

**Chapter  
23****Plant Structure and Function, *continued*****Reinforcement and Study Guide****Section 23.3 Plant Responses**

*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*.  
\_\_\_\_\_