



Compost Challenge

Grade Level: 5th

Season: All

Larger IGS Unit: Soil

Essential Question(s): Where does soil come from? What is waste? How can we build soil? How have humans affected soil throughout history?

Objective: Students will understand the importance of compost and engage in creating finished compost from their classroom and/or school food waste.

- 5-LS2-2(MA) Compare at least two designs for a composter to determine which is most likely to encourage decomposition of materials.

Materials:

- Worm bin building materials
- Outdoor 3 bin composting system (existing or materials to build one)
- Outdoor compost tumbler

Introduction:

Review soil knowledge from “Compost and Soil Exploration” lessons.

Activity:

Students are divided into 3 groups. They are given the challenge:

For the next _____ weeks, you will be part of the Compost Challenge! You and your teammates will build a composting system, and track its decomposition efficiency. Your goal is to turn as much waste into soil as quickly as possible. Are you ready??

Teams are presented with the 3 composting systems, and are assigned to one. Each member of their team is given a role:

- 1) Research Captain: This person guides the research phase. They make sure each person is finding out the information they need about their composting system including history, different models, efficiency, materials, etc.
- 2) Building Captain: This person is in charge of the construction of the system. They finalize the materials list and make sure that the team can acquire the necessary materials. They guide the building process of the system, or the repair/retrofit of an existing system
- 3) Tracking Captain: This person is responsible for keeping the numbers in order, including the amount of waste (inputs) and the amount of soil



- (outputs) each week. They communicate with the Scribe to make sure all of the numbers are documented properly.
- 4) Troubleshooter: This person is ready for any hiccups in the system – pests, smells, etc. They identify the problems and find solutions with the help of the Research Captain.
 - 5) Scribe/Journalist: This person documents the entire process, through note taking, photography, and any other mediums they find appropriate. They compile the research, document the building process, keep track of the numbers, and guide the team in preparing their final presentation.
 - 6) Presenter: This person is responsible for persuading the judges that their composting system should win the Compost Challenge! Using the documentation from the Scribe, this person guides the group in creating an engaging and convincing final presentation.

Part 1: Research

Students are given 1-2 classes to research their composting system and design a model.

Part 2: Building

Students are given 1-2 classes to build their composting system.

Part 3: Tracking

Students track the decomposition for 4-8 weeks.

Part 4: Compost Challenge!

Each team presents their findings to panel of judges.

Wrap up/ Assessment:

Compost Challenge Finals – students present their findings and are judged by a team of community members, administrators, and other students.

Extensions:

School wide compost challenge in the cafeteria