

VOYAGEURS DISCOVERY PAGES



DECOMPOSERS: NATURE'S RECYCLERS



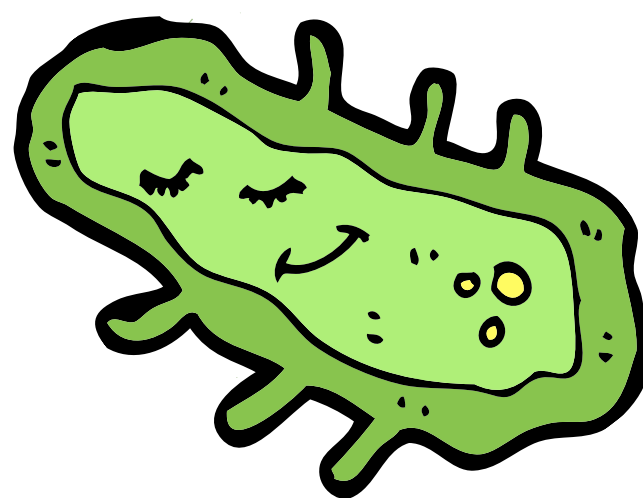
There are some plants and animals that are specially adapted to have an important job in Voyageurs National Park. They recycle organic material like rotting plants and dead animals and turn them into nutritious soil that growing plants can use. These plants and animals are called **decomposers**

There are three main types of decomposers in Voyageurs National Park.

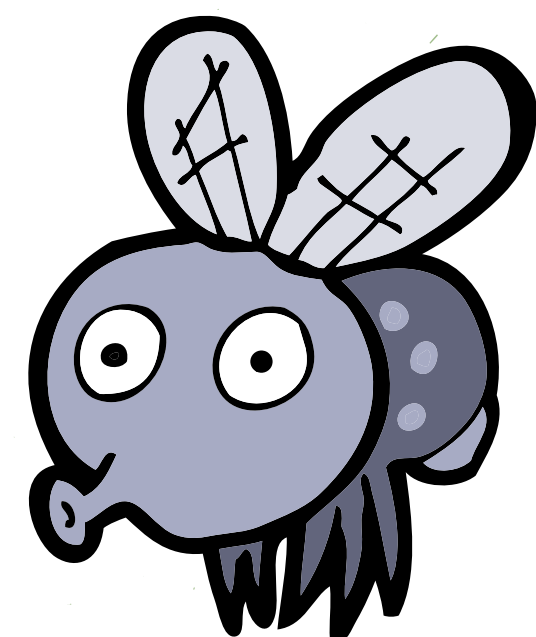
- **Fungi (mushrooms):** These use very powerful chemicals to turn decaying matter (ex. a dead tree) into nutrients it can absorb.



- **Microbes (mold, bacteria, yeast):** These eat decaying matter and turn it into nutrients like nitrogen and potassium. Many types of microbes are specially adapted to survive in very cold temperatures. This is why they can survive in cold climates at Voyageurs!



- **Insects (millipedes, beetles, sow bugs, black flies):** Insects break down decaying matter into smaller pieces so the microbes can eat them.



DECOMPOSERS IN VOYAGEURS NATIONAL PARK



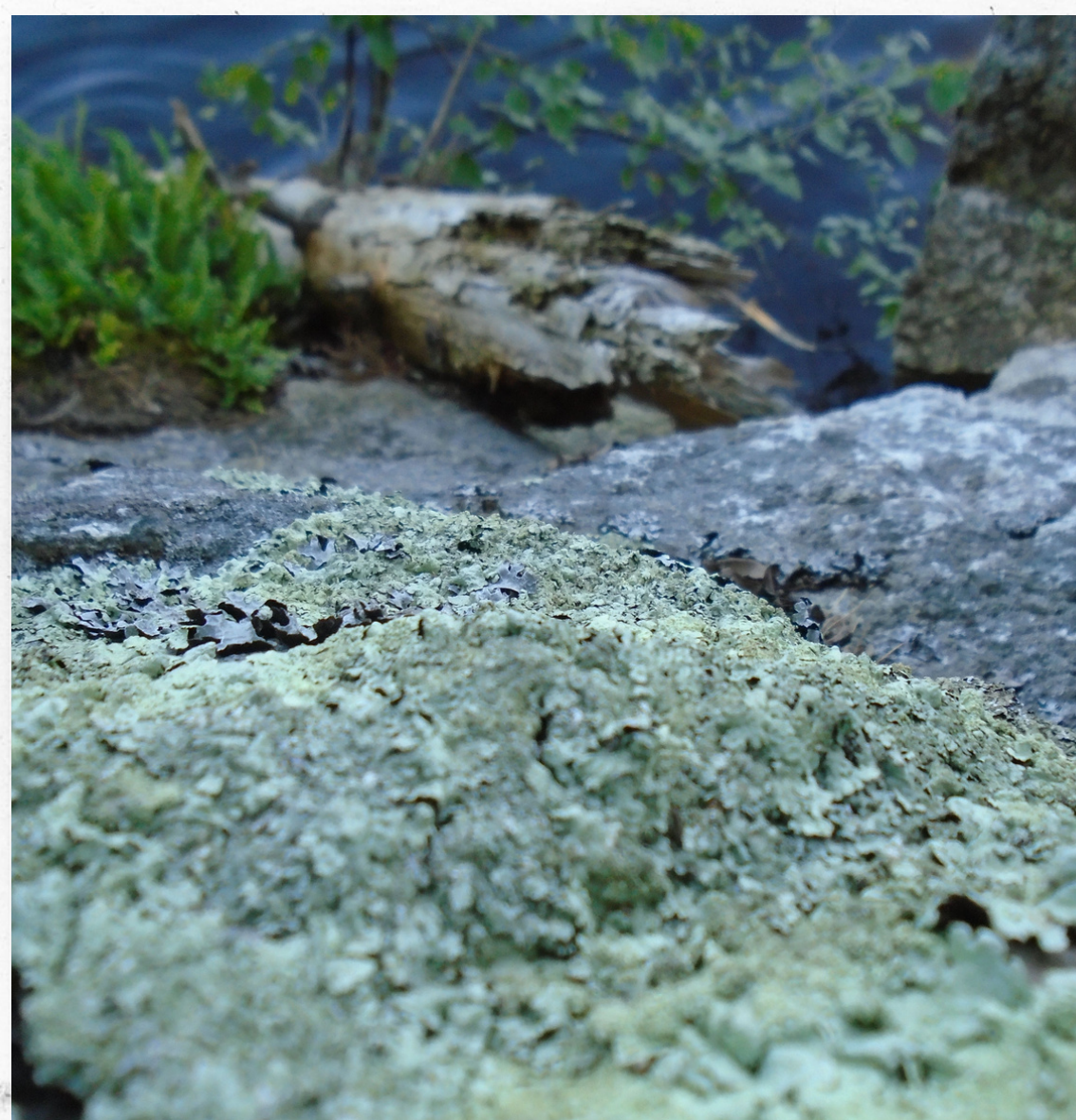
Black Fly

Lay their eggs in decaying material



Slug

Eat fallen leaves and dead plants



Lichen

Uses a special chemical to decompose rock into soil



Mushrooms

Decompose organic matters so plants can use them

Without decomposers, organic material would pile up in the forests and plants and animals might not get enough nutrition!



Decomposers Activity Worksheet

True or False: Decomposers break down organic material such as rotting plants and dead animals

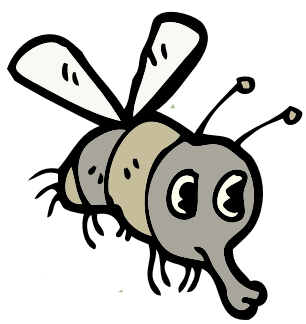
Why are these decomposers' jobs so important to the environment? (Circle one)

- A. They add nutrients to the soil
- B. They clean the forest floor of organic waste
- C. They help plants grow
- D. All of the above

Types of decomposers can include (Circle all that apply)

- A. Fungi
- B. Insects
- C. Mammals
- D. Bacteria

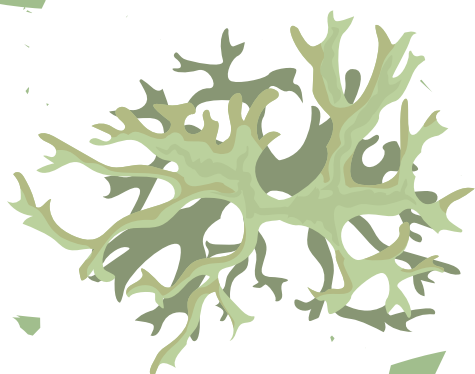
Draw a line from the decomposer to the special adaptation they have that helps the decomposer do its job.



Use a special chemical that breaks down rocks



Can survive in extreme cold so decomposition can happen year round



Has a special chemical that breaks down decaying material into nutrients it can absorb



Breaks down decaying material and lays their eggs in it

Decomposer Scavenger Hunt

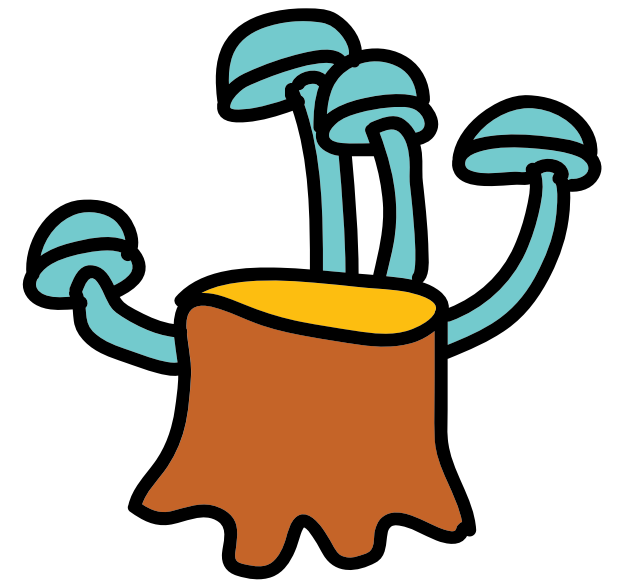
It's time to get outside and search for decomposers in your nearby park, neighborhood, or backyard! These decomposers are hard at work, so please make sure to look, but don't touch. Here are some clues for finding a decomposer:

Clue #1: Decomposers like wet environments. You can find decomposers after rain.

Clue #2: Mushrooms like to hang out on trees and dead logs.

Clue #3: Lichen is often found on trees and rocks.

Clue #4: Remember: flies, worms, and slugs are also decomposers.



What kind of decomposer did you find?

Where did you find it?

What is its job in the ecosystem?

Draw a picture of a decomposer you found:

Think Like a Decomposer

The plants and animals you learned about today recycle their resources, do you?

Nature's recyclers have a very tough job. They are constantly working to break materials down, but they still can't decompose things very quickly. You can help decomposers do their job by following these easy steps at home:

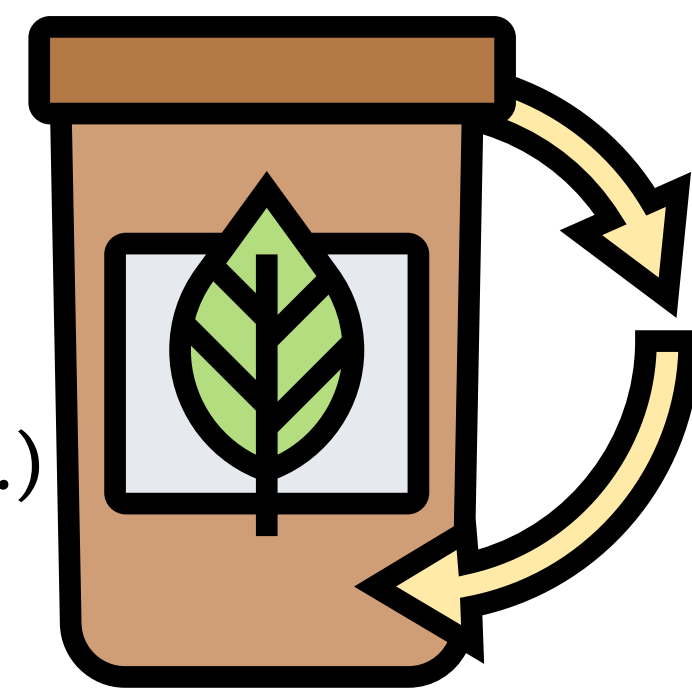
- Don't litter! A lot of garbage isn't biodegradable, meaning it can't be broken down.
- Throw all your trash in garbage cans or recycling bins.
- Use reusable plates and utensils instead of plastic, paper or Styrofoam.
- Help your family recycle all of the cans, paper, and plastic bottles.
- Make your own compost pile at home. Composting is the process in which fungi, bacteria, and insects break down organic matter into soil.



Thanks for learning about decomposers and Voyageurs National Park!



Make Your Own Compost Bin



You will need:

- A dark colored, plastic bin (Rubbermaid container, garbage can, etc.)
- Shovel
- Ingredients for the compost recipe:
- Green stuff (fresh things like grass clippings, kitchen scraps, weeds, coffee grounds, egg shells)
- Brown stuff (dead, dried things like leaves, and pine needles, sawdust, paper, shredded newspaper)

Avoid meats, dairy, fish, or bones--they decompose very slowly and the smell they create will attract animals. Also avoid composting yard trimmings treated with chemical pesticides since they can kill the plants and animals that live and work in your composting bin.

- Water
- Air
- Soil

Directions:

- Put your bin in a shaded area outside (leave the top off).
- Build your compost in alternating layers inside the bin (start with a layer of brown material then a layer of green, etc.).
- Sprinkle water in between each layer as you build it.
- Add a layer of soil on top. Not only are you adding soil to your compost but also the bacteria and fungi will decompose your ingredients.
- Aerate the composting materials by stirring it with a small shovel every 4-5 days. This will get oxygen inside the bin.
- If you feel heat coming from the mixture you know your decomposers are hard at work.
- You will know your compost bin is finished when your plant and animal recyclers have broken down all the scraps. You can add this nutrient-rich soil to the grass in your yard or your garden to help feed the plants that grow there.
- Add more layers of brown stuff and green stuff to repeat the process! The longer you use your compost bin, the more plant and animal decomposers (like the ones you found today) will start working there.