



**Science Unit: *Temperate Forest***

**Lesson 5: *Layers of the Forest – Leaf Litter***

School year: 2007/2008

Developed for: Bayview Community Elementary School, Vancouver School District

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Grade level: Presented to grades 1 and 2; appropriate for grades 1-7 with age appropriate modifications such as having an adult with younger students.

Duration of lesson: 1 hour and 30 minutes

Notes: Loupes available from <<http://www.the-private-eye.com>> (Lyle, Washington State); order online US\$

**Objectives**

To observe leaf litter organisms

To learn about the process of decomposition.

**Background Information**

This lesson is an extension of Lesson 4 *Layers of the Forest* in the Temperate Forest unit. Please see this lesson at: <http://www.scientistinresidence.ca>

**Vocabulary**

<u>leaf litter</u>	layer of undecomposed organic material including fallen leaves, twigs, branches and dead animals on forest floor.
<u>habitat</u>	the natural environment of an organism, the place where it is usually found.
<u>decomposition</u>	the breaking down or rotting of organic materials

**Materials**

- 1 small tub of leaf litter for each group of students. You can get leaf litter from the forest and supplement by adding: compost critters such as sow/wood/pill bugs, centipedes, millipedes, worms, spiders, beetles, etc. Make sure there are enough critters for each student.
- 1 large tray for each group to pour leaf litter onto
- petri dishes (1 for each child)
- loupes (1 for each child) – see notes above
- tweezers (1 for each child)
- microscopes (or dissecting microscopes); if available
- identification guides of critters



### **Introductory Discussion**

Start a discussion about what kind of animal life can be found in the forest. Encourage children to identify where given examples of animals can be found within the forest (ie. which layer of the forest). The following examples are from the introductory discussion in above referenced lesson:

Forest Floor: mammals, slugs, humans, salamanders

Understory: screech owl, tree frog, robin

Canopy: osprey, eagle

Guide the children to realize that there is also important animal life in the soil. Define **habitat**. Identify the soil as a habitat for many types of animals or **organisms**. Define **decomposition**. Talk about how there are many different organisms that are important in the process of decomposition.

The book "**The Magic School Bus Meets the Rot Squad: A Book About Decomposition**" is a great book to use in the introductory discussion.

### **Science Activity/Experiment**

1. Hand out materials for each group of students.
2. Provide enough time for children to explore their leaf litter. Ask each child to find his/her own leaf litter critter to observe and study. Put critter into a petri dish with a lid.
3. Observe with a loupe to answer questions such as: how many legs? how many eyes? how does it move? etc. Have children draw and write about their observations. Encourage them to use labels and text in their diagrams.
4. If possible, set up microscope stations so that the children can get a closer / better look at their organism.

### **Closure Discussion**

Gather together as a large group.

Share observations.

Summarize the importance of leaf litter and critters as important factors in the process of decomposition.

Ask children why it is important to not collect / remove things (ie. plants and organisms) from the forest.

NOTE: return leaf litter to the forest/original site after the lesson is complete.

### **References**

1. Cole, Joanna. 1995. The Magic School Bus Meets the Rot Squad: A Book of Decomposition. Scholastic. (The book is also available in video / dvd format)