BIO 100

Exam 1 – Chapter 1-4

1. The process of inductive reasoning involves?
   1. The use of general principles to predict a specific result
   2. The generation of specific predictions based on a belief system
   3. The use of specific observations to develop general principles
   4. The use of general principles to support a hypothesis
2. *(Fill in the blank)* Life is constrained by the properties of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. List 3 of the 7 characteristics of all living organisms. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. *(Fill in the blank)* A \_\_\_\_\_\_\_\_\_\_\_ is the basic unit of life.
5. Which hierarchical organization level contains tissues, organs, and organ systems?
   1. Cellular level
   2. Organismal level
   3. Populational level
   4. Ecosystem level
   5. Biosphere
6. Which of the following is an example of deductive reasoning?
   1. All humans are mortal. You are a human; therefore, you are mortal.
   2. Jennifer always leaves for school at 7:00 a.m. Jennifer is always on time. Jennifer assumes, then, that she if she leaves at 7:00 a.m. for school today, she will be on time.
   3. Every cat that you've observed purrs. Therefore, all cats must purr.
   4. Every time you eat peanuts, you start to cough. You are allergic to peanuts
   5. Every chicken we've seen has been brown. All chickens in this area must be brown.
7. Please list the 5 steps of the scientific method in order. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. Briefly describe the difference between scientific theory and the general meaning of theory. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. The molecule DNA is important to biological systems because
   1. It can be replicated.
   2. It encodes the information for making a new individual.
   3. It forms a complex, double-helical structure.
   4. Nucleotides form genes.
   5. It comes from your parents
10. Using the numbers, please match the following domains with their definition.
    1. Bacteria \_\_\_\_\_\_
    2. Archaea \_\_\_\_\_\_
    3. Eukarya \_\_\_\_\_\_
11. Single celled prokaryote that can survive extreme environments
12. Single celled prokaryotes
13. Singled or multicellular eukaryotes
14. What is another word for basic?
    1. Salty
    2. Bitter
    3. Alkaline
    4. Eukaryote
    5. Tik Tok
15. (Fill in the blank) All matter is composed of \_\_\_\_\_\_\_\_\_\_\_\_\_.
16. Briefly explain what and where can I find protons, neutrons, and electrons. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
17. What determines the atomic number of an element?
    1. Neutrons
    2. Protons
    3. Electrons
    4. Charge
    5. Bonds
18. What makes up the atomic mass of an atom?
    1. Protons
    2. Neutrons
    3. Electrons
    4. Charged particles
    5. Single, double, and triple bonds
19. Compare and contracts cations and anions. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
20. The number of what atomic particle varies between different isotopes of the same element?
    1. Neutron
    2. Daltons
    3. Element
    4. Proton
    5. Nucleus
21. In the isotope Carbon -14, what does the number 14 represent?
    1. The total charge
    2. The number of electrons
    3. Mass of the atom
    4. Atomic Number
    5. Element
22. What is half – life?
    1. The amount of time it takes for some of the nuclei in a sample of the isotope to decay
    2. The amount of time it takes for half of the atoms in a sample to decay
    3. The amount of time it takes to double the atoms in a sample
    4. The amount of time it takes to create an atom
    5. The amount of time it takes for a reaction to occur
23. In a redox reaction, what does the term oxidation refer to?
    1. Gain of an electron
    2. Loss of an electron
    3. Gain of a proton
    4. Loss of a proton
    5. Gain of a neutron
24. Which elements mostly make up the human body?
    1. Carbon
    2. Oxygen
    3. Hydrogen
    4. Sodium
    5. Nitrogen
25. What allows water molecules to be attracted to other water molecules?
    1. Cohesion
    2. Bohr Model
    3. Valence electrons
    4. Adhesion
    5. Cations
26. Name at least 3 properties of what that we discussed in lecture. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
27. Please label the following pHs acidic, basic, or neutral.
    1. pH of 3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    2. pH of 12 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    3. pH of 7 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    4. pH of 6 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    5. pH of 9\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
28. Given that human blood is between a pH of 7.35 – 7.45, what would you consider human blood?
    1. Acidic
    2. Basic
    3. Neutral
    4. Slightly basic
    5. Slightly Acidic
29. Briefly describe what the function of a buffer is. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
30. Biological molecules consist primarily of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
    1. Carbon
    2. Nitrogen
    3. Hydrogen
    4. Oxygen
    5. Water
31. How many covalent bonds can carbon form?
    1. 1
    2. 2
    3. 3
    4. 4
    5. 5
32. What chemical reaction occurs when turning a monomer into a polymer?
    1. Dehydration synthesis
    2. Hydration synthesis
    3. Hydrolysis
    4. Dehydrolysis
    5. Redox Reaction
33. What am I talking about when I say “monosaccharide”?
    1. Many Sugars
    2. Single Sugar
    3. Many Proteins
    4. Single Protein
    5. Lipids
34. What do animals use for energy storage?
    1. Starch
    2. Chitin
    3. Cellulose
    4. Glycogen
    5. Glucose
35. What do plants use for energy storage?
    1. Starch
    2. Chitin
    3. Cellulose
    4. Glycogen
    5. Glucose
36. Please circle all the nitrogenous bases that are considered purines and box the ones that are considered pyrimidines. Place a “D” (DNA) or “R” (RNA) next to the bases that can be found in either DNA or RNA. Please right “B” if they can be found in both.
    1. Thymine \_\_\_\_\_\_\_
    2. Guanine \_\_\_\_\_\_\_
    3. Adenine \_\_\_\_\_\_
    4. Cytosine \_\_\_\_\_\_\_
    5. Uracil \_\_\_\_\_\_\_
37. Primary energy currency of the cell
    1. Adenosine Triphosphate (ATP)
    2. Adenosine Diphosphate (ADP)
    3. NAD
    4. FAD
    5. Glucose
38. What are the functional regions of a polypeptide?
    1. Motifs
    2. Domains
    3. Polypeptide
    4. Polysaccharide
    5. Chaperone Proteins
39. (Short Answer) What makes up a triglyceride? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
40. (Short Answer) Compare and contrast unsaturated fats vs saturated fats. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
41. (Short Answer) What makes up a phospholipid? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
42. Please name the four types of structures proteins go through when undergoing protein synthesis. (You will not get marked off for spelling)
    1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
43. (Short Answer) What can happen to the proteins inside of your body if you run a really high fever for a long period of time? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
44. Cells were discovered in 1665 by \_\_\_\_\_\_\_\_\_\_.
    1. Mathias Schleiden
    2. Theodor Schwann
    3. Robert Hooke
    4. Albert Einstein
    5. Rosa Parks
45. Who proposed the cell theory?
    1. Schleiden
    2. Schwann
    3. Hooke
    4. Einstein
    5. Parks
46. What does the cell theory suggest?
    1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
47. Bacteria can be classified as Gram positive and Gram negative. Briefly compare the two by color and what they generally mean to us. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
48. Where is genetic information stored?
    1. Cell membrane
    2. Cell wall
    3. Nucleus
    4. Mitochondria
    5. Chloroplast
49. What is the function of ribosomes?
    1. Carbohydrate synthesis
    2. Protein synthesis
    3. Lipid synthesis
    4. Waste removal of the cell
    5. Transporting material throughout the cell
50. Compare the visual differences between rough endoplasmic reticulum (RER) and smooth endoplasmic reticulum (SER). \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
51. Where is calcium stored in the cell?
    1. Nucleus
    2. RER
    3. SER
    4. Golgi Apparatus
    5. Lysosomes
52. Which organelle is responsible for waste removal?
    1. Ribosomes
    2. Lysosomes
    3. Peroxisomes
    4. Chromosomes
    5. Glyoxysomes
53. What are grana made of?
    1. Chloroplasts
    2. Thylakoids
    3. Mitochondria
    4. Lysosomes
    5. ATP
54. Define the term Endosymbiosis and give an example of an organelle that shows this type of relationship. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
55. What are the three substances that make up the cytoskeleton?
    1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
56. \_\_\_\_\_\_\_\_\_\_\_ allows the cell to propel itself.
    1. Lysosomes
    2. Actin filaments
    3. Myosin
    4. Cilia
    5. Peroxisomes
57. Briefly compare an animal cell to a plant cell. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
58. Please observe the following isomers. Please label whether it is a ***structural isomer, stereoisomer, or a chiral molecule.***



