

## Plants

1. Where did plant life originate (land or water) and why? What type of organisms are the ancestors to plants?
2. List and describe the major adaptations made by aquatic plants that allowed them to colonize land. When did this occur?
3. Describe/diagram the evolutionary trends in plants. Describe the basic characteristics of the extant members of each group including bryophytes, lycophytes (horsetails, ferns), gymnosperms (conifers, ginkos) and angiosperms.
4. Describe or use labeled drawings to show the following structures: Roots, shoots, xylem, phloem, cuticle, stomata, vascular bundles, cotyledons.
5. What is the difference between monocots and dicots? Draw a diagram. Give an example from common vegetables of each. How do you tell monocots from dicots?
6. Draw a diagram of a flower and label the carpel, stigma, style ovary, ovule, stamen, anther, pollen, filament, petal, sepal and receptacle.
7. Describe how each of the four major groups of plants accomplishes reproduction. What is the difference between a sporophyte and a gametophyte? What are the gametes like in each the four major groups? Which ones have flagellated sperm and which ones have pollen? How are some plants able to reproduce asexually?
8. What is a pollinator? Give an example. What is co-evolution in the context of plants and their pollinators?
9. What is fruit? What types of plants make fruit and what is the purpose of fruit?