Soil Chemistry

Name: Hour Date:

Date Assignment is due: Why late?   
 Day of Week Date If your project was late, describe why

1. What is an element?
2. What is an atom?
3. What are the three components of atomic structure? List and define:
4. What is a molecule?
5. How does a compound differ from a molecule?
6. What is a mineral?
7. What must be true in order for something to be organic?
8. What is an ion?
9. What is the difference between an anion and a cation?
10. How do chemical reactions differ from physical reactions?
11. What is the difference between oxidation and reduction?
12. What are the three rules of energy?  
      
    1   
      
    2   
      
    3
13. What are the two primary forces responsible for the creation of soil from solid rock?  
      
    1   
      
    2
14. What is the difference between physical, chemical, and biological weather? Provide a definition and example of each:  
    1   
      
    2   
      
    3
15. What are the two sources of soil?  
      
    1   
      
    2
16. Describe each of the following soil horizons:
    * 1. O layer
      2. A layer
      3. B Layer
      4. C Layer
      5. D/R Layer
17. What is pH?
18. What is the most important role played by soil reactivity?
19. What determines soil pH?
20. How does soil pH affect plants if the actual concentration of H+ does not directly affect them?
21. How does pH affect nutrient availability?
22. How can pH increase the toxicity of heavy metals?
23. What is a micelle? What is Cation Exchange Capacity?
24. If the soil pH becomes too acidic, heavy metals and salts have a greater negative impact on plant growth? Why would this occur with a drop in pH? Be sure to use the term “micelle” in your answer
25. How could a low soil pH reduce the rate of decomposition?
26. How could soil pH be raised if it was too low?
27. How could soil pH be lowered if it was too high?