3rd Grade Science

Week 6

Your Week at a Glance
• Plants • NGSSS: SC.3.L.14.1; SC.3.L.14.2

Student Name:_____

Teacher Name:_____

School: _____

SC.3.L.14.1 Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction. **SC.3.L.14.2** Investigate and describe how plants respond to stimuli (heat, light, gravity), such as the way plant stems grow toward light and their roots grow downward in response to gravity.

Plants

What Are Plant Structures?

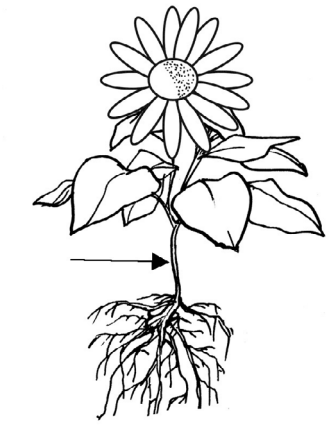
Plants have structures that carry out different functions, like all living things. These structures include stems, leaves, roots, flowers, seeds, and fruit. These structures all have different roles in a plant.

Roots

Roots are usually found under the ground. One function of roots is to anchor the plant and hold it in the ground. Roots also absorb water from the ground. Many roots are covered in tiny root hairs that allow more water to be absorbed. Another function of roots is to store food produced in the plant's leaves.

Stems

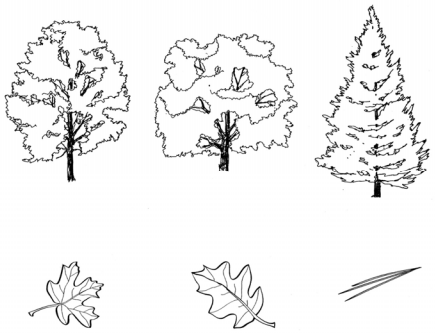
You might be familiar with the stems of flowers. Trees also have stems; they are often called trunks. Stems are structures that support plants. They hold plants upright.



Stems also play an important role in the transport of water and nutrients through the plant. Water absorbed by the roots travels to other plant parts through the stem. Food, or sugars, that are made in the plant's leaves also move to other plant parts through the stem.

Leaves

The function of leaves is to produce the food used by the plant. Leaves come in a variety of shapes and sizes. Some leaves are flat, but others, often called needles, are thin and round. Leaves capture light energy from the sun. They use that energy, along with water and air, to make food.



Flowers

Many kinds of plants produce flowers. Some kinds of flowers, such as roses and daisies, are very familiar. Flowers play an important role in plant reproduction. Flowers may have male parts, female parts, or both parts. The cells produced by the male and female parts combine to form a new plant.

Seeds and Fruits

Seeds and fruits are also important to plant reproduction. Flowers are the plant part in which male and female cells combine to produce seeds. Seeds are structures that contain a tiny new plant and a food supply. Seeds have an outer covering that protects the tiny plant inside.

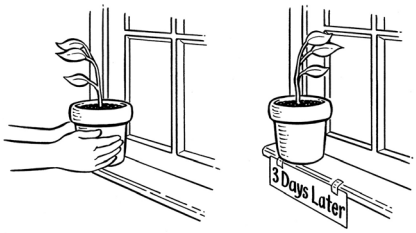
Fruits are plant parts that surround seeds to protect them. Some fruits attract animals, which help spread seeds to new places.

What Are Plant Responses?

Plants respond to many factors in their environments, including light, gravity, and heat. For example, plants droop and wilt if they don't get enough water.

Light

Remember that plants need light to make food. Plant stems and leaves respond to light by growing toward its sources.



Gravity

Plants also respond to gravity. Gravity is a force that pulls objects towards the center of Earth. Roots respond to gravity by growing in the same direction that gravity pulls. They grow down into the soil. Stems respond to gravity by growing up, in the opposite direction that gravity pulls.

Heat

Plants respond to heat, too. Changes in the temperature of an environment can cause different responses. For example, many trees and other plants enter a resting period in the fall and winter when temperatures are low. Some lose their leaves. When temperatures warm up in spring, new leaves grow.

Student-Response Activity

❶ Describe the function, or role, of each plant part listed below.

stem _____

_____

root _____

_____

leaf _____

_____

flower _____

_____

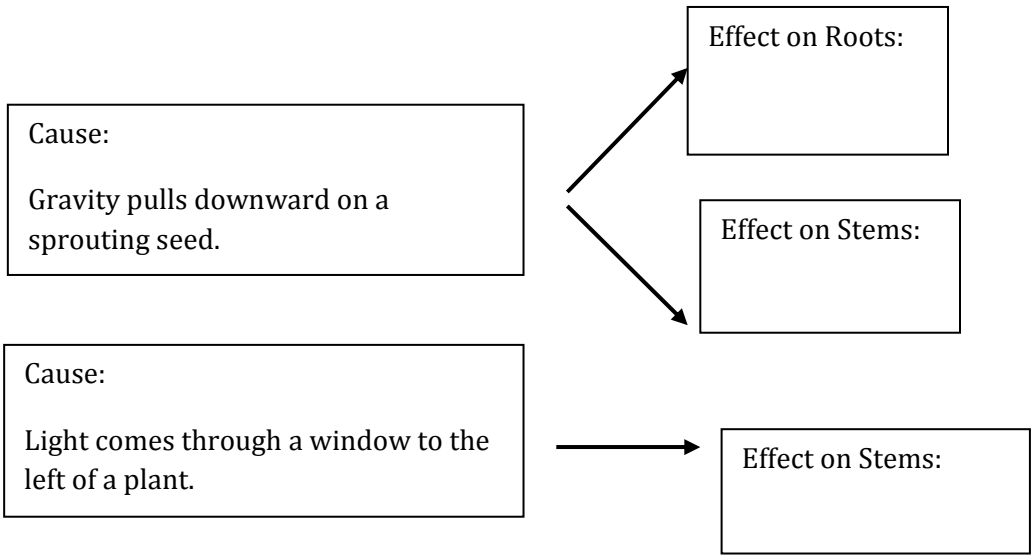
fruit _____

_____

seed _____

_____

❷ Complete the cause-and-effect graphic organizers below.



Benchmark Assessment SC.3.L.14.1, SC.3.L.14.2

Fill in the letter of the best choice.

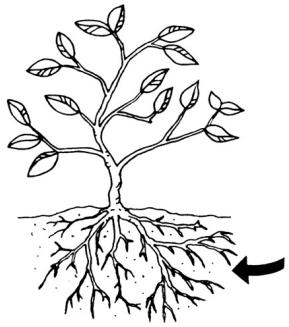
❶ Which plant part gathers sunlight and produces food?

Ⓐ flower
Ⓑ seed
Ⓒ root
Ⓓ leaf

❷ How does a plant stem respond to light?

Ⓕ They grow much slower.
Ⓖ They grow toward the light.
Ⓗ They grow downward.
Ⓘ They enter a resting period.

❸ Observe this drawing.



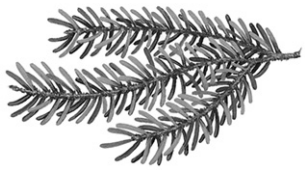
The arrow points at a plant part. Which is the role of this plant part?

Ⓐ food production
Ⓑ reproduction
Ⓒ seed protection
Ⓓ water absorption

❹ Which is correct?

Ⓕ Plants respond to their environments.
Ⓖ Roots grow upward because of gravity.
Ⓗ Plants respond to sunlight and gravity in exactly the same way.
Ⓘ Plants have stems that grow downward due to gravity.

❺ Observe this drawing.



Which plant part is shown in the picture?

Ⓐ leaves
Ⓑ flowers
Ⓒ roots
Ⓓ fruit