

K-12 IYS Activity



Summary

Composting is the decomposition of organic waste materials in the presence of water, air, and microorganisms to produce organic fertilizer. Organic matter additions can improve soil quality by feeding indigenous soil organisms, improve plant growth by adding nutrients, improve soil structure and water holding capacity, and reduce our dependence on synthetic fertilizers. Participants will learn how to construct a compost pile, what residues are added and how much, and how to create the right environment for microbial decomposition by introducing air and water.

Learning Objectives/Outcomes

1. To learn how to start and maintain a compost pile at home.
2. To start a composting project at school.

Materials (per student, group etc.)

- Materials to build a compost pile and start a compost program, see links under References.

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Building a Compost Pile

Ages of Audience

1. Elementary
2. Middle School High School
3. Adults

Recommended group size?

Unlimited

Where could you offer this?

1. Local school
2. Arboretum, gardens

What type of room do you need?

Lab/work benches

Type of Lesson

1. Hands-on (participants touch the stuff)
2. Outdoor

Time Needed

1. Scientist prep time + clean up time: 2 hours
2. Participant/class time: 1-2 hours initially, then time for maintaining the pile.

If the activity costs money, how have you funded this in the past/suggestions for others?

Money is needed to purchase compost bin supplies.

Methods/Procedures

See links in the references below for details. A leader will demonstrate how to build a compost pile and discuss how to properly manage it, in terms of green and brown residues to add, pile turning, monitoring temperature, and allowing for the curing phase to occur. The leader will explain the benefits of compost additions to soil in terms of adding organic matter and organisms.

Discussion Questions

1. How does composting help reduce waste and help soils?
2. What kinds of wastes should be added and what kinds should not?
3. What do microbes need to decompose the waste and why is it important to turn compost piles?
4. What does it mean to “cure” a compost pile and why is this important?
5. How can adding compost help soil?

References

Guide to starting a school compost program:
<http://www.greenmountainfarmtoschool.org/wp/wp-content/uploads/Guide-to-Staring-a-School-Compost-Program.pdf>

Instructions for a simpler compost bin:
<http://www.mykidsadventures.com/five-fun-composting-projects-for-kids/>

Instructions for a simple compost bin:
<http://blissfullydomestic.com/home-bliss/how-to-make-an-easy-diy-compost-bin/125672/>

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