Lesson 9-Plants' Growth

KEY TERMS

tree

shrub

vine

OBJECTIVE

⇒ **Compare the growth patterns of different plants**

To grow and be healthy, every living thing needs certain things from its environment. In order for plants to grow they need *light, water, oxygen, carbon dioxide, minerals, proper temperature* and *enough space*. Different plants have different growth patterns. Trees, vines and shrubs grow differently.

A tree is a plant that has one main woody stem or trunk.

A shrub is usually a middle- sized plant that has many stems or trunks.

A vine is a plant with a climbing stem that may grow on the sides of a building, fence or a tree.

Growth rate is also different for the different plant types. Some plants grow only during the wet seasons. Others grow all year round. Growth rate also can be controlled by changes in the environment.

Plants' Growth-Assessment

Name: _____ Date: _____

Read and answer the following questions correctly.

1. Which **TWO** of the following things must be present for growth to take place in plants? Shade in the LETTERS next to the correct answers. [2]

(A) fertilizer (B) soil (C) space (D) water

2(a) **Jan bought some plants from the local plant nursery. She put the plants in the trunk of her car, but forgot to take them out.** What would happen to the plants if she leaves them in the trunk of her car for a week? [1]

_____

_____

2(b) Explain your answer from **2(a)**. [1]

_____

_____

_____

3. Read each statement below. Write **True** if the statement is true or **False** if the statement is false on the lines provided. [3]

a. _____ The growth rates for all plants are the same.

b. _____ Trees, vines and shrubs grow in the same way.

c. _____ Some plants only grow in the wet season.

4. Read each characteristic below. Write ***tree***, ***shrub*** or ***vine*** to identify the type of plant being described. [3]

TYPES OF PLANTS	CHARACTERISTICS
	has climbing stems
	has one woody stem
	middle-sized plant

TOTAL MARKS-10

Lesson 10-Plants' Responses

KEY TERMS

gravitropism

phototropism

stimuli

tropism

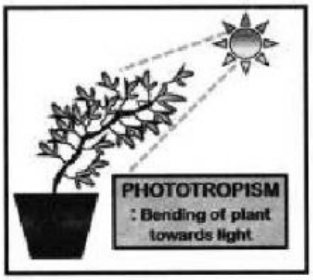
OBJECTIVE

⇒ **Explain how plants adapt to survive**

Like all living things, plants respond to things in the environment. Plants respond to a variety of things known as stimuli, such as *light, gravity* and *water*. A plant's response that involves growth is called **tropism**.

Phototropism

Plants bend towards light as they grow. The growth response of a plant to light is called **phototropism**.



Gravitropism

Responses to gravity and water also help plants survive. A stem responds to gravity by growing in the direction opposite to the pull of gravity. When stems grow upward, leaves can get light. Roots respond to gravity by growing in the direction of the pull of gravity. The downward growth of roots help the roots reach water in the ground. Roots also respond by growing towards the water itself. A plant's response to gravity is called **gravitropism.**

Plant Adaptations

Plants that live in different environments have different *adaptations*.

Pine Trees

- Pine trees grow where there is little rainfall. Pine trees have needle-like leaves. These leaves have a small surface area. Pine trees do not lose much water through their leaves. The bark of the Caribbean Pine Trees found in The Bahamas are resistant to fire.

Cacti Plants

- The cactus plant has long roots that spread out just below the surface. Most cacti plants have spines or thorns that help to protect them from being eaten by animals. They can also absorb water quickly after it rains. The thick stems of the cactus store the water so that it could be used during the long, dry spells.

Locoweeds

- Some wild plants, like locoweed, produce poisons to prevent animals from eating the leaves. This prevents the growth of young plants. New plants do not grow around that tree. This poison is an adaptation because there are no new plants to compete with the tree for space. Some leaves are covered with wax to prevent water loss.

Plants' Responses-Assessment

Name:_____ Date:_____

Read and answer the following questions correctly.

1. Name **TWO** stimuli plants respond to. [2]

a._____ b._____

2(a) Look at the picture below. What is this picture an example of? Shade in the LETTER next to the correct answer. [1]

(A) adaptation (B) gravitropism (C) phototropism

2(b) Explain what is happening in the picture above. [1]

_____

_____

3. What is the difference between a **shrub** and a **vine?** [2]

_____

_____

_____

4. Complete the statement below. [2]

During gravitropism the stems grow _____ **and the roots grow** _____.

5. Explain **TWO** adaptations a **cactus** has that allows it to survive in its environment. [2]

a._____

b._____

TOTAL MARKS-10