# BIOL 112 – OUTLINE #6 – PLANT NUTRITION AND SOILS

1. Resource requirements
2. solar energy
3. atmospheric resources
4. carbon dioxide
5. oxygen
6. soil-based resources
7. water
8. mineral elements
9. Resource distribution within the plant
10. water
11. herbaceous tissue
12. woody tissue
13. mostly transpiring or in cell solution, vacuoles
14. carbon
15. oxygen
16. hydrogen
17. mineral elements
18. Essential elements
19. structural components and the elements used to construct them
20. metabolic components and the elements used to construct them
21. Essential mineral elements
22. macronutrients
23. micronutrients
24. “C HOPKNS CaFe, Mg, Mn B CuZn Mo, Cl” – C. Hopkin's cafe, mighty good, managed by cousin Mo, waitress Clara (thanks, Dr. Davey ☺ )
25. required elements vs. acquired elements
26. deficiencies
27. Soil – a dynamic natural body in which plants grow, composed of mineral and organic materials, air, water, and living organisms
28. Soil forming factors (see handout for details)
29. parent material
30. climate
31. living organisms
32. topography
33. time
34. Other factors affecting nutrient uptake
35. rhizosphere – zone of interaction between roots and soil
36. roots and mycorrhizae explore huge volumes of soil, but in very narrow zones
37. plants affect soil and nutrient uptake through compounds secreted by the roots
38. relative proportions of nutrient elements affects the uptake of all nutrients
39. different species have different nutrient requirements
40. Alternate methods of nutrition
41. parasites
42. saprophytes
43. carnivores