



DIGGING INTO DECOMPOSERS

YOUTH AND FAMILY ACTIVITIES

April 10, 2020

While we sometimes overlook them, decomposers are important organisms who play a vital role in keeping our environment healthy. Look for local decomposers, watch decomposition up close, and explore soil in this set of activities.

WHAT ARE DECOMPOSERS?

Decomposers are organisms, such as invertebrates, fungi and bacteria that break down dead and decaying materials, returning nutrients back to the soil. Some common decomposers you might find in Western Washington are [earthworms](#), [shelf fungi](#), [sow bugs](#) and [round-backed millipedes](#).

DECOMPOSER SEARCH

Decomposers are everywhere! Look for decomposers near where you live.

What you need: Nothing; *Optional – nature journal or paper and pencil to record your observations*

Time: This activity can take as much or as little time as you would like.

1. Start by reviewing or learning about decomposers. You can use the information above to start or look for information through reliable sources, such as your local library. Get familiar with what decomposers you might see in your area.
2. Go for a walk in your neighborhood or in your back yard.
3. Look for places where you think you might find decomposers, such as under logs, fallen leaves and rocks. Remember, decomposers are small organisms who prefer damp, dark places. Think about where you might find shelter if you were an invertebrate, such as a sow bug. Where would you go?
4. When you find a place that looks like a suitable habitat, gently lift up the item to look underneath. *Please be respectful, only exploring items in a public space or on property where you have permission to go.* Consider the following:
 - Do you see any decomposers (such as worms, sow bugs, slugs or millipedes)?
 - What are the decomposers doing?
 - What do you notice about the body of the decomposer?
 - Do you see other signs of decomposition, such as decaying leaves, crumbling or soft wood, or slug slime?
5. After observing, gently return the item(s) you looked underneath to their original position, being careful not to squish any living things you may have found.
6. Repeat this exploration and observation process as time and your interest allows. You might look under different types of items, or go exploring on days with different types of weather.



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Consider this!

Record your observations of decomposers in a nature journal, You can make a list of what decomposers you observe, record counts of different decomposers, or make a sketch of something that you see. Remember to include the date, time, location and weather at the start of your notes.

DECOMPOSITION IN A JAR

See decomposition in action by creating a decomposition jar and observing changes to food scraps over time.

What you need: Glass or plastic jar with lid (reuse something you have), soil from outdoors (not potting soil), food scraps (not meat or dairy products), water; *Optional – several leaves collected from the ground*

Time: 20 minutes to set up; additional time in coming weeks to observe

1. Go outside and gather soil. *Please be respectful, gathering soil from your own yard or an undeveloped natural space.*
2. Put enough soil into your jar to fill it about halfway. By using soil from outdoors, you will make sure that you have decomposers, such as microorganisms, fungi and bacteria that are found in soil and help break down natural material. *Please do not collect invertebrates, such as worms, as they may not have everything they need to survive in your jar.*
3. Add your food scraps to the soil, mixing them into the top layer of soil, or partially covering the food scraps with soil. If using leaves, crumble or tear them into smaller pieces and sprinkle them over the top of your food scraps.
4. Dampen the soil lightly with several tablespoons of water. The amount of water you need will depend on the size of your jar and how much soil you have.
5. Put the lid on the jar and leave the jar in a dark place.
6. Leave your jar for at least a week. You may wish to check on your jar daily, or every other day. Don't worry if you don't see changes right away – decomposition takes time!
7. When you are ready to make observations, consider these questions:
 - What changes do you see in the food scraps?
 - What changes do you see in the leaves?
8. After making observations, put your jar back in the dark place. Continue to observe the natural items in the jar on a weekly basis to see how the items change over time as they decompose. If possible, observe your jar weekly for at least six weeks.
9. When you are finished observing your jar, compost the soil and any remaining food scraps and leaves.

MUD PAINTING

Time to get creative! Mud-based paint may seem like a messy creative material, but it is the sustainable choice for many artists. In this activity, you will turn the soil that you have been exploring into your own natural paint!

What you need: Old paintbrush, cups or bowls, soil, water, paper

Time: 25 minutes

1. Go outside and gather soil from a variety of locations. Be on the lookout for soils that are different colors, keeping the samples separate as you collect them. Try to collect a scoop of each soil (between ½ -1 cup). *Please be respectful, gathering soil from your own yard or an undeveloped natural space.*
2. Explore the soil that you gathered and consider the following:
 - What do you notice about your soil?
 - Are there any creatures? *If so, gently observe them and then return them to where you found them.*

- How does each soil sample feel? Is it wet or dry? Is it soft or rough?
- How else might you describe each soil sample?

3. Place a portion of each of your samples in a separate cup or bowl.

4. Add water to each sample until you get the desired consistency. When choosing the consistency that you want, think about different types of paint that you have used in the past (e.g. watercolors, tempera, or acrylic). Now you have mud paint!

5. Explore your mud paint. Ask yourself the following:

- Did one of the soil samples need more or less water to get to the desired consistency?
- Why might that be?
- Does all the mud paint look the same, or are they different shades?

6. Use an old paintbrush to paint a scene using your mud paint. You may sketch it out beforehand or free paint!

7. As you paint, you may get bits of plant or other small items you didn't expect. That's okay! It adds to the interest of your piece.



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