

Learning Outcomes:

Students will:

- ✓ Know and understand nature's process of recycling
- ✓ Know and understand the role of many different animals in composting.

Meet Your Compost Critters

Process

Students will:

- Explore a compost heap
- Analyse the findings to identify the different animals that help break down organic materials into compost.

Skills

Students will:

- Prepare and present a report.

Values and Attitudes

Students will:

- Appreciate the many different animals that help break down organic materials.

Background Information

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 sowbugs, 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.

Activity

Students work in groups of four to explore a compost heap and notate their findings as follows:

- Read the Compost Critter Information to gain an understanding of the different roles bugs play in the ecosystem of a worm bin or compost pile.
- Discuss why decomposers are important and the kind of bugs they have seen in the soil.
- Learn what 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.
- In groups of four, explore the compost pile with toothpicks or small forks, to identify the bugs by referring to their worksheets.
- Discuss the bugs by referring back to the worksheet.
- Record the bugs found on the worksheet and report back to the class.

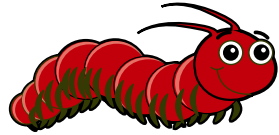


Pill Bug or Roly Poly

I am an isopod and I eat old leaves and veggie scraps. I am a dark grey colour and measure about 3/4cm (1/2 inch) long. I have ten pairs of legs that look very similar to each other and if you disturb me, I will roll up in a ball.



Centipede



I have 15-137 segments and each of those segments has a pair of legs. I am a fierce hunter and I love to eat earthworms. Luckily for me, with all my legs, I'm super-fast and I've got

a pair of poison claws to help keep my prey from getting away. I am about 2.5 – 5cm (1.5-2 inches long) and usually reddish-brown.

Ant

I am an insect with 6 legs and many people don't like it when I'm living in or around their homes. I like to decompose by breaking materials into smaller and smaller pieces. I also create tunnels and move soil into clumps. I am black, brown, or red.



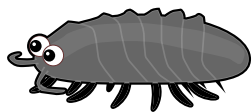
White Worm



I am a skinny, white worm and you might say I look just like a frayed piece of thread that's about - 2.5cm long (1/2 to 1 inch). I am related to an earthworm and I like eating rotting food after the other bugs get to it – I finish off the job!

Sow Bug

I have 10 pairs of legs, which makes me an isopod, just like my cousin the Roly Poly. I'm about 3/4cm (1/2 an inch) long and my body is oval and flat with flattened plates. Sadly, I can't roll up in 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 and I eat vegetation and old leaves. I am a dark, greyish colour.



Earthworm



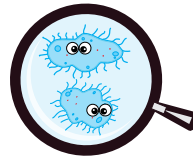
My long, thin, soft body is made up of little segments and I don't have legs to get about. I don't have eyes either, so I sense light. I breathe through my skin and I eat bacteria, fungi, and other decaying materials. Dark, moist places are the best.

Fruit Fly

I am a very small fly and I'm not sure why people don't like me because I don't bite, sting, or make an annoying buzzing sound. I don't harm earthworms either. Sometimes, if someone puts their food scraps in a worm farm without burying it, you'll find me there. I like to lay my eggs where it's moist and warm.



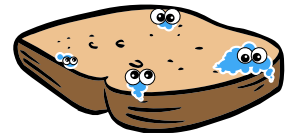
Bacteria



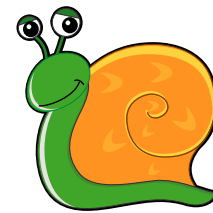
We are so tiny that you can't even see us. We are everywhere. I am colourless. I can eat almost anything. Some of us live together in groups and others don't.

Mould

Hi, I'm a fungus and my cousins are mushrooms. Most of us live in old food. You might see me in old food in your home or your worm farm.



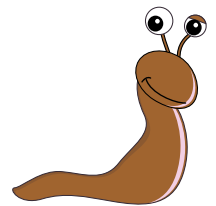
Snail



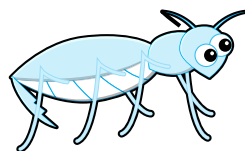
I'm a mollusc like my friend the snail – so I creep around on my muscular belly. I carry a spirally curved shell on my back and I have a broad retractable foot and a distinctive head. Like slugs, I prefer to eat living material, but I will also show up in your compost bin or worm farm if lunch is looking good.

Slug

I have muscular discs on my underside for creeping and crawling about the place. You've probably seen my eggs around – they look like jelly. I eat stuff that's alive but I sometimes I enjoy getting into a compost bin to eat fresh garbage and garden trimmings.



Springtail



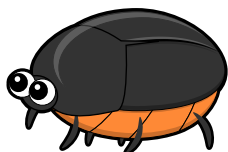
I'm white in colour and so small that you might find it hard to see me – in fact, I'm just over a millimetre (1/16 inch) long – but I'm quite fun because I have a spring that helps me jump high into the air. I eat moulds and decaying materials.

Collembola

I am even smaller than my cousin the springtail, but sadly I don't have a spring, so I can't jump! I eat moulds and decaying matter. I am white in colour.



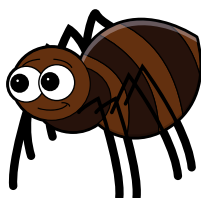
Beetle



You'll find me living under stones, boards, and other moist places. I am an insect, about 3/4cm (1/2 inch) long, and I have shiny, black, wings that are tough. I am a predator, which means I hunt and eat slugs, snails, and soft insects like caterpillars.

Spider

I am one of the least appreciated animals in the garden and compost, though I'm not sure why. I am related to mites and have 8 nifty legs. I feed on other insects and work hard to help control pests that will hurt a garden.



Mite

I am tiny – in fact you'd need 10 of me to cover a 1cm line – and I have 8 legs, although they're hard to see because my body is so round and fat! I eat plant materials like mould and soft leaves. Some of us eat the manure of other organisms. I am usually white or brown.

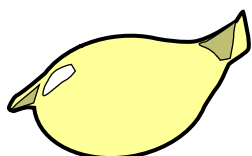


Millipede

My name means "a thousand legs," but I don't have that many. I am very shy and I roll up into a ball if I'm scared. I am a vegetarian who likes to eat soft, moist, decaying plants. I am dark-red in colour and can grow up to about 7.5cm (3 inches) long.



Worm Cocoon



Before I hatched, I was tiny (under 3mm or 1/8 inch long), and clear but yellowish... I was the shape of a lemon! Once I hatched I turned pea green. I didn't hatch alone – two or more baby worms can hatch from a worm cocoon at once.

