

Focus Questions
 Plant Form and Function
 Chapters 35-39
 AP Biology

Chapter 36

- Explain the evolutionary significance of mycorrhiza. (36.1)
- Summarize water transport in plants as outlined in Figure 36.9. (36.2)
- Explain how water and minerals are transported in xylem. What direction do these move? (36.3)
- How are stomata involved in transpiration. Explain the process. (36.4)
- Explain how sugars are transported in plants. What direction do these move? (36.5)

Chapter 38

- Describe or diagram a generalized angiosperm lifecycle. (38.1)
- Describe or diagram the development of the male and female gametophytes in an angiosperm. (38.1)
- Explain five specific symbiotic pollination relationships. (38.1)
- Explain the process of coevolution in pollination. (38.1)
- Explain the process of double fertilization. (38.1)
- How does germination differ in monocots and eudicots? (38.1)
- Explain what dormancy is and why plants would have evolved this mechanism. (38.1)
- What is the purpose of a fruit and describe the differences between the types of fruits. (38.1)
- Explain different techniques humans use in agriculture for asexual reproduction of plants. (38.2)

Chapter 39

- Explain the three steps of signal transduction using etiolation and de-etiolation as an example. (39.1)
- Explain post-translational modifications and transcriptional regulations. (39.1)
- Explain how plant hormones were discovered. (39.2)
- Explain Frits Went's experiment. (39.2)
- What does the plant hormone auxin do in terms of cell elongation and plant development and in what ways can it be used commercially? (39.2)
- What is apical dominance and how do cytokinins control it? (39.2)
- How do gibberellins impact stem elongation, fruit growth, and germination? (39.2)
- Explain the factors that abscisic acid controls. (39.2)
- Explain the role of ethylene as a plant hormone. (39.2)
- Explain the U.S. Department of Agriculture experiment related to red and far-red illumination and what conclusions they were able to draw from it. Also, explain how it relates to phytochromes. (39.3)
- Explain circadian rhythms in plants. (39.3)
- Explain how flowering is controlled in plants. (39.3)
- Explain the mechanisms plants use to combat environmental stresses. (39.4)
- Explain the ways plants defend themselves from herbivores. (39.5)
- Explain the ways plants defend themselves from pathogens. (39.5)

Chapter 38

anther	incomplete flower	pollination
asexual reproduction	inflorescence	seed coat
carpel	megaspore	self-incompatibility
coevolution	microspore	sepal
complete flower	ovary	simple fruit
dormancy	ovule	stamen
double fertilization	petal	stigma
endosperm	pistil	style
epicotyl	pollen grain	transgenic
fruit	pollen tube	vegetative reproduction

Chapter 39

abiotic	cytokinins	long-day plant
action potential	de-etiolation	photoperiodism
apoptosis	ethylene	phototropism
auxin	etiolation	phytochromes
avirulent	gibberellins	second messenger
biotic	gravitropism	senescence
blue-light photoreceptors	heat-shock protein	short-day plant
brassinosteroids	hormone	tropism
circadian rhythm	hypersensitive response (HR)	Virulent