Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Fred and Theresa Holtzclaw

AP Biology

Unit 8-Plant Form and Function (Chapters 28-31)

***29.2 Different mechanisms transport substances over short or long distances***

22. Define these terms:

**flaccid**

**turgid**

**plasmolysis**

26. What is *bulk flow*?

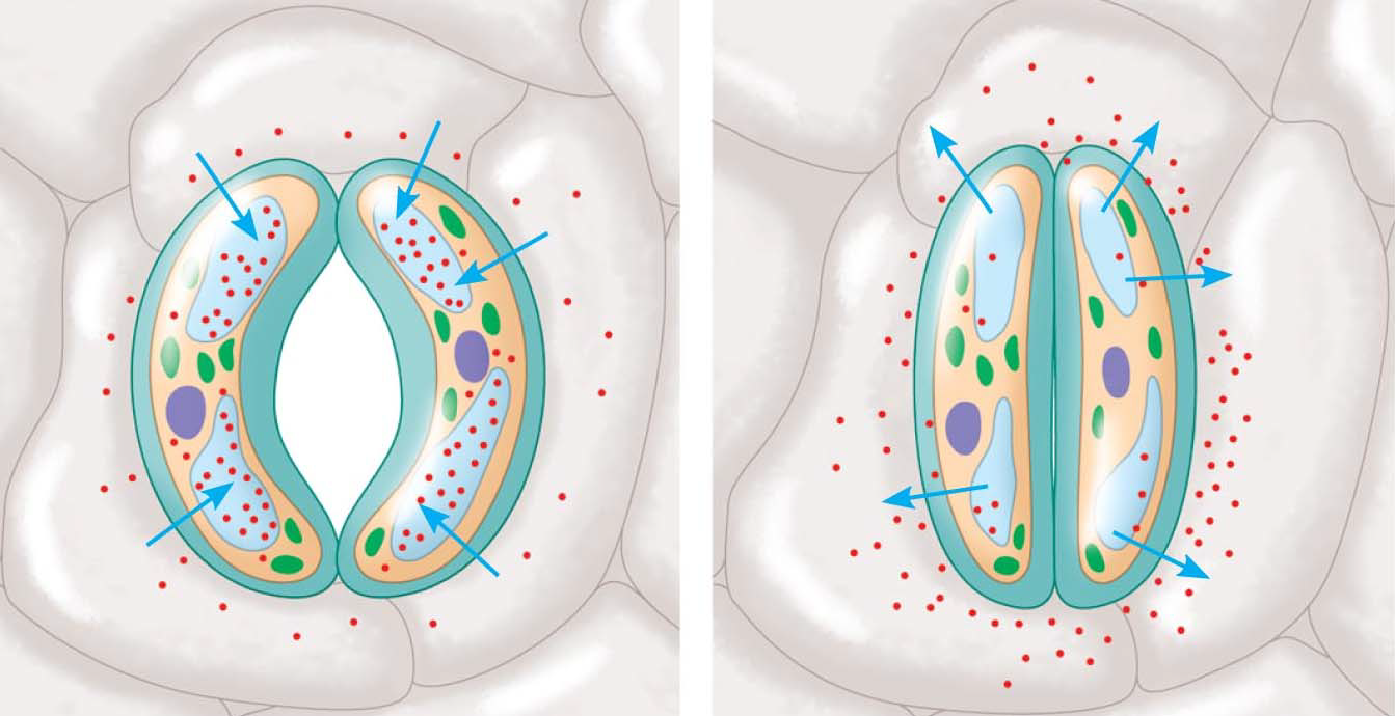
***Concept 29.5 Transpiration drives the transport of water and minerals from roots to shoots via the xylem***

Explain the cohesion-tension hypothesis.

***Concept 29.6 The rate of transpiration is regulated by stomata***

20) Leaves generally have large surface areas and high surface-to-volume ratios. Give an advantage and disadvantage of these traits.

**advantage**

**disadvantage**

35. On the sketches, label the *guard cell, stomata, K+*, and *H2O*. Explain why the stoma opens when K+ accumulates in the guard cells.

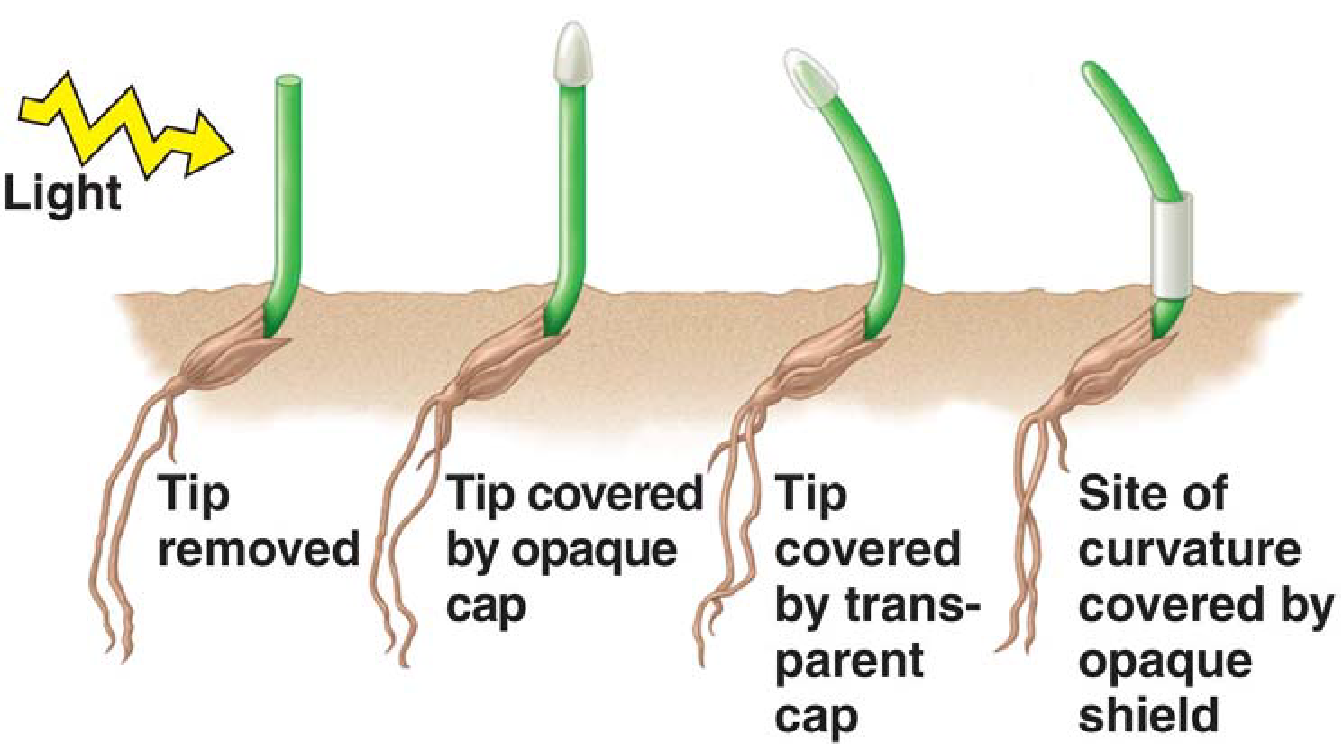
36. Three types of stimuli can cause guard cells to open. Name and explain how each one works.

|  |  |
| --- | --- |
| Stimulus for Stomatal Opening and Closing | Explanation |
|  |  |
|  |  |
|  |  |

***Concept 31.1 Plant hormones help coordinate growth, development, and responses to stimuli***

21) Both plants and animals have *hormones*. The definition of a hormone has three parts. What are they, and how do they fit into the signal transduction pathway model?

22) What is a *tropism*?



23) The sketch below describes early experiments on *phototropism* conducted by Charles and Francis Darwin. What can be concluded from these experiments?

26) In jest, we tell our students that when in doubt about which plant hormone causes which plant response, just answer *auxin*. Auxin has so many functions, this answer often works. List and describe three functions of auxin.

|  |  |
| --- | --- |
| Auxin Functions | Description |
|  |  |
|  |  |
|  |  |

***31.2 Responses to light are critical for plant success***

24. What color light is absorbed by *phytochromes*?

25. What are two different responses initiated by blue light?

31) What is a *circadian rhythm*? Give one plant example and one human example.

33. Plants detect photoperiod, and in many species it affects their time of flowering. Explain each of the following, and give an example of a plant that is in the group.

**short-day plant**

**long-day plant**

**day-neutral plant**

***31.3 Plants respond to a wide variety of stimuli other than light***

32) What is *gravitropism*? How may a plant detect gravity?

37. What is *thigmotropism*? How is it adaptive?