

DECOMPOSER AND SHREDDER FIELD GUIDE INSTRUCTION SHEET

To complete the next page of the packet, (the decomposer field guide) you will need to search for different decomposers. Your leaders will show you where to conduct your search. As a group, your job is to look in different places (on trees, under rocks, etc.) in order to find as many of your type of decomposers as you can. Then you will record your detailed observations.

A decomposer is an organism that breaks down organic matter into smaller particles (i.e. leaves into soil). Decomposers are important because they release the nutrients found in dead plants and animals so it can be used by other organisms. About 90% of the biomass produced in a forest returns to the soil because of decomposers.

There are five types of decomposers that you can search for in the forests at RBNC. You and your teammates should focus on your specific type and then look for all five types, making sure everyone in your group participates equally.

Fungi – When searching for fungi, you’re usually looking for the “fruiting body” of the fungus; the mushroom. See if you can find more than just the mushroom when you search for fungi of all shapes, sizes and colors. Use the key to fungi at RBNC to help you identify the mushrooms you find.

Arthropods – Insects, spiders, centipedes, millipedes, and pillbugs are all arthropods, however not all of these arthropods are decomposers. Beetle grubs, mites, millipedes, springtails, pillbugs, and fly maggots are all decomposers because they eat dead material and do not hunt. Be careful to note the location and actions of the arthropods you find. Only the arthropods that eat dead things are decomposers. Observe and choose carefully.

Moss – Mosses are small non-vascular plants that are green in color and soft or spongy to the touch. There are more than 10,000 species of moss around the world but only 25 types are found in Rice County. Search for moss on tree trunks, fallen logs, and damp ground. Notice the different lengths, textures, and densities of growth.

Lichen – Lichens are fungi and algae living together as one organism. The fungi provides the structure and the algae uses photosynthesis to make food. They are often paper-thin, grey or light green in color, and found on tree trunks or rocks surfaces. Lichen grow 1mm to 20 mm a year. At least 700 species have been found in Minnesota. Many types are found at River Bend.

Earthworms, Slugs, and Snails – Night crawlers, which are not native to Minnesota forests, eat their way through soil, digesting nutrients as they pass the soil through their bodies. Search for earthworms under logs and rocks or wherever there is damp soil. Look for their middens, leaf piles and holes. Many other types of worms and legless animals like slugs and snails also live in the soil and are decomposers. Look carefully for different species of worms, slugs and snails.

Date _____

Names _____

MAIN DECOMPOSER TYPE _____

HYPOTHESIS (Reason for study and educated guess of what you will find):

1) How common do you think your decomposer will be in the woods? Explain why you think this.

2) Where in the woods will you find the most of your type of decomposer? Explain why you think this.

DATA COLLECTION (Description of decomposers found and their locations):

See the next sheet of your packet and follow the example.

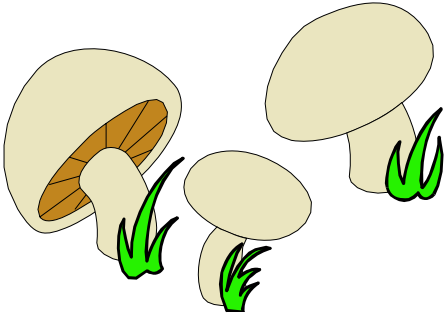
DATA ANALYSIS (Review your data: Describe how common your decomposer was and where you find it):

CONCLUSION (Explanation of why your hypothesis was either correct or incorrect):

1. Was your decomposer as common as you guessed it would be? Explain your answer.

2. Describe where you found your decomposer. Use details. What do your observations tell you about the required habitat for your decomposer?

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<p>Circle the type of decomposer: Fungus Arthropod Moss Lichen Earthworm</p> <p>Description of decomposer: <i>3 light tan mushrooms, sticky and soft, 1/2 " stem with cap, 1.5 " tall, brown straight gills</i></p> <p>Decomposer's habitat: <i>growing in a patch of damp, rich, black, soil and grass near an old fallen maple tree</i></p>	<p>Illustration</p> 
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*note: if you roll over a log or move a rock, remember to move it back where you found it!

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