

NAME: _____ DATE: _____ PERIOD: _____

DVD - Cycles of Life: Exploring Biology

1. Plant Diversity – The Move to Land (10:30)

1. Who are the earliest descendents of the land plants?

2. What are the advantages to plants living on land rather than in water?

3. What are the disadvantages of living on land?

4. What adaptations are necessary for plants to survive on land?

5. What is the major component of the **cuticle** in a plant?

6. How did the land plant deal with the problems of growth in size and moving farther from water?

7. What is considered to be most important in the development of land plants?

8. Use the life cycle of a fern to explain the term “alternation of generations.”

9. What changes in the dominant generation are seen over evolutionary time?

10. In plant evolution, the key adaptation to environmental variation is the _____.

11. What are the 5 major types of seed plants?

12. What does the term “gymnosperm” mean? _____

13. What does the term “angiosperm” mean? _____

14. Why are many flowers so brightly colored?

2. Plant Structure – Roots (9:52)

1. What 3 structures compose all flowering plants? Which makes the flower?

2. Name 2 main functions roots perform for the plant?

3. What are root hairs? What function do they serve?

4. What tissues are found in roots? How do they obtain nutrients?

5. What are the **macronutrients** and **micronutrients** that most plants require? Which is the most difficult macronutrient for plants to obtain?

6. Name 3 examples of **legumes**? _____

7. How do legumes “fix” nitrogen? How do other plants obtain this nutrient?

8. What is meant by “**green manuring**?”

3. Stems: Reaching for the Sky (10:06)

1. What do stems do for plants?

2. How are we as humans dependent on stems?

3. Describe 2 kinds of **meristems**, and indicate the role of each.

4. How are the rings seen in wood cross sections formed?

5. How is water transported in a plant?

6. How are the organic products of photosynthesis transported?

7. What is meant by a **source**?

8. What is meant by a **sink**?

4. Leaves: Powering Plants (7:59)

1. What is the role of the leaf and how do humans benefit from its activities?

2. How do gases enter and leave the leaf?

3. What are the **guard cells** and how are they affected by the flow of water in and out?

4. Why does ozone seem to reduce the rate of photosynthesis?

5. How is the structure of a typical leaf well suited to its function?

5. Pollination (10:27)

1. What are the parts of a flower and what role does each play?

2. What do flowers offer plants?

3. Why are **angiosperms** the most dominant plants on earth?

4. What is accomplished by **pollination** and what kind of agents carry out this process?

5. How do flowers attract pollinators?

6. What are the limitations to wind-borne pollen?

7. What happens to the pollen grain upon pollination?

9. Describe the **coevolution** of flowers and pollinators.

10. Why do bees collect pollen?

6. The Legacy of Seeds (10:18)

1. What is a **seed**, and what are its parts?

2. How is a seed formed?

3. What are **cotyledons**?

4. Why is **seed dispersal** important to plants?

5. What are 3 adaptations for seed dispersal?

6. What is meant by seed **dormancy**?

7. What are some of the environmental factors that trigger seed germination?
