

Plant Form and Function (Chapters 35~39)

1. List the similarities and differences between monocot and dicot plants
2. Draw and label a typical flowering plant (see figure 35.2)
3. Diagram the 3 tissue systems in plants (see figure 35.8)
4. List and describe
 - a. Root modifications
 - b. Leaf modifications
5. Draw and distinguish among
 - a. Parenchyma cells
 - b. Collenchyma cells
 - c. Sclerenchyma cells
 - d. Water-conducting cells (tracheids and vessel elements)
 - e. Food-conducting cells (phloem; sieve-tube members and companion cells)
6. Diagram and distinguish among
 - a. Dermal tissue
 - b. Vascular tissue
 - c. Ground tissue
7. Distinguish between apical and lateral meristems and primary and secondary growth
8. Diagram 1y and 2y growth (see figure 35.10)
9. Diagram a winter twig (figure 35.11)
10. Describe
 - a. Absorption of water and minerals by roots
 - b. Transport of xylem sap
 - c. Control of stomata opening and closing
 - d. Translocation of Phloem sap
11. Diagram an overview of transport in a vascular plant (see figure 36.2)
12. List xerophyte adaptations that reduce transpiration.
13. Diagram nutrient uptake by plants (see figure 37.2)
14. List
 - a. Plant macronutrients
 - b. Plant micronutrients
 - c. Symptoms of mineral deficiency
15. Describe
 - a. Soil composition and texture
 - b. Role of soil bacteria in nitrogen nutrition of plants
 - c. Symbiotic nitrogen fixation
16. Define
 - a. Plant parasitism
 - b. Plant predation
17. Compare and contrast the structure of a monocot seed (corn) and a dicot seed (bean) (see figure 38.8)
18. Compare and contrast the germination of a monocot seed (corn) and a dicot seed (bean or pea) (see figure 38.10)
19. Describe methods of vegetative propagation
20. Define
 - a. Phototropism
 - b. Apical dominance
 - c. Gravitropism
 - d. Thigmotropism
 - e. Phytochromes
21. Define photoperiodism and distinguish among
 - a. Short-day plant
 - b. Long-day plant
 - c. Day-neutral plant
 - d. Critical night length
22. List and briefly describe the functions of the following plant hormones (see p. 756)
 - a. Auxins
 - b. Cytokinins
 - c. Gibberellins
 - d. Abscisic acid
 - e. Ethylene
 - f. Oligosaccharins
 - g. Brassinosteroids
23. Briefly describe responses to
 - a. water deficit
 - b. oxygen deprivation
 - c. salt stress
 - d. heat stress
 - e. cold stress
 - f. herbivory
 - g. pathogens

