Interactions Within Ecosystems

Background information:

An ecosystem is a group of living and nonliving things that interact with each other in a specific physical space. An ecosystem can be as small as a patch of microbial rich soil or as large as the forest itself. One important understanding about ecosystems is that it will have producers, consumers and decomposers interacting with each other in some way. These interactions allow nutrients and energy to flow through the ecosystem and allow it to exist for long periods of time.
Although the video resource The Lost Forests of New England is primarily about Old Growth forests, there are sections (about 21:00 to 23:15) that explain in great detail the interactions of both the living and nonliving within a soil microbial ecosystem.

The Following Prompts and the Table Below are Designed to Organize Your Thinking of How Matter and Energy Move Through the Forest Ecosystem.

- In the first table below, list some of the living parts in the forest ecosystem.
- In the second table below, list some of the nonliving parts in the forest ecosystem.
- Review the definitions of producer, consumer and decomposer.
- Go through the first table of living parts and identify as many ***producers*** as possible. (In the table put a **P** beside each of these living parts); next identify as many ***consumers*** as possible. (In the table put a **C** beside each of these living parts); finally identify as many ***decomposers*** as possible. (In the table put a **D** beside each of these living parts)

Living Parts of Forest Ecosystem

Nonliving Parts of Forest Ecosystem

- Choose one of the ***nonliving*** parts you listed. State which one you chose and explain how you think it ***cycles*** or ***moves through*** any of the producers, consumers, and decomposers in this ecosystem.

- What are some questions you have about forest ecosystems?

Draw a Picture of the Forest Ecosystem.
Sketch or write the names of the producers and label with a **P**. Repeat this process of sketching or writing the names of the consumers **C** and the decomposers **D** and the nonliving parts of the ecosystem. **Draw in arrows** to show how at least one nonliving part cycles and moves through the parts of the ecosystem.

Evidence of Understanding Would Include the movement of matter among producers, consumers, decomposers, and the air, water, and soil in the environment to (P) show that plants produce sugars and plant materials, (C) show that animals can eat plants and/or other animals for food, and (D) show that some organisms, including fungi and bacteria, break down dead organisms and recycle some materials back to the air and soil. Examples of nonliving parts are sunlight, water and nutrients. For upper grades students could identify the nutrients by their elemental name (SPONCH) or chemical formula.