

# DECOMPOSERS

LET'S BREAK IT DOWN!

## WHAT IS A DECOMPOSER?

A Decomposer is an organism that breaks down dead or decaying organic material.

Decomposers are part of EVERY ecosystem on the earth, and are vital to every biological cycle.



### Producers

Things like Plants and Algae capture sunlight through photosynthesis and create the basis for energy transfer in the food chain.



### Primary, Secondary, and Tertiary Consumers

Mouse eats seeds, Snake eats mouse, hawk eats snake: this transfers the energy from the producers to the rest of the ecosystem, and is what most folks think of the 'food chain'.



### Decomposers

These organisms, along with natural processes like heat, humidity, and time break down things from all the other layers of the food chain to provide nutrients back to the producers vital to their energy making processes.

Decomposers use dead organisms and organic waste as nutrients, and are critical for a healthy ecosystem. They remove and convert materials that are either useless to the rest of the ecosystem, or hazardous to the ecosystem.

## FUNGI

The primary decomposer of litter in many ecosystems is Fungi, that often grows as a branching network of vegetative fillaments called hyphae, or mycellium. Fungi are NOT plants.



## DETRITIVOTES

These animals aren't technically 'decomposers' as they ingest [eat] and digest dead matter internally, where as decomposers directly absorb the nutrients through external processes.

# DECOMPOSER PARTY!

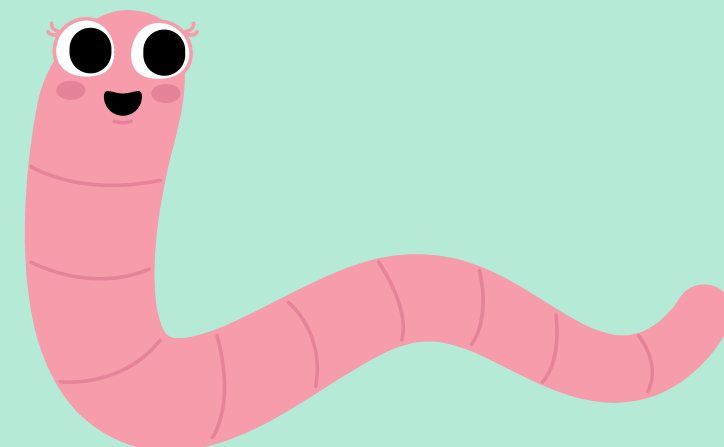
CAN YOU FIND THESE IN THE PARK TODAY?

## FUNGI



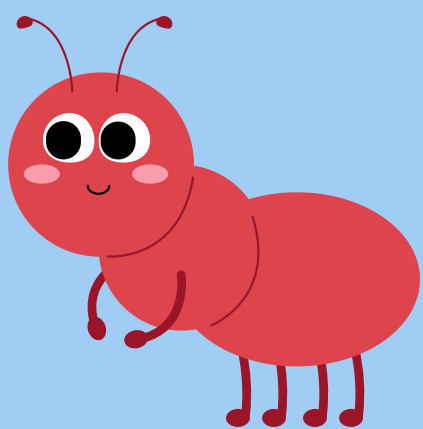
You may be familiar with the fruiting bodies of Fungi, Mushrooms, but fungi is a massive group of organisms that also includes Yeast and Molds!

## WORMS



Annelids like Earthworms and Nematodes like Roundworms, and even Flatworms make up some of the animals that are detritivores.

## ARTHROPODS



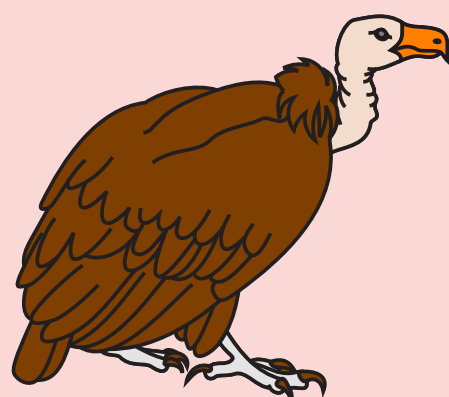
If it's not a pollinator or a predator, it's probably a detritivore! Ants, Beetles, Millipedes and more! These animals with exoskeletons eat decaying materials.

## MOLLUSKS



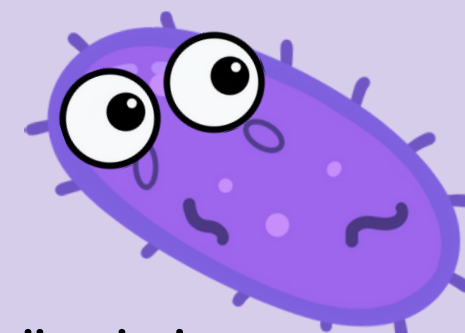
Snails and Slugs don't need to be fast to find some decaying organic matter to eat! Even in the ocean, their tentacled cousins also help fill this niche.

## SCAVENGERS



A Vulture, among other scavenging animals, helps to remove potentially hazardous material from the ecosystem, using potent digestive properties to breakdown the bad stuff.

## PROTOZOA & BACTERIA



The smallest decomposers are unicellular and are usually found on the surface of organic matter, breaking it down! These friends, you can't see with your eyes!

# Decomposition Demonstration

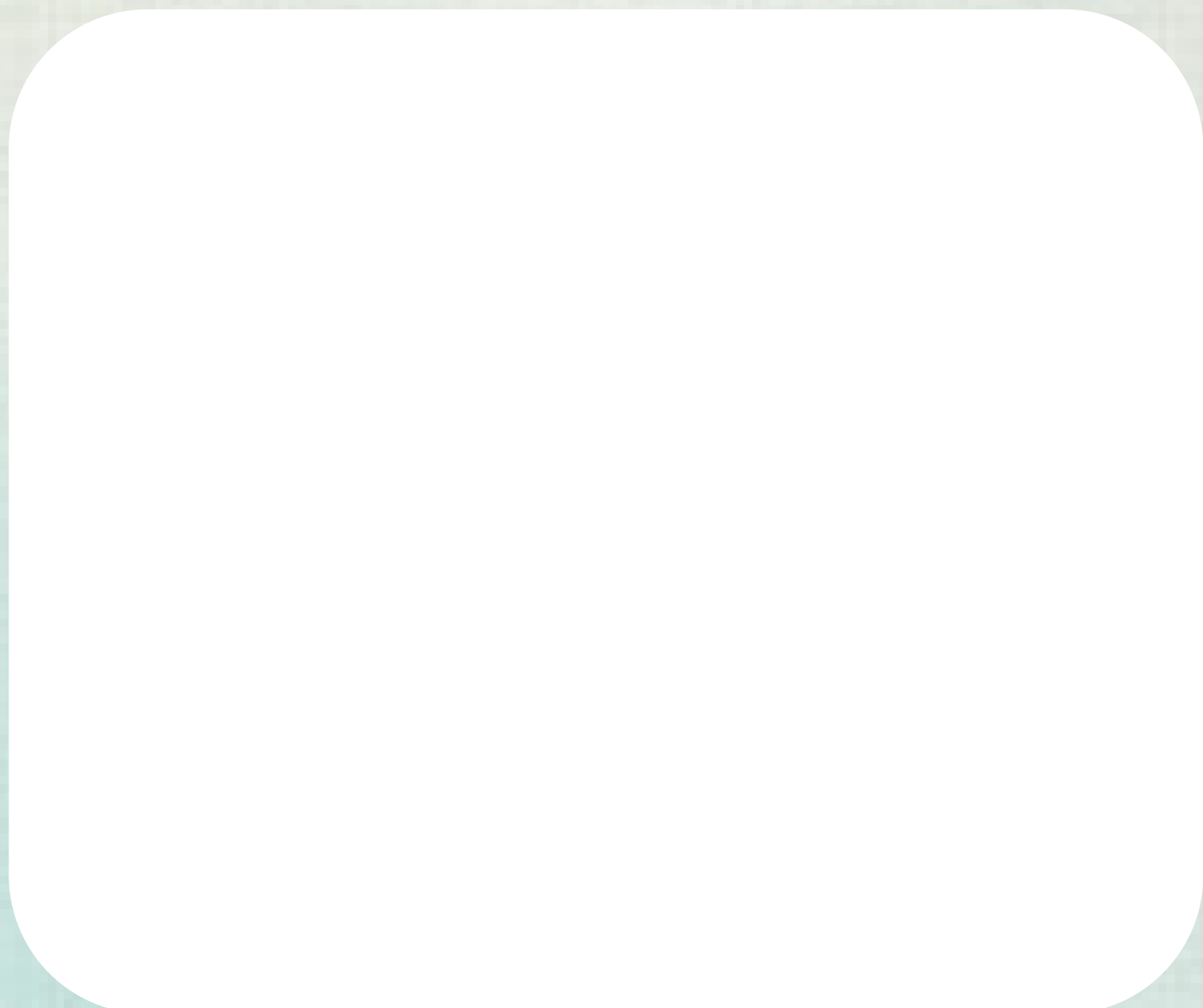
Let's look for some evidence of decomposition in the park! Find some examples and lay them over the appropriate areas below.



**A Fresh Green Leaf  
from a Tree**



**A Fallen Leaf,  
Yellow or Orange**



**A Crushed or Broken  
Leaf, Brown**



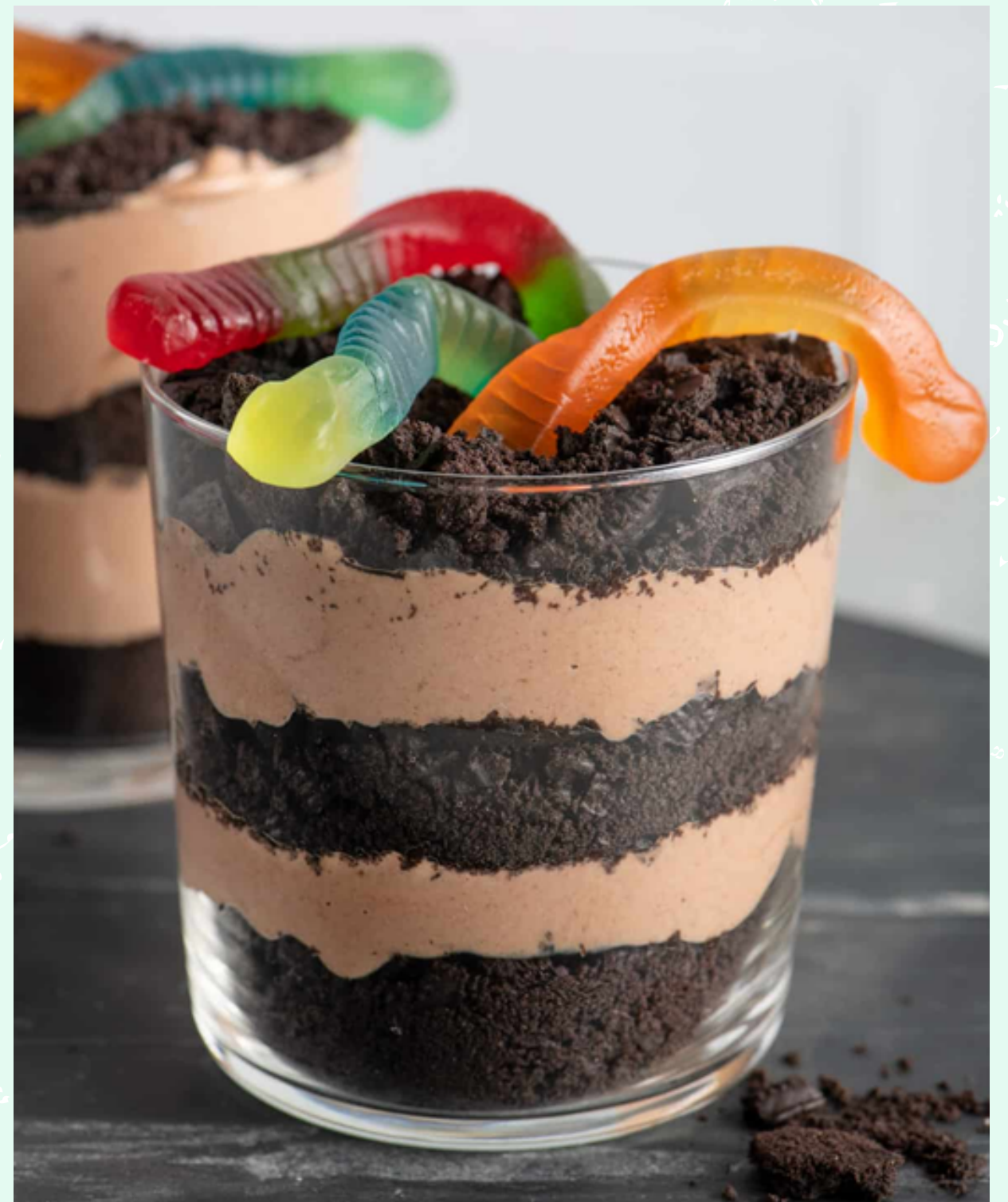
**A piece of a leaf that is  
becoming soil.**

# DECOMPOSER SNACK IDEAS!

## Dirt Pudding

**Ingredients:** Chocolate Pudding, Chocolate Cookies, Earthworm Gummies

**Directions:** First, crush the cookies in a plastic bag. Smush, crunch, crumble! Then, use a pudding cup or make your own pudding. Add the pudding to a clear cup with layers of cookies in between. Help the worms to get nestled inside, then enjoy!



## Redcap 'Mushrooms'

**Ingredients:** Boiled Egg, Cherry Tomato, Mayo, Toothpick

**Directions:** Carefully slice the tomatoes into halves. Place the tomato half on top of the egg [You can use a toothpick inside to hold them together.] Then use a toothpick to dab little dots of mayo on the top!