Name _____ Course/Section _____

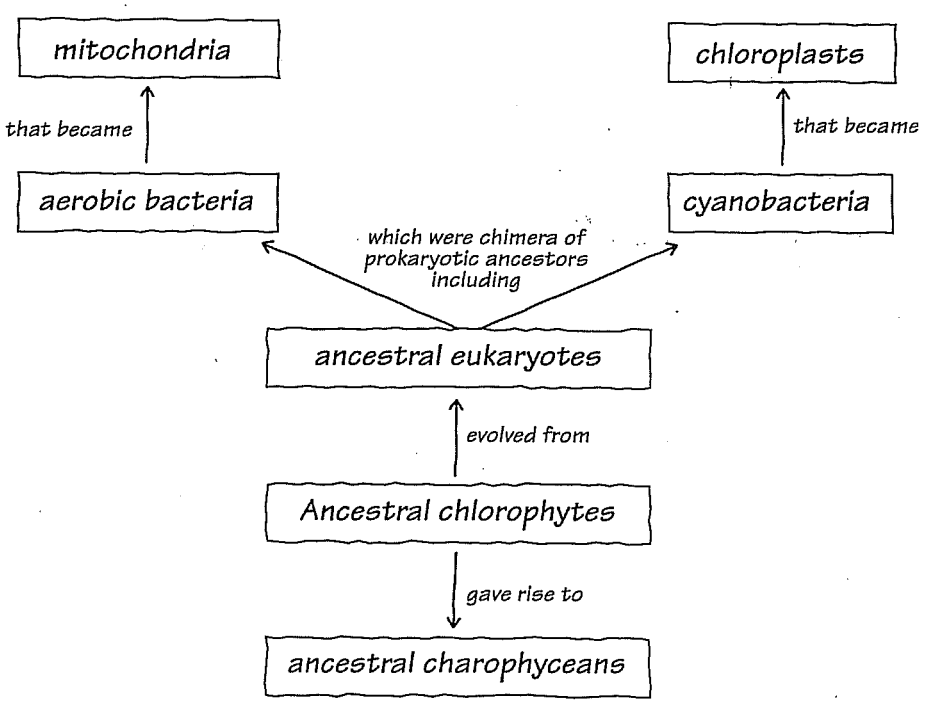
Date _____ Professor/TA _____

Activity 29/30.1 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 Post-it 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
pteridophytes
lycophytes
endosymbiont
anaerobic bacteria
cyanobacteria (blue-green algae)
chloroplast
mitochondria
vascular tissue
waxy cuticle
charophyceans
chlorophytes
alternation of generations
megaspore
microspore
nonvascular plants
seedless
seeds
angiosperm
gymnosperm
flowers
xylem
phloem
microphyll
megaphyll
spore
gametophyte
sporophyte
egg
gametangia
root
stem
flagellated sperm
archegonium
antheridium
pollen grain
ovule

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?