

TOPIC REVIEW GUIDE: CELL COMMUNICATION #4

PLANT RESPONSES TO INTERNAL AND EXTERNAL SIGNALS

KEY CONCEPTS:

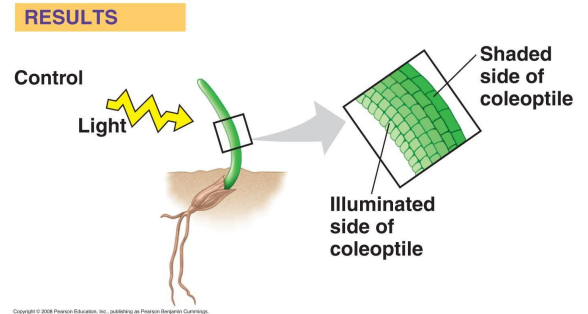
- Plant hormones help coordinate growth, development, and responses to stimuli
- Responses to light are critical for plant success
- Plants respond to a wide variety of stimuli other than light
- Plants respond to attacks by herbivores and pathogens

READ:

- Chapter 39

CAMPBELL BIOLOGY ONLINE TASKS:

- MB 43,39



KEY TERMS: Here is a list of key terms and concepts you will hear about and see during the chapter readings. Get to know them!

Etiolation

Cytokinins

Leaf abscission

Long-day plant

De-etiolation

Gibberellins

Phytochromes

Day-neutral plant

Tropism

Abscisic acid (ABA)

Photoreceptors

Gravitropism

Phototropism

Ethylene

Photoperiodism

Thigmotropism

Auxins

Senescence

Short-day plant

Hypersensitive response

Systemic acquired resistance

QUESTIONS FOR YOUR BILL:

1. Use a graphic organizer to describe the roles each of the following hormones plays in plants: *auxins*, *gibberellins*, *cytokinins*, *ethylene*, and *abscisic acid (ABA)*.
2. Create a diagram that explains how *photoperiodism* determines when flowering occurs.
3. What is a *tropism*. Discuss the survival benefits of *phototropism*, *gravitropism*, and *thigmotropism*.
4. Make a series of drawings to discuss several defense mechanisms developed by plants to protect themselves from herbivores and pathogens.

SUPPLEMENTARY RESOURCES: Click the links below for more information to help you learn more about this lesson.

- WH Freeman Animation: [Tropisms](#)
- WH Freeman Animation: [Photoperiodism](#)
- McGraw Hill Animation: [Phytochrome Signaling](#)