

Grade 8				
Ch. 2 Lesson 1				
Life Science				
Page #	Question	Answer(s)	Links/Sources	Student Resources
49	What similarities and differences do you see in the plants pictured here?	*Students should realize that classification depends on recognizable similarities and differences in structure and function. Thus plants might be classified by their structure and by how they reproduce.		
49	How would you compare the seeds?	Sample answer: The cherry seed is a hard round seed about the size of a pea, the sesame seed is a very small seed the is flat, light colored, and soft.		
50	What is a vascular system in a plant?	*It is a network of tissues interconnects the organs of some plants.		
50	What does a vascular system do?	*The job of the vascular system is to transport water, minerals and other organic compounds throughout the plant.		
50	Sample answer: What plants to do see?	Pine trees, oak trees, various shrubs, and flowers.		
50	What characteristics to maple trees and moss share?	Sample answer: Both are green, both are made up of eukaryotic cells, both have tissue, and both reproduce.		
50	How are these plants different from each other?	Sample answer: The maple tree grows 20-30 feet tall, the moss if less than 1 or 2 inches tall; the maple tree has flowers and produces seeds, the moss plant does not.		
50	What makes plants different from other organisms?	Plants have chlorophyll and photosynthesize.		
51	Being a plant, mistletoe is embedded on its host, so how can a parasitic plant spread?	*Animals eat the fruit and seeds are dropped elsewhere.		
51	What do the diagrams show?	*The major ways in which plants are classified.		
51	How are plants classified?	*By whether they are vascular or nonvascular and by whether they produce seeds or don't produce seeds.		
51	What other characteristics of plants do you remember?	Sample answer: Plants have eukaryotic cells, their cells have cell walls, and they have alternation of generation.		
51	Why is it important to classify different plants?	Sample answer: So we can distinguish the plant from other plants, so we can identify it, it helps us remember the plants, it helps in the discovery of new plants, and so we can communicate with others about the plant.		
51	Why do you think these characteristics are used to classify plants?	Sample answer: Because these characteristics are easy to identify, and they greatly affect how the plants grow and reproduce.		

51	What other characteristics would you use to classify plants?	Sample answer: In seed producing plants: the type of flower, leaf, and root . In non-seed producing plants the shape of the plant, the type or reproductive structure present.		
52	How is the movement of water in a vascular plant affected by salt?	Salt causes water to leave the stem and leaves.		
52	How will you be able to tell that water has moved?	The plant will wilt.		
52	How does salt affect celery's vascular system?	Salt water causes water to leave the celery stalk and it wilts. The more salt the greater the water loss.		
53	How does water move through a nonvascular plant?	*The water diffuses through the moss by way of osmosis.		
53	What kinds of plants have the largest vascular systems?	Trees.		
53	Why might some plants need a larger vascular system than others?	Because they need to grow taller and need the larger system in order to transport materials throughout the plant's body.		
53	Do you think xylem or phloem does more work in the plant? Why?	Sample answer: Xylem. Because it is moving things against the force of gravity.		
53	How does the lack of vascular tissue affect these plants?	It causes them to be small.		
53	Where would you expect these plants to grow most commonly? Why?	Sample answer: I would expect them to grow in damp, moist areas. Growing in these areas helps ensure that their cells stay in close contact with water so they don't dry out.		
54	Why don't you think liverworts don't grow taller?	*Without vascular tubes, they don't have a way of transporting material very far to the cells.		
54	What is naked in these plants? Explain.	*Their seeds. They are not enclosed in a fruit.		
54	Where would the egg of the female cone be located?	*The eggs are in the seed, which are between the scales of the cone.		
54	How would living in a damp environment help a nonvascular plant?	It would ensure that their cells stay in close contact with water so they don't dry out.		
54	How do you think these plants benefit from growing in groups?	Sample answer: It helps them retain moisture.		
55	Why is this an important derivation for this term?	*The seeds of angiosperms are contained in a "vessel," the fruit.		
55	When God put plants on Earth on the third day of Creation, did he plant seeds, or were the first plants fully grown by His command?	*Genesis 1:11-12 says seed-bearing plants were created on day 3 of creation. Allow students to discuss with a partner and small group and share their ideas and explanations with the class.		
55	Do you think it would be better for plant to be able to fertilize itself or to be fertilized by another plant? Why?	Sample answer: It would be easier for self-pollination to occur. Because it would be easier for the sperm to get to the egg if it is in close proximity to the egg.		

55	Why gymnosperms and angiosperms do you see growing at your school? At your home? In your town?	Answers will vary.		
55	Besides producing spores, what other similarities do these plants have?	Sample answer: They are green, they generally live in moist areas.		
56	What would happen if one part of the cycle was disrupted by an animal, disease, or major weather event?	*Sample answer: A new plant would not form.		
56	Why are both sporophyte and gametophyte essential to moss reproduction?	*A gametophyte produces the gametes (egg and sperm) that joint to form a zygote. The zygote develops into the sporophyte, which produces the spores that develop into more gametophytes.		
57	Why is this a good name for this plant structure?	*It is a heap, or cluster, of sporangia.		
57	What happens during Step 2 that prevents some spores from developing into gametophyte?	*If the spore lands on a surface that doesn't provide good conditions for germination, the spores won't develop.		
57	Which is more important to the reproduction of the fern: the sporophyte or the gametophyte, or both? Justify your answer.	*Sample answer: Both are just as important. Ferns need both stages to reproduce sexually.		
57	How are plants classified?	*Plants are classified by whether they are vascular or nonvascular. They are also classified by whether they are seed-bearing or non-seed bearing.		
57	What makes a plant vascular or nonvascular?	*Vascular plants have specialized, tube-like tissues called xylem and phloem, which move water and nutrients through the plant. Nonvascular plants use the process of osmosis and diffusion to move water and nutrients.		
57	You are shown a vascular plant. What would you need to know about the plant to correctly classify it as a gymnosperm?	Sample answer: you would need to know, first, it is seed-bearing or non-seed bearing. They you would need to know whether it has cones, flowers, or fruit.		
58	How many spores would you find in a spore from the plant?	630		
58	How many chromosomes are in the gametophyte phase of the plant?	630		
58	How many chromosomes exist in the sporophyte phase?	1260		
58	Why do you think a fern would need so many chromosomes?	Sample answer: Chromosomes control the structures and functions in an organism, which are numerous.		
* Means the answer is found in the TE.				