



JONES VALLEY TEACHING FARM

AT-HOME ACTIVITIES

Compost 101

3rd Grade – 5th Grade

DESCRIPTION and OBJECTIVE:

Have you ever wondered how soil is made? All soil is unique and each has a number of different ingredients. Healthy soil (or soil that is rich in nutrients for plants) has a specific combination of inorganic and organic matter. Use the activity below to learn how to create your own nutrient-rich soil and reduce household waste.

MATERIALS NEEDED:

- ⇒ Shoebox
- ⇒ Plastic bag
- ⇒ Leaves
- ⇒ Kitchen scraps (onion skins, banana peels, egg shells, coffee grounds, etc.)
- ⇒ Leaves
- ⇒ Soil
- ⇒ Water

LESSON / ACTIVITY:

- ⇒ Begin the activity by asking your student, “How do you make a cake? What ingredients are involved?”
 - Highlight some of the main ingredients, such as flour, sugar, milk, butter, etc. Ask your student, “How would the cake taste if it had too much butter in it? Or too much salt?”
 - Explain to your student that healthy soil also has a lot of ingredients! If there is too much of one ingredient and not much of another, plants typically do not grow well.
- ⇒ Head outside with your student to dig around in the soil. Scoop some soil onto a plate or hold it in your hands. Ask your student, “How do you think soil is made?”
 - Together, identify some things that you found in your scoop of soil (rocks, twigs, leaves, roots, worms, ants, etc.)



- Explain to your student that soil is largely made through the process of **weathering** (the breaking down of big rock particles into smaller rock particles).
- ⇒ Explain to your student that there are two main components of soil: **organic matter** and **inorganic matter**. Below are some examples of each:
 - Organic matter refers to anything that is living or was once alive.
 - *Living organisms* (worms, bugs, etc.); *dead organisms* (leaves, vegetable peels, roots, etc.)
 - Inorganic matter refers to anything that has never been alive.
 - *Water; air; minerals* (rock particles) → sand (large particles), silt (medium particles), and clay (small particles)
 - Look at your scoops of soil again and categorize the items that you identified earlier as **organic** or **inorganic**.
- ⇒ Overall, most healthy soils have the following composition: air (25%), water (25%), minerals (45%), and organic matter (5%).
 - While the percentage of organic matter is small in comparison to the others, organic matter is extremely important to plants!
 - Living organisms (worms, ants, pill bugs, etc.) help decompose the dead organisms (other animals/insects, leaves, roots, etc.) placing nutrients back into the soil for plants to use.
 - Ask your student, “What would happen to a plant if it couldn’t get the nutrients it needed from the soil?”
- ⇒ To replenish the nutrients in the soil, you and your student can start your own compost bin!
 - **Composting** is nature’s way of recycling once living organisms and nutrients back into the soil.
 - We can help reduce waste at home by taking our organic waste (i.e. kitchen scraps) and placing them in our compost bin.
- ⇒ Gather your materials from the list above and follow the steps listed in the instructional video on our Instagram (@jonesvalleyteachingfarm).
 - Use the infographic below to determine what can and cannot be composted from your kitchen.
 - Once your student has created their own recycled planter, have them complete the following writing prompt: “Why is it important to compost?”

ADDITIONAL INFORMATION:

- ⇒ Check out the links below to learn more about topics related to this activity!
 - [Making the Most of Compost!](#)
 - [How to Compost](#)



HOW TO MAKE COMPOST

1

Add brown material and green material in layers. Ratio of 2 parts brown to 1 part green.

2

Add water and air as needed.

3

Over time the pile will shrink as the layers are transformed into humus in a process known as decomposition.

GREEN

PROVIDES NITROGEN



vegetable & fruit waste
(apple cores, carrot tops,
etc.)



kitchen scraps (eggshells &
coffee filters/grounds)

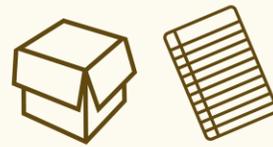


yard waste (grass
clippings without seeds)



BROWN

PROVIDES CARBON



shredded cardboard &
paper (without tape or
chemicals)



wood shavings/sawdust



dried leaves

DO NOT ADD



weeds



plastic



dairy products



meat & bones



bread



trash



metal

