**Forest Floor**

The forest floor is the lowest layer of the forest. It is comprised of layers of plant and animal debris in various stages of decomposition. The forest floor is also home to decomposers that work to break down the plant and animal debris and turn it into nutrient rich soil that helps new plants to grow.

**Activity –** Exploring the layers of the forest floor

* Select an area of the forest floor that is as undisturbed by human activity as possible.
* Give each group a loop of sting that is 2 feet long and have them place their loop on a section of the forest floor.
* Have the students carefully examine the top layer of the forest floor that is within their loop. The students should map and label their findings.
* After observing the first layer, the students should gently brush aside the items on the top layer until they uncover a second layer. Again, have the students map and label their findings at this layer. Have the students repeat this process to discover additional layers. Hand lenses may be beneficial to help students get a closer examination of each layer.
* Examples of items found at each layer may include:
  + **Top Layer**: Clearly identifiable and intact items such as leaves, branches, feathers, seeds, plants, animals, etc.
  + **Second layer**: Smaller, more broken down pieces of plant and leaf material that is not as clearly identifiable. Insects can be found in this layer as well.
  + **Third Layer**: Plant material that has decomposed into soil. There may also be fine roots and insects.
  + The students may report finding more than three layers.
* As students explore each layer, encourage them to use all of their senses and record their findings. Questions to consider may include:
  + What does the forest floor smell like? Is the smell familiar?
  + Do the lower layers of the forest floor feel wetter or drier than the upper layers?
  + What layer is the warmest? What layer is the coolest?
  + What layer had the biggest items? What layer had the smallest items?
* Students may also be challenged to find items on the forest floor that meet certain criteria.
  + Find an item that is soft, hard, wet, smooth, alive, been eaten, etc.
* When finished, have the students carefully replace all soil, insects, leaf litter and organic material removed from the forest floor.
* As a follow-up question, ask the students what they think the forest floor would look like if there were no decomposers.

**Layers of the Forest**

A temperate forest is often classified as having five distinct layers.

**Canopy –** The tallest and most mature trees in the forest. Common trees in this layer include oak, maple, beech, chestnut, hickory, elm, walnut, sweet gum, pine, ash, and aspen

**Understory –** shade tolerant trees, shorter species of trees, saplings and immature trees waiting for a place in the canopy.

**Shrubs –** Low growing, woody plants with several stems. Common shrubs include witch hazel, rhododendron, azalea, mountain laurel, maple-leaved viburnum, and spicebush.

**Herbs –** Small, non-woody stemmed plants. Herb layer commonly includes ferns, flowers and grasses.

**Floor –** Layer that is composed of fallen leaves, twigs, needles, etc. Moss and lichen may also be growing at this layer.

**Activity**

* Give each student a Layers of the Forest Worksheet
* Have the students sit alone and observe the different layers of the forest.
* Have the students draw the plants that they observe at each layer.
* After their drawings are complete, the students should correctly label each layer.
* Next, ask the students to look for life or signs or life in each layer of the forest.
* Challenge the students to find at least 3 different forms of life or signs of life at each layer.
* The students should record and/or draw their findings in the corresponding layer on their worksheet.
* Questions to consider might include:
  + How do the layers of the forest differ?
  + Are there any animals that can be found in more than one layer?
* When finished, review the layers of the forest with the students and ask the students to share what they found in the different layers.

**Extensions**

* Have the students write a short story from the perspective of a bird or an insect about their journey through the layers of the forest.
* Have the students create their own animal. What is the name of their animal? What does it look like? In what layer of the forest would their animal live? Why would it live in that layer? What does their animal eat? Where specifically in that layer does the animal make its home?

**Directions: Draw the plants that you see in each layer of the forest. Label each layer. Draw and/or list all of the animals and signs of life that you see in each layer.**

Animals/signs of life:

Layer Name:

Layer Name:

Layer Name:

Layer Name:

Layer Name: