



## Nature Detective Activity

*5th-8th Grades*

### OVERVIEW:

This activity guides students to investigate disturbances found in nature and to use their observations skills to understand things happening in the natural world.

A natural disturbance is simply a disturbance with a natural cause, such as a fire or flood. It could also be a natural disaster or could be caused by climate changes, insect swarms, or disease.

### Vocabulary:

**Ecosystem:** A system formed by the interaction of a community of organisms and their physical environment.

**Disturbance:** An interruption or change caused by something natural such as insects, decomposers or weather, or caused by human actions such as cutting down trees or clearing land.

### Connections to NGSS:

This activity supports the crosscutting concept of how we can observe and develop models to understand the world around us. Students investigate evidence found in nature to better understand the relationships between biotic and abiotic things in an ecosystem.

### Intended Learning Outcomes:

Students will be able to...

- Use their observational skills to make connections about what they see in nature
- Provide evidence to back up a claim about what they observe
- Understand an ecosystem and the connections within it

### Materials List:

- Forest Investigations worksheet
- Writing utensil
- Access to an outdoor space to locate and observe a disturbance

# Forest Investigations

## Part 1: How to be a nature detective

Follow the activities in the next few pages to learn how to use your observational skills to better understand the natural world around you.

There are many stories that the natural world can tell us about what lives there and what is happening. By learning how to look for and read the clues, we can uncover the secrets of the landscape. In this activity you will become detectives and investigate clues in nature to learn about the history, health, and inhabitants of the ecosystems around you.

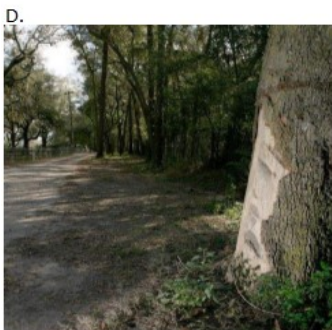
**For each picture below, answer the questions about what happened on a blank sheet of paper, notebook, or computer document. A word bank of options has been provided to help you. Each word in the bank matches with one of the pictures.**

### Word Bank:

Woodpecker holes   Scraped by plow   Moose rubbing   Grew on a stump that rotted away   Chewed by a beaver   Cut by a saw

### Questions

1. What happened to this tree? (be objective here, what do you notice?)
2. Who or what is responsible? What is your evidence?
3. What story does this tell us about what is happening in this ecosystem?





## Forest Investigation

### Part 2: Finding the clues

Now that you have warmed up your nature detective skills, let's put them to use with a real mystery: your own backyard!

For this activity you are going to go outside and investigate the area around where you live. Below are some examples of clues you might see. Note if you see any of these clues you can find. If you can't go outside, pick three clues and continue to the next page. These clues can help us learn the story of the land.



Trees in rows, a clue that these trees were planted, likely after logging



Old stump, a clue that this forest has been logged or a tree has been removed for another reason



Stone wall, a clue that this forest has been pasture in the past, likely for sheep



Many small trees, a clue that this forest is young, likely was cleared for pasture



Many large trees, a clue that the forest has not been cleared or was cleared a very long time ago



One large tree, often near a stone wall, a clue that the forest was once pasture and that this tree was left as a shade tree for livestock

In addition, count the number of plant species that you see (to the best of your ability). A larger diversity of plants is a sign of a healthy, older forest.



Old man's beard lichen, a clue that the air quality in the area is good because this species is sensitive to air pollution

# Forest Investigation

## Part 3: Telling the story

Now that you've learned more about clues left in a forest, it's time to write our own forest story. If you were able to go outside, use the clues that you found to answer the following questions. If you weren't able to do outside, choose three clues from either of the previous two pages and answer the questions about an imagined forest or a forest you've seen before.

1. What clues did you find?
2. What story does this tell about the history of your forest? (pasture, logging)
3. What story is happening in your forest right now? (animals, plants, health)
4. What do you wonder about your forest?

Lastly, take a few minutes to reflect on what you have learned. Answer the questions below.

### Reflection Questions:

1. What can we learn about the land around us when we look more closely and notice changes and disturbances?
2. What connections between living things can we observe when we notice and investigate disturbances?
3. What do disturbances teach us about an ecosystem?