

## **Forest Field Trip & Decomposition**    **TIME:**    90 minutes

### **OBJECTIVES:**

#### **Mathematics**

- **5.MD.1.** Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

#### **Physical Education**

**Standard 3:** Participates regularly in physical activity.

### **MATERIALS & RESOURCES:**

- Access to website: Smithsonian National Zoo-  
<http://nationalzoo.si.edu/Education/ClassroomScience/DecomposingLogs/scientist.cfm>
- Bus for field trip (or walk to a site)
- Clipboards
- Pencils
- Measuring tapes
- Magnifying lenses

### **PRESENTATION:**

Talk with students about decomposition. When a tree dies and falls to the ground, it becomes a log and starts to decompose or break down, until it becomes soil. Insects, fungi, and weather all contribute to this. Show students the website so they can see the different stages of log decomposition and the insects that help with this. Explain that we'll go on a field trip to the forest, to look for logs and explore their habitat and what species are in and around them. By documenting our observations, we'll learn more about how the forest ecosystem works.

**DIRECTIONS:**

1. Talk about showing respect for the forest before the trip. Stress rules like, “don’t pull up plants and leave things as you found them.
2. Divide into groups of 4-5, each group needs a clipboard, pencils, measuring tapes, and magnifying lenses. One student in each group is the recorder and is responsible for writing down the information. The other students in the group will be examiners and measurers.
3. Now go for a hike in the woods. Or as close to the woods as you are able. At least go for a walk near some trees. (If this is PE class the focus might be on the physical hiking. What is the difference between hiking and walking?)
4. Have students measure the length and circumference of their logs, and what stage of decomposition they are in.
5. Examine and count any organisms or fungi on or around their log, dividing them into categories, (i.e. 4 spiders, 3 beetles, etc.)
6. Back in the classroom, have groups graph their data on graph paper.
7. Have students make math problems with the data. For instance: On average how many organisms per log? Or story problems with data from size of logs. For instance, how many organisms, per  $\frac{1}{2}$  inch, were on each log? Some trees are 50-60’ tall. Try to calculate about how many organisms might be on a log of such length.

**PROCESSING QUESTIONS:****WHAT HAPPENED?**

- What connections can you observe between the size of the log and the number of organisms found?
- What about the stage of the decomposition and number of organisms?

**SO WHAT?**

- How does decomposition benefit the forest ecosystem?
- Why does this matter to humans?

**NOW WHAT?**

- How can humans best support the forest ecosystem?