Milk Carton Gardens

Purpose: Students will create their own garden pots using milk cartons. They will learn about all the nutrients, elements and factors that go into starting and growing plants.

Background: Nutrients are the vitamins and minerals plants need for healthy growth. They come from the decomposition of rocks, dead plants, and animals and are absorbed through the roots of plants.

Water is made up of hydrogen and oxygen. It is absorbed through the roots and transported to the rest of the plant through the stem. Water helps keep plants rigid and transport nutrients throughout the plant. It is used along with carbon dioxide and light to make sugars and starches (a process called photosynthesis), the food plants use for living and growing.

Air is made up of oxygen, carbon dioxide, nitrogen, water vapor, and gases. Air enters plant leaves through tiny holes called stomata. The leaves use the carbon dioxide from the air to make sugars and starches for the plant to use as food. The roots absorb oxygen to convert food into energy (a process called respiration).

Plants use energy from light to make food. Leaves collect this energy and use it along with carbon dioxide and water to make sugars and starches as part of a process called photosynthesis. The sugars and starches are the food the plant uses for living and growing.

Milk Carton Facts:

Shelf-stable cartons contain on average 74% paper, 22% polyethylene and 4% aluminum. Products in shelf-stable cartons include items such as juice, milk, soy and grain milk, soup and broth and wine.

Refrigerated cartons contain about 80% paper and 20% polyethylene. Products in refrigerated cartons include items such as milk, juice, cream, egg substitutes, soy and grain milk.

Materials: seeds (herbs or microgreens), milk carton containers, potting soil

Activity:

1. Preparation: Thoroughly clean out milk cartons.
2. Fill carton almost to the top with potting soil.
3. Plant a few seeds in the soil.
4. Water the seeds.
5. Place containers in the sunniest part of the room or outside.
6. Record observations in a science journal.