The Place that Penny Plant Built

Essential Question(s):
What is a habitat?
What is an ecosystem?
How are all things in nature interconnected?

At a Glance: Learners will draw the components of an ecosystem when prompted by a story.

Background Information: A habitat is an area that provides an animal or plant with adequate food, water, shelter and living space in a suitable arrangement. In this activity, Penny Plant builds her own habitat. By doing so, she puts together an ecosystem, which is an interacting system of a living community and its non-living environment. An ecosystem encompasses many different habitats. This activity informs students that all parts of an ecosystem are interconnected. As students complete this activity, they focus their attention on the needs of local plants and animals. Their service learning project will address and meet these needs.

Getting Ready:
For this activity, it helps to designate an adult to draw the additions to the 'Penny Plant' picture on a chalkboard or white board while students complete their own drawing. A PowerPoint titled, Penny Plant's Place! can be used to guide this activity, or you can read the story (below) to the children as they draw a picture. Before starting the activity, gather supplies, and if using the PowerPoint, set up the equipment necessary for showing the presentation.

Procedure:
1. Give the students each a 'Penny Plant's Place' worksheet, or have them draw a flower in the middle of a blank page. Draw an example on the board for them to copy.
2. Tell the students that they are going to hear a story about Penny Plant, and whenever instructed, they will add something else to their picture.
3. Read 'The Place that Penny Plant Built' *(see below)*. Pause when indicated and tell the students to draw the necessary requirement.
4. By the end of the story the students' pictures will be quite full. It will become Penny's habitat and a forest ecosystem for many animals and plants.

The Place that Penny Plant Built!

Penny Plant wanted to have her very own Place in the world. She liked being by herself. But she was smart enough to know that she needed some things if she was to grow.
So, into her Place, Penny Plant brought some sun*, air, and water (small raincloud*). She also needed minerals. "Oops!" she said. "Where will I get them? I think I need some soil!" She needed soil too, for her

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Location: Indoors

Objectives: *Learners will:*
1) identify components of a habitat needed for survival.
2) define the term ecosystem.

Skills: drawing, empathy

Supplies:
- Penny Plant's Place Worksheet
- Penny Plant Story
- drawing materials
- chalkboard /whiteboard
- PowerPoint on CD
- LCD projector

Subjects: science, art

Time: 20 minutes

roots to stretch and grow. (Draw a line* across the picture to separate the air and ground. Put extra soil* around Penny's roots.) Now, Penny's Place had sun, air, water, minerals, and soil.

Penny began to grow. "Oops!" she said. "I'm too hot. I'm drying out!" Penny Plant needed shade. So, to her Place, she added a shade tree. Now Penny's Place had sun, air, water, minerals, soil, and a shade tree.*

One day, a pretty pink flower poked out of her leaves. "Oops," she said after awhile. "Something is wrong! My flower is producing pollen. But I have to get pollen from other flowers. I need more flowers just like me. And I need some pollen carriers."

So Penny added some more things to her Place. Now Penny's Place had sun, air, water, minerals, soil, a shade tree, and more flowers like her.* She also added some bees* to carry pollen.

Oops! Penny's problems were growing. The bees had a large family and they needed a place to live. They needed many, many flowers. Some of these flowers wanted shade trees too. So Penny got to work until her Place had sun, air, water, minerals, soil, lots of flowers*, more shade trees*, and a hollow stump for a bee house.*

Penny's flowers were fading, leaving sticky brown seeds. "Oops!" said Penny. "How am I to get the sticky seeds from my stems to some good soil?" She needed a furry carrier. So, to the sun, air, water, minerals, soil, shade trees, flowers, bees, and hollow stump, she added a fox.*

The fox needed a tree-root den* in a thicket with lots of plants. It needed rabbits* and mice* to eat and a stream for water.* So, Penny's Place soon had not only sun, air, water, minerals, soil, shade trees, flowers, bees, stumps, and a fox, but a fox den, rabbits and mice, and a stream.
STOP!

Is your picture getting too crowded? Indeed, Penny's place is becoming a forest HABITAT for many plants and animals. And more will be needed. The fox will need a family. The rabbits and mice will need food and houses and water. The shade trees and plants will need fungi and insects and worms to make good soil. Birds are moving into the shade trees. What will they need?

Did you notice that to meet her needs, Penny has not only built a habitat but put together an ECOSYSTEM? Remember that an ECOSYSTEM is the life-supporting web that develops among the living and non-living parts (like air and sun) of an environment.

In a natural ecosystem, the parts work together to provide the services each member needs for ongoing life. Plants turn the energy of the sun into food energy for themselves and the animals that eat them. Water, oxygen, carbon dioxide, and minerals are used and recycled. Each plant and animal has its own place (niche) in its habitat and role in providing these ECO-SERVICES. Each member (including us) of an ecosystem depends on these eco-services to survive.

Discussion/Assessment:
Were Penny Plant's needs met?
What do we call the place that meets the needs of an animal or plant?
What did you end up drawing?
If Penny Plant went extinct, would it affect the rest of the forest ecosystem? How?

Penny Plant's Place