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Date: _____

Unit III
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Video: Energy and the Chemistry of Life – part I

1. Everything in the world around us is made out of _____.
2. Everything that happens in our world is powered by _____.
3. Matter is anything that occupies _____ and has _____.
4. Energy is the _____ within nature.
5. Energy flows from the _____.
6. Energy is used by plants to create the _____ we eat.
7. Energy is defined as the capacity to do _____, to make something happen.
8. Stored energy is called _____ energy.
9. Potential energy changes into motion also called _____ energy.
10. The potential energy stored in wood is called _____ energy.
11. To understand the chemistry of life we must look at how matter is _____.
12. An atom is so small that more than a _____ atoms edge to edge would equal the thickness of a piece of paper.
13. At the center of the atom is a structure called the _____.
14. The proton is located in the nucleus and has a _____ charge.
15. The electrically neutral particle in the nucleus is called the _____.
16. Negatively charged particles _____ the nucleus are called electrons.
17. Electrons are held in their orbits around the nucleus by the _____ attraction to the protons in the nucleus.
18. Each type of atom represents a different type of pure substance known as an _____.
19. In all there are _____ different, naturally occurring elements.
20. Each element is represented by a chemical _____, usually the first one or two letters of its name such as oxygen (O), carbon (C) and Helium (He).

21. Two or more atoms connected together are called a _____.
22. Two of the same elements are called _____ molecules.
23. A chemical reaction is the interaction of atoms to create new _____.
24. A chemical bond is the powerful force of _____ that keeps atoms together in a molecule.
25. The chemical _____ shows how many of each atom are included in a particular molecule.
26. A compound is two or more elements _____ bonded together.
27. Life is a vast series of interconnected chemical _____. Life itself is a chemical process.
28. Most scientists believe that _____ as a result of reactions that took place between simple chemicals that existed on Earth.
29. About _____% of all living matter consists of hydrogen, oxygen, carbon and nitrogen.
30. Carbon is special because it can bond with up to _____ other atoms.
31. Carbon can easily bond with _____.
32. Carbon can form _____ or _____.
33. Carbon provides the _____ for most of the compounds essential to life.
34. Carbon containing compounds are called _____ compounds, which on Earth are almost exclusively associated with life.
35. All plants are natural _____ factories.
36. Sugars belong to a class of compounds known as _____, which are made up of Carbon Hydrogen and Oxygen in a ratio of 1:2:1.
37. Glucose is made up of six atoms of carbon, twelve atoms of hydrogen and six atoms of oxygen that are arranged in a _____ structure.
38. The formation of larger molecules from simpler units is called _____.
39. This process results in compounds called _____.
40. Cellulose is found in the cell _____ of plants allowing them to stand upright.
41. Starch, used to store energy, is composed of long chains of _____ molecules bonded together.
42. Lipids, also known as _____ and _____, are composed of only carbon, hydrogen, and oxygen.

43. Fat stores _____ the energy as carbohydrates.
44. Proteins are made up of chains of simple molecules called _____.
45. There are about _____ different kinds of amino acids.
46. The way a protein functions in a cell is determined by the kinds of _____ it contains and the particular order that they appear in the protein chain.
47. Most proteins are extremely large and may contain in excess of _____ units.
48. In blood, _____ carries oxygen throughout the body and other proteins serve as structural or mechanical functions like muscle.
49. Enzymes are proteins that affect the _____ chemical reactions.
50. Nucleic acids are very _____ compounds that are needed to store information in cells.
51. Like proteins, nucleic acids are made up of long chains of molecular subunits called _____.
52. Nucleic acids are formed from _____ different kinds of nucleotides.
53. The _____ of all living things contain huge molecules of deoxyribonucleic acid, or DNA, which hold the master set of instructions that control both the day-to-day operation and the reproduction of cells.
54. Several types of ribonucleic acids (_____) act as intermediaries in the flow of information within the cell.
55. Living matter is built up of masses of different chemicals and life is an intricate _____ of interconnected chemical reactions.
56. All of the chemical reactions occurring within living things, considered together, are called _____.

Quiz

1. Two or more atoms combine together to form a _____.
2. Silver, copper, carbon and hydrogen are examples of different kinds of _____.
3. A mousetrap, which has been set, may be said to possess _____ energy.
4. The energy of motion is also known as _____.
5. True or False: All atoms possess protons and electrons but at least one type lacks neutrons.