

ACTIVITY

6

Basic Composting

Grades 2-12

Objective

Students will:

- explore active compost, and
- identify various decomposer animals in their piles.

Time

20 minutes

** Look in the back of this booklet for how this activity applies to the Vermont Framework of Standards and Learning Opportunities.*

Compost Critters

Materials Needed

- Compost
- Toothpicks
- Newspaper
- Compost Critter Worksheets (p. 15)
- One Compost Critter Information Sheet (pp. 16-17)
- Pencils

Background Information

There are many different animals that help break down organic materials into the rich soil helper we know as compost. A compost pile and worm bin have an entire network of different bugs. Bacteria do most of the work, even though they are invisible to the naked eye. Other animals large enough to see, such as beetles, worms, centipedes, millipedes, and sow bugs, are also important decomposers. Without decomposer animals all life would stop because new plants would not have the necessary nutrients needed to grow. Decomposers turn our garbage into plant food.

Management Skills

Students will sort through compost in groups of four. Each student will have his/her own worksheet. This is an exploratory activity. For some kids, it will be the first time they will have explored compost.

Procedure

1. Read the Compost Critter Information Sheet before the activity begins. This will give you a good idea about the different roles bugs play in the ecosystem of a worm bin or compost pile.
2. Ask children why they think decomposers are important. Ask them what kind of bugs they have seen in soil.
3. Tell them these bugs eat dead things, turn them into soil, and therefore help new life begin. They play a vital role in the life cycle by breaking down organic materials.
4. Hand out worksheets and pencils to each student.
5. Divide kids into groups of four.
6. Have a representative from each group get a pile of compost and a toothpick for each person in their group.
7. Mention that the compost they are touching used to be grass, fruit, leaves, veggie scraps, etc.
8. Ask them to identify the bugs by referring to their worksheets.
9. Collect the compost after eight minutes or so.
10. The teacher or student may read from the Information Sheet about the different bugs found by the students.
11. Summarize by restating the role and importance of decomposers.

COMPOST CRITTERS WORKSHEET

Circle Me If You Can Find Me



collenbola



springtail



mite



sow bug



slug



worm cocoon



white worms



beetle



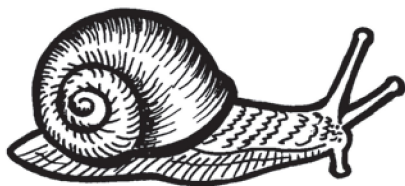
fruit fly



redworm



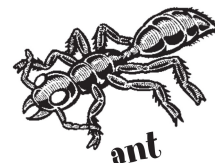
spider



snail



mold



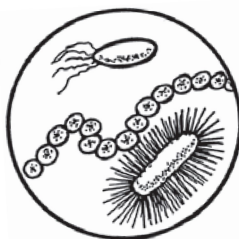
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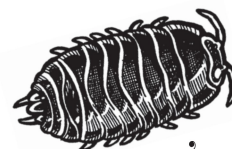
millipede



centipede



bacteria



pill bug

Name: _____

Date: _____

Compost Critters Information Sheet

Pill Bug or Roly Poly

I am an isopod, which means I have ten pairs of legs that look very similar to each other. I eat old leaves and veggie scraps. I am about ½ inch long and I roll up in a ball if I am disturbed. Some people think that I look like a little armadillo. I am a grayish, dark color.



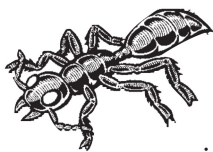
Centipede

I move quickly on my many legs. I have 15-137 segments with a pair of legs on each. I am a fierce hunter. I love to eat earthworms. I use my pair of poison claws to help keep my prey from getting away. I am about 1 to 2 inches long. I am usually reddish brown.



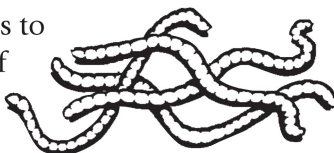
Ant

I am an insect with 6 legs. I help to decompose by breaking materials into smaller particles. I create tunnels, and move soil into clumps. Some people would rather not have me around their homes. I am black, brown, or red.



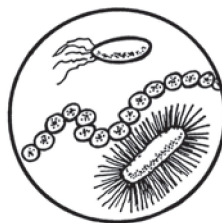
White Worm

I look like a frayed piece of thread. I am a skinny, white worm. I am ½ to 1 inch long. I am related to an earthworm. I like to eat rotting food after the other bugs get to it. You might think of me as one who likes to finish off the job.



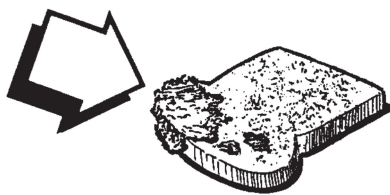
Bacteria

We are so tiny that you can't even see us. We are everywhere. I am colorless. I can eat almost anything. Some of us live together in groups and others don't.



Mold

I am a fungus. I am related to mushrooms. Most of us live on old food. You might see me on old food in your home or your worm bin.



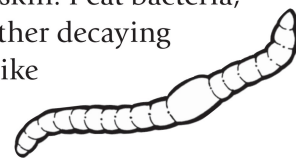
Sow Bug

I have 10 pairs of legs. That makes me an isopod like my cousin the Roly Poly. I eat vegetation and old leaves. My ½-inch-long body is oval and flat with flattened plates, but I can't roll up into a ball like Roly Poly. I am related to crayfish and lobsters. I breathe with gills so I must live in a damp, moist place. I am a dark, grayish color.



Earthworm

I am a long, thin, soft-bodied animal. My body is made up of little segments. I do not have legs or eyes. I sense light and I breathe through my skin. I eat bacteria, fungi, and other decaying materials. I like dark, moist places.



Fruit Fly

I am a very small fly. People don't like me, but I don't bite, sting, or make buzzing sounds. I don't harm earthworms either. Sometimes you will see me around a worm bin if a person forgot to bury their food. I like to lay my eggs where it's moist and warm.



Compost Critters Information Sheet

Slug

I have muscular discs on my underside that are adapted for creeping and crawling. I lay egg masses that look like jello. I eat living material but will make an appearance from time to time in your pile to compost eat fresh garbage and garden trimmings.



Mite

I am tiny. It would take 25 of us to cover an inch-long line. My body is round and fat so it's hard to see my 8 legs. I eat plant materials such as mold and soft tissues of leaves. Some of us eat the manure of other organisms. I am usually white or brown.



Millipede

I have so many legs you would have a hard time counting them. My name means "thousand legs," but I don't have that many. I am very shy and I roll up into a ball to avoid danger. I am a vegetarian and eat soft, moist, decaying plants. I am dark-red in color and am 1 to 3 inches long.



Springtail

I am a tiny insect less than $\frac{1}{16}$ inch long. I eat molds and decaying materials. I have a little spring that helps me jump high into the air. I am white in color.



Collembola

I am a close relative of the springtail but I can't jump. I am tiny, and less than $\frac{1}{16}$ of an inch long. I eat molds and decaying matter. I am white in color.



Beetle

I am an insect with shiny, black, tough wings and am about $\frac{1}{2}$ inch long. I am a predator and eat slugs, snails, and soft insects such as caterpillars. I live beneath stones, boards, and other moist places.



Snail

Like my friend, the slug, I am a mollusk and creep around on my muscular belly. I carry on my back a spirally curved shell. I also have a broad retractable foot and a distinctive head. Like slugs, I prefer to eat living material, but I will also show up in your compost pile or worm box from time to time for lunch.



Spider

I am related to mites and have 8 nifty legs. I am one of the least appreciated animals in the garden and compost. I feed on other insects and work hard to help control pests that will hurt a garden.



Worm Cocoon

You can find me in a worm bin or compost pile. Before I have hatched, I am clear and yellowish and the shape of a lemon, and $\frac{1}{8}$ inch long. After I have hatched



I turn pea green. Two or more baby worms are hatched at once.