

## Decaying Log Study

Standard: Matter and Energy in Organisms and Ecosystems

SEP: Engaging in Argument from Evidence

DCI's: LS1.C: Organization for Matter and Energy Flow in Organisms

LS2.A: Interdependent Relationships in Ecosystems

LS2.B: Cycles of Matter and Energy Transfer in Ecosystems

CCC's: Systems and System Models

Energy and Matter

When you walk into a forest, one of the first things you see is the ground covered in fallen, dead trees. These trees play an important role in the forest community and help to keep the forest healthy.

At first, the log may seem just like an old, boring, big stick. However, it is actually a “micro” or small ecosystem.

What does it mean to be an ecosystem?

*An ecosystem is how the living and the non-living things in an environment work together to form a community.*

Go outside in your yard or to a forest and find a log on the ground.



Standing away from the log, draw a picture. Make some observations. Write down 2 things for each:

What do you notice?

What do you wonder?

Move closer to the log- Do you notice anything up close?

Gently touch the log- What does it feel like?

Carefully search through different parts of the log. Roll it over and check underneath.

*Be careful in your search. We don't want to destroy the habitat of any living things.*

Write down and draw at least 5 observations:

Why are there living things inside a dead log?

Some of the animals you might find are **Decomposers**, they eat dead plants and animals and help recycle nutrients into the soil.

## **Decomposers**

**Fungi-** Fungi spores land on the dead logs. They thrive on the wet, moist environment and absorb nutrients from the dead wood.





**Millipedes**-When the wood gets soft, millipedes move in and can get a tasty meal. They are slow moving herbivores (plant-eaters).



**Worms**-Worms eat soft, plant materials and break them down. They need wet environments to keep from drying out.



**Ants**-Ants live in colonies. Many types of ants eat the wood when it gets soft. They are able to make tunnels and homes for the whole colony to move around.



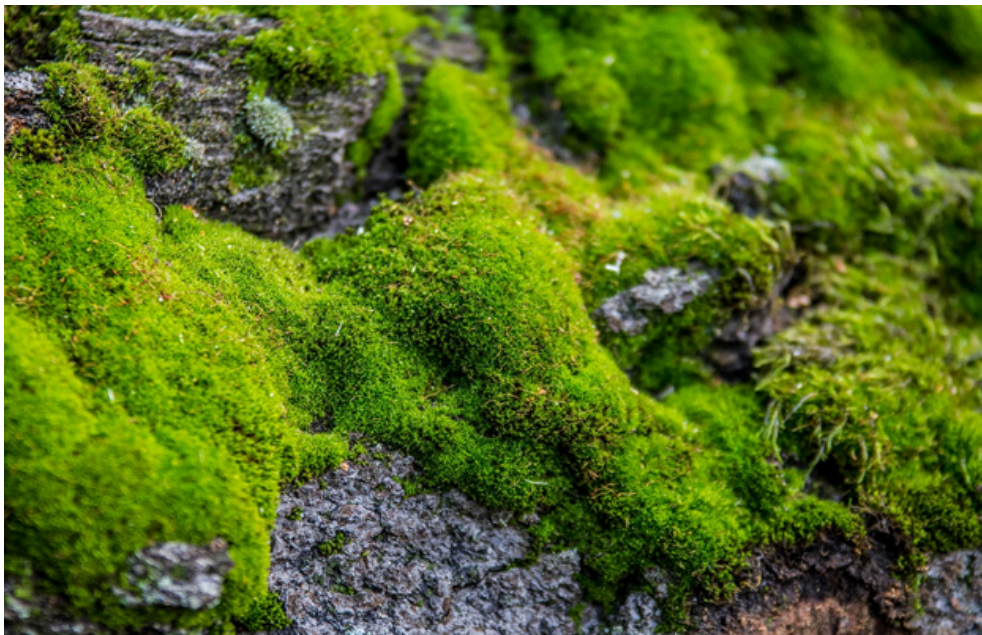
## Predators

**Centipedes**-Centipedes are fast moving predators that eat other “bugs”. They thrive in the wet environment to keep from drying out, and can find great meals when the decomposers move into the log.



## Plants

**Moss**-Moss is a small, non-flowering plant. They often live on damp forest floors and dead logs and trees. The more moisture in the forest, the more moss you will find!





## Lichens

Lichens are a really interesting living thing found all over trees, rocks, and logs in the forest. They are actually two living things that live together, algae and fungi. The algae make food and the fungi gather water



## Mammals

**Chipmunk**-Many small mammals use decaying logs as a place to live because they provide a great shelter and protection. Chipmunks are omnivores (eat plants and insects) so they can actually find a meal right in the spot where they sleep.



Eventually, with all of these animals active and eating the decaying log it will break down and disappear. The nutrients that were in the log will be returned to the soil and into the air to be available for living plants. After making your observations, can you answer your “I wonder” statements? Do you have any new questions? Do some more research online or around the forest to find out more information about the cycle of rotting logs in the forest.