1. Be able to describe what science and a scientific concept are.
2. Be able to describe the scientific method and its steps as well as write a good hypothesis.
3. Be able to define what is and isn’t biology.
4. Know the levels of organization of life that define the scope of biology.
5. Be able to describe the interconnecting web between living things and the environment and describe the chemicals and molecules recycled in an ecosystem.
6. Be able to describe 3 common features shared by all life forms.
7. Name the four most abundant elements in the human body.
8. What is a trace element?
9. What is an atom made of? What charge does each part have?
10. What determines the atomic number of an atom?
11. What is an isotope? A radioisotope?
12. What is the valence electron shell of an atom? Why is it important?
13. What is the difference between an ionic and a covalent bond?
14. What is the difference between polar and nonpolar molecules?
15. What is hydrogen bonding and why is it important?
16. What is pH and what does it mean?
17. What is the general form of a chemical reaction and what are the reactants vs products?
18. What is an organic compound?
19. What is the difference between single, double and triple bonds?
20. What is an isomer?
21. What is a functional group?
22. How are monomers and polymers related? Be able to describe and recognize a dehydration and hydrolysis reaction.
23. Know what a monosaccharide, disaccharide and polysaccharide are, be able to describe how they are related and know examples of each.
24. Know what a fatty acid, triacylglyceride, phospholipid and cholesterol are, be able to recognize their structure and describe their functions.
25. Know what saturated, unsaturated, hydrogenated and trans fats are.
26. Know what amino acids and proteins are and be able to describe how they are related.
27. Know the four levels of protein structure, how to tell if they are hydrophobic or hydrophilic and what their functions are.
28. Know what nucleotides are, what the five nitrogenous bases in each RNA and DNA are.
29. Be able to describe the double helix and how hydrogen bonding plays a part.