

Name \_\_\_\_\_

Course/Section \_\_\_\_\_

Date \_\_\_\_\_

Professor/TA \_\_\_\_\_

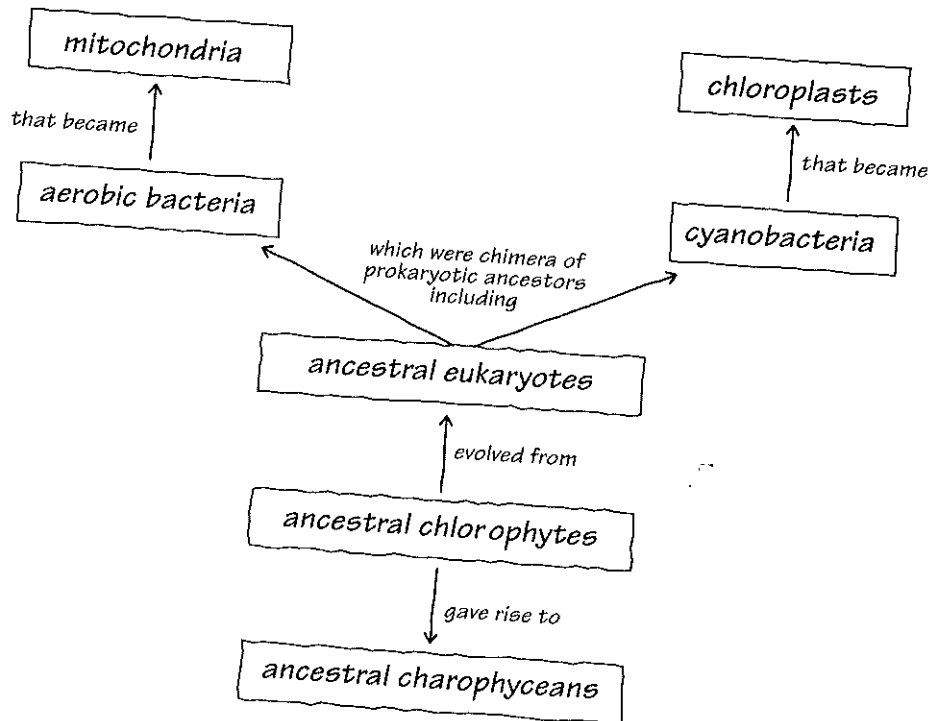


### Activity 29.1/30.1 What major events occurred in the evolution of the plant kingdom?

Construct a concept map that describes the early evolution of plant life on Earth. Be sure to include relationships among all the organisms and factors in the list on the next page. Keep in mind that there are many ways to construct a concept map.

- Begin by writing each term on a separate sticky note or piece of paper.
- Then organize the terms into a map that indicates how the terms are associated or related.
- Draw lines between terms and add action phrases to the lines that indicate how the terms are related.

Here is an example:



If you are doing this activity in small groups in class, explain your map to another group of students when you finish it.

## Terms

bryophytes	alternation of generations	spore
pteridophytes	megaspore	gametophyte
lycophytes	microspore	sporophyte
endosymbiont	nonvascular plants	egg
anaerobic bacteria	seedless	gametangia
cyanobacteria (blue-green algae)	seeds	root
chloroplast	angiosperm	stem
mitochondria	gymnosperm	flagellated sperm
vascular tissue	flowers	archegonium
waxy cuticle	xylem	antheridium
charophyceans	phloem	pollen grain
chlorophytes	microphyll	ovule
	megaphyll	

Use the understanding you gained from constructing the concept map to answer the questions.

1. Describe the major problems ancestral land plants had to overcome before they could make the transition from water to land.
2. Describe the major solutions to the problems in question 1 that can be found in today's land plants. In other words, what mutations occurred that allowed organisms to make the transition to land?