In your textbook, read about stems and leaves.

Circle the letter of the response that best completes the statement.

13. Many wildflowers with soft, green stems are plants that have
- **a.** woody stems.
- **b.** herbaceous stems.
- **c.** woody roots.
- **d.** all of the above.

14. The functions of a plant's stem include
- **a.** transporting sugar.
- **b.** supporting the plant.
- **c.** transporting water and minerals.
- **d.** all of the above.

15. Any portion of the plant that stores sugars is called a
- **a.** petiole.
- **b.** mesophyll.
- **c.** root cap.
- **d.** sink.

16. The movement of sugars from the leaves through the phloem is called
- **a.** photosynthesis.
- **b.** transpiration.
- **c.** translocation.
- **d.** food storage.

In your textbook, read about the leaves of a plant.

Use each of the terms below just once to complete the passage.

stomata	**extend**	**cuticle**	**transpiration**	**epidermis**
veins	**stem**	**petiole**	**photosynthesis**	**mesophyll**

There are many parts to a leaf. Grass leaves grow right out of the **(17)** _____, but other leaves are connected to the stem by a stalk called the **(18)** _____. The petiole is made of vascular tissues that **(19)** _____ up into the leaf to form **(20)** _____.

The outer surface of a leaf has a **(21)** _____ that covers the epidermis. Inside the epidermis are two layers of photosynthetic cells that make up the **(22)** _____. Cells in the palisade layer have many chloroplasts and carry out most of the leaf's **(23)** _____. Leaves have a(n) **(24)** _____ with a waxy cuticle and **(25)** _____ help prevent water loss. The loss of water through the stomata is called **(26)** _____.

In your textbook, read about plant hormones and plant responses.

Complete each statement.

1. A _____ is a chemical that is produced in one part of an organism and transported to another part, where it causes a physiological change.
2. The group of plant hormones called _____ promote cell elongation. Indoleacetic acid (IAA) is an example of this group of hormones.
3. The group of growth hormones that cause plants to grow taller because, like auxins, they stimulate cell elongation, are called _____ .
4. The hormones called _____ are so named because they stimulate cell division by stimulating the production of proteins needed for mitosis.
5. The plant hormone called _____ is a simple, gaseous compound composed of carbon and hydrogen that speeds the ripening of fruits.
6. A plant's response to an external stimulus that comes from a particular direction is called a _____ .
7. A responsive movement of a plant that is not dependent on the direction of the stimulus is called a _____ .

Determine if the statement is true. If it is not, rewrite the italicized part to make it true.

8. A *large* amount of hormone is needed to make physiological changes in a plant.

_____

9. If gibberellins are applied to the tip of a dwarf plant, it will grow *taller*.

_____

10. The growth of a plant towards light is caused by an unequal distribution of *ethylene* in the plant's stem.

_____

11. If a tropism is *negative*, the plant grows toward the stimulus.

_____

12. The growth of a plant toward light is called *phototropism*.

_____

13. *Gravitropism* is the direction of plant growth in response to gravity.

_____

14. A plant's response to touch is called *cytokinin*.

_____