BPSC 031 "Spring Wildflowers"
Lab 1. Botanical gardens, herbarium, and intro to vegetative morphology

1. **UCR Botanical Gardens**

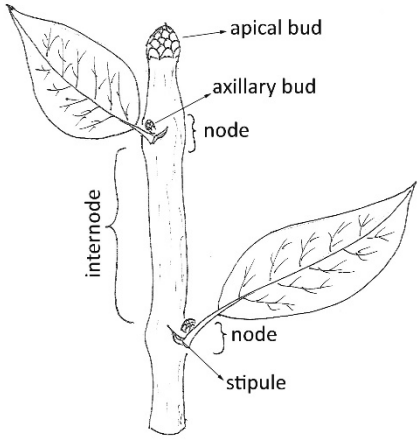
a. Analyze the scientific and educational role of maintaining live plant collections.
b. Observe and explore the adaptations of desert plants to survive aridity and drought.
c. Note and discuss the concept of convergent evolution in American vs. African desert plants: Note the morphological similarity between American cacti and agaves compared to African spurges and aloes.

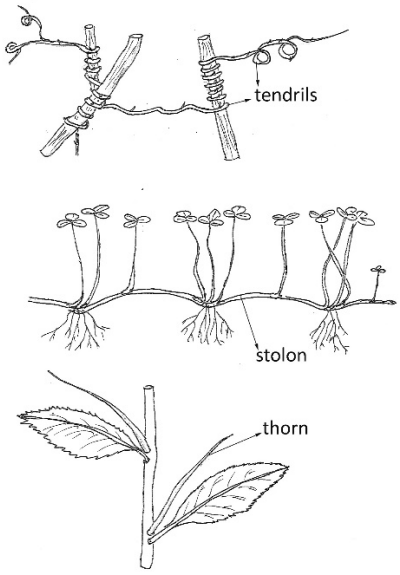
2. **UCR Herbarium**

a. Analyze the scientific importance of dry plant collections.
b. Discuss how plants are preserved in herbarium cabinets.
c. Visit the web site of the Consortium of California Herbaria at the Berkeley server: http://ucjeps.berkeley.edu/consortium/

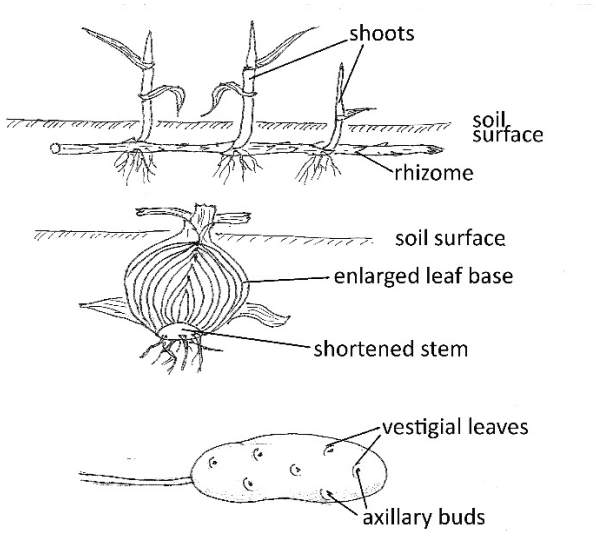
3. **Introduction to vegetative morphology**

a. In the lab, observe the basic parts of the typical plant metamere: node, internode, leaves, and axillary bud.
b. Observe the basic metamere in highly transformed stems, such as rosettes, bulbs, tubers or rhizomes.
c. Draw and interpret the metamere in any of the plants available in the lab.
d. Compare the metamere with the roots of a plant: Does the root system have scales/leaves, does it have noticeable axillary buds?

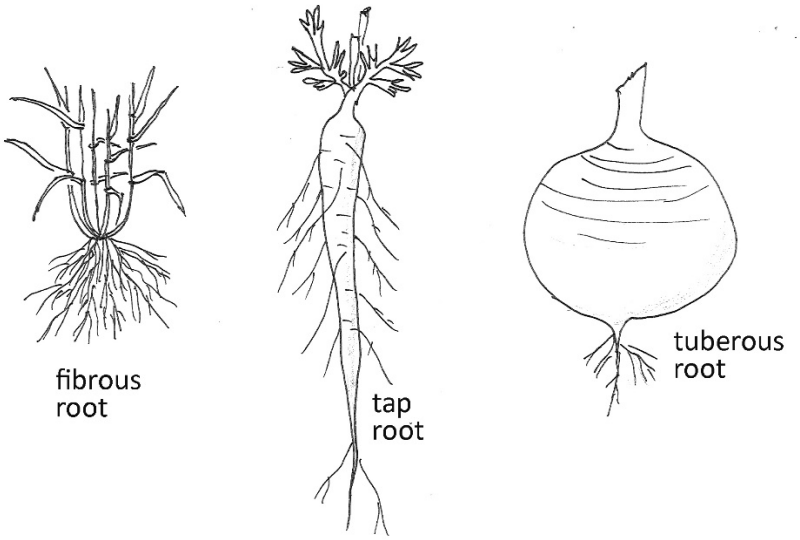




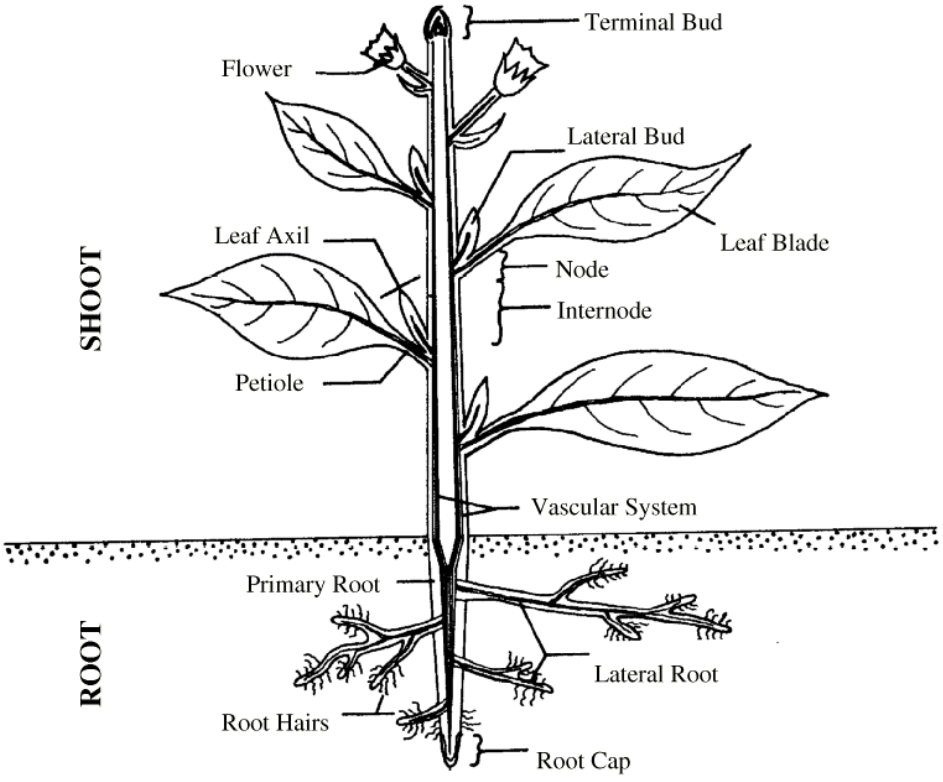
Modified stems (aerial)



Modified stems (subterranean)



Root types



Principal parts of a flowering plant