

The following lesson plan can be used to supplement the program lessons given during a field trip to Viestenz-Smith Mountain Park, or as a stand-alone lesson introducing composting.

If you have questions, please contact the Open Lands and Trails Environmental Education Coordinator:
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Intro (7-8 min)

Q: What is ‘decomposition’ and why compost?

Video – “Composting: The Food Waste Solution”

<https://youtu.be/bJvyPswYfoE>

Vocabulary (5-7 min)

List vocabulary; Query students for prior understanding; Discuss

- **Decomposition** – process by which dead organic substances are broken down into simpler organic and inorganic matter such as carbon dioxide, water, simple sugars, and mineral salts
- **Decomposers** – organism that breaks down organic matter (feeds off/eats dead things)
- **Invertebrates** – earthworms, beetles, termites, mites, millipedes, sowbugs, magots; centipedes are part of the decomposer group because they eat other invertebrate decomposers
- **Fungi** (have no chlorophyll, so not a plant) – molds, mushrooms, shelf fungi, yeast (bread)
- **Bacteria** – bacillus subtilis (found in soil), pseudomonas fluorescens (found in bodies of water and in soil)

Tools/Interventions – Choice List

[used in the research portion of the project]

Choose a project from the list below, that relates to decomposition.

- 1) Composting food waste from your school lunchroom;
- 2) Worm farms;
- 3) Constructing compost bins;
- 4) Garden decomposers;
- 5) Mushroom farms.

Project (30 min)

1. Research – using some of the links provided, gather information about school projects that relate to composting food wastes (either on-site or off-campus).
2. Brainstorm an intervention for reducing/recycling food waste from the school lunchroom and kitchen.
3. Create a POSTER that applies to your project and incorporates your intervention for reducing/recycling food waste.

Resources and References

Websites:

- Starting a School Compost Program
<http://greenmountainfarmtoschool.org/wp-content/uploads/2016/01/Guide-to-Staring-a-School-Compost-Program.pdf>
- Food Waste Recycling: Technology, Methods and Solutions
<https://ecofriend.org/food-waste-recycling-technology-methods-and-solutions/#:~:text=The%20Anaerobic%20Digestion%20or%20AD%20method%20of%20food,off%20the%20gas%20methane%20which%20is%20then%20collected>
- 6 Environment-Friendly Ways to Recycle Food Waste
<https://www.conserve-energy-future.com/smart-ways-recycle-food-waste.php>
- Worm Farm for a School
<https://www.worm-composting-help.com/worm-farm-for-a-school.html>
- Guide for Homemade Compost Bin
<https://www.go-compost.com/your-guide-for-a-homemade-compost-bin/>
- Five Amazing Mushroom Facts
<https://www.mushroomcouncil.org/schools/mushroom-facts-for-kids/>

Videos:

- 6 Environment-Friendly Ways to Recycle Food Waste
<https://www.conserve-energy-future.com/smart-ways-recycle-food-waste.php>
- How is Food Waste Recycled?
<https://www.recyclenow.com/recycling-knowledge/how-is-it-recycled/food-waste>
- Composting: The Food Waste Solution
<https://youtu.be/bJvyPswYfoE>

Classroom handouts or posters: What is happening at each stage? What would be a good title for each?
Blanks are on the following pages.





