Name_____ Class_____ Date_____

Section 25–2 Plant Responses (pages 639–642)

This section explains what plant tropisms are. It also describes photoperiodism and explains how temperate plants prepare for winter.

Tropisms (page 639)

1. What are tropisms? _____

_____

2. What do tropisms demonstrate about plants? _____

_____

_____

3. Complete the table about plant tropisms.

PLANT TROPISMS

Tropism	Definition
Gravitropism	
Phototropism	
	The response of a plant to touch

4. Circle the letter of each sentence that is true about the effects of thigmotropism.

a. The tendrils of a grapevine wrap tightly around any object they encounter.

b. A plant that is touched regularly may be stunted in growth.

c. The stems of climbing plants don't grow straight up.

d. When the tip of a vine encounters an object, it breaks off.

Rapid Responses (page 640)

5. The folding together of mimosa leaflets when touched is the result of what changes in cells at the base of each leaflet? _____

_____

6. What does a fly trigger in a Venus flytrap that causes the leaf to snap shut?

_____

_____

Photoperiodism (page 641)

7. Why are plants such as chrysanthemums and poinsettias called short-day plants?

_____

8. What are long-day plants? _____

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9. What is photoperiodism? _____

10. What is photoperiodism in plants responsible for? _____

11. What plant pigment is responsible for photoperiodism? _____

12. How does a phytochrome control photoperiodism? _____

Winter Dormancy (pages 641–642)

13. What is dormancy? _____

14. How do shorter days and lower temperatures affect photosynthesis? _____

15. As cold weather approaches, what happens to deciduous plants? _____

16. When days shorten at summer's end, what changes start a series of events that gradually shuts down the leaves of a flowering plant? _____

17. The layer of cells at the petiole that seals off a leaf from the vascular system is called the _____.

18. Why doesn't a tree's sap freeze during a cold winter? _____

Reading Skill Practice

A flowchart can help you remember the order in which events occur. On a separate sheet of paper, create a flowchart that describes the steps that take place when flowering plants lose their leaves as winter approaches. This process is explained in the subsection *Winter Dormancy.* For more information about flowcharts, see Organizing Information in Appendix A at the back of your textbook.