High School Science Virtual Learning

College Biology
Chapter 16 Recap Part 1

May 14, 2020

High School College Biology
Lesson: May 14, 2020

Objective/Learning Target:
Students will be able to discuss the evolution and major characteristics of plants and fungi.

Let’s Get Started:

1. What is the organelle that performs photosynthesis?

2. What is the balanced equation for photosynthesis?

Answers:

1. Chloroplast

2. $6\ CO_2 + 6\ H_2O + Light \rightarrow C_6H_{12}O_6 + 6\ O_2$

Lesson Activity:

1. Read over pages 1-16 of the Chapter 16 Notes. (Linked Here)- Stop at Angiosperms

2. Watch this Crash Course video on the Reproductive Cycle of Nonvascular Plants.

Practice:

1. What is mycorrhizae and what is its role in plants?

2. Most species of plant on the planet belong to which of the four groups? Why?

3. Gymnosperms have three additional adaptations, when compared to ferns, that make survival in diverse habitats possible. What are they?

Practice Answers:

1. Mycorrhizae is the term for the “root fungus” association found in plants. This is a symbiotic relationship between plants and the fungus that grows on their roots. The fungus extends the plants ability to take in water and nutrients.
2. Most plants, over 250,000 species, belong to the angiosperm group. This group of plant produces flowers and has an improved vascular system which makes water transport more efficient.
3. Greater development of the diploid sporophyte, the evolution of pollen, and development of the seed.

More Practice:

1. Name the four major groups of plants. Name an example of each.
2. How does the evergreen nature of pines and other conifers adapt the plants for living where the growing season is very short
3. Bryophytes, like all plants, have a life cycle that involves an alternation of generations. What are the two generations called? Which generation dominates the bryophytes

More Practice:

4. During the Carboniferous period, the dominant plants, which later formed the great coal beds, were mainly

a. mosses and other bryophytes.
b. ferns and other seedless vascular plants.
c. charophytes and other green algae.
d. conifers and other gymnosperms

5. Why are ferns able to grow taller than mosses?

More Practice Answers:

1. Bryophytes (mosses), seedless vascular plants (ferns), gymnosperms (conifers), angiosperms (plants that produce fruits and vegetables)
2. Because the plants do not lose their leaves during autumn and winter, the leaves are already fully developed for photosynthesis when the short growing season begins in spring
3. Gametophyte, sporophyte; gametophyte
4. B
5. Vascular tissue hardened with lignin allows ferns to stand taller and transport nutrients farther

Review Tools:

-Kahoot 1
-Bozeman Science Video Plants