

LESSON ACTIVITIES

✓ **Further Understanding:** Investigation/Reasoning Skills

The Process of Photosynthesis

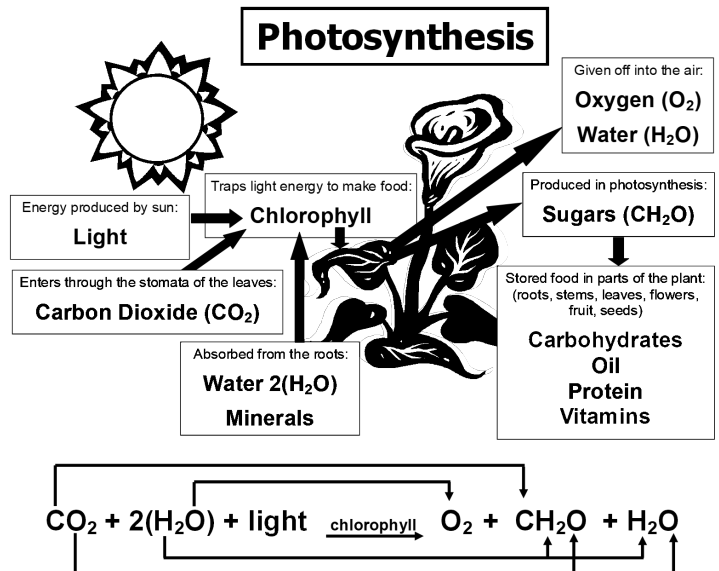
One interesting characteristic of plants which is very different from animals is their ability to produce their own food. God designed plants to be the food source for his creation. Plants make food through the process of photosynthesis.

(Use photosynthesis chart visual.) The word photosynthesis comes from the Greek language. Photo means light and synthesis means to put together with. In the process of photosynthesis plants take sunlight and put it together with the water they take up from the ground through their roots and the carbon dioxide they take in from the air through the stomata in their leaves to produce the food they need. Plants and the fruit and seed they produce also become food for men and animals.

The Process of Photosynthesis (Use the photosynthesis equation visual.)

1. Sunlight is absorbed by the chlorophyll in the leaves of plants and the energy from the light is used by the plant to split water molecules into hydrogen and oxygen molecules.
2. The hydrogen molecules combine with the carbon from the carbon dioxide that the plant has absorbed from the air.
3. This forms a simple sugar, which the plant uses, along with minerals from the soil, to make different types of food.
4. The foods plants produce (protein, carbohydrates, fat, and vitamins) are stored in various parts of the plant: roots, stem, leaves, flower, fruit, and seeds.
5. In the process of photosynthesis, plants produce oxygen gas as a byproduct. The oxygen put out by the plants replenishes the oxygen supply in the air. Humans and animals take in the oxygen from the air to use in their life processes and put out carbon dioxide as a waste product, which is then taken in and used by plants in the production of food.

Discussion: What happens in the process of photosynthesis? If you took away any of the elements involved in photosynthesis (light, chlorophyll, carbon dioxide, water) what would happen to the plant? What would happen to the earth? What would be the outcome if you took away any of the parts of the plant (root, stem, leaves, fruit, seeds)? How does photosynthesis demonstrate design? What does understanding how plants produce food teach us about God?



In the Beginning – 7

✓ **Craft:** Plant picture

As a reminder that God created all vegetation on day three, make a picture of a palm tree with natural materials.

Materials: white cardstock paper, glue, blue crayon (pencil or marker), parsley flakes or grass, split peas or leaves, beans or seed pods, brown rice, barley or tiny broken twigs or straw.

Preparation: On white card stock paper draw a picture of a palm tree or print off a black and white palm tree from Internet images. Collect needed materials.

Instructions: (Children should be working over newspaper or scratch paper.)

1. Color the air around the palm tree blue.
2. Put glue on the ground area and sprinkle on parsley flakes or blades of grass. Shake off the excess.
3. Put glue on one section of the palm tree at a time and put the appropriate material in its place: leaves – split peas or leaves, coconuts – beans or seed pods, trunk – brown rice, barley or tiny broken twigs or straw.

✓ **Game:** Pictionary

As a reminder that plants are a source of all kinds of beneficial things beside food, play Pictionary.

Instructions: Cut 3x5 cards into four small cards. Write each of the things below that are or can be made from plant material on individual cards. Divide the players into two teams. Pass out a card to each player and let them take turns drawing the item on the card. First team to guess the item correctly gets a point. The team with the most points wins.

Basket

Book

Book shelf

Broom

Cardboard box

Chair

Coal

Cork

Desk

Fence

Firewood

Gum

House

Magazine

Maple syrup Medicine

Newspaper

Paper bag

Pencil

Perfume

Picture frame

Rope

Rubber (natural)

Sock

Straw hat

Table

Telephone pole

Thread

Toilet paper

Towel

T-shirt