



## Across

1. A pH value of 2 would indicate a -?-
6. The substances consumed by chemical reaction are called the -?-
8. During all chemical reactions a change in the chemical -?- occurs.
9. What type of scientist is often called upon to testify as an expert witness.
11. The attraction of similar molecules to each other is called -?-
13. Electrons are the sub-atomic particles with the least -?-
16. Lipids are made by connecting 3 fatty acid molecules to a -?- molecule.
18. How many carbons in 1 glucose molecule?
19. The second level of protein structure has to do with the way the chain is -?-
21. DNA is an example of a -?- acid.
23. The behavior of an atom depends on the number of -?- it has.
25. What animal uses van der Waals forces to climb a wall.
26. Proteins can vary in length and -?- of amino acids.
27. The mass numbers on the chart are often not whole numbers because they represent the average of the different -?-
30. -?- make their own COM
32. -?- fats are completely filled with hydrogen atoms.
33. Saturated fats come from -?-
34. By ANALYZING DATA we learn that acids have the greatest ability to stop the action of what enzyme?
37. There are thousands of different Atoms. (TRUTH or FALSE)
38. Which sub-atomic particle has a negative charge?
40. A pH value of 7.4 would indicate a -?-
44. What do we call the process of putting together monomers?
47. Hydrogen bonds are responsible for the cohesion of water molecules that create -?- tension.
49. For thousands of years the most common belief was that matter was made of earth, fire, wind, water, (life), just like -?-.
51. Elements are distinguished by the number of -?- they have.
52. Bases are chemicals that release -?- ions into a solution.
53. It is water's -?- nature that makes it such a good solvent.
54. The monomers used to make a DNA molecule are called -?-
55. The -?- are the reactants of an enzyme caused reaction.
59. -?- cells are often the easiest to kill using radiation.
64. The attraction of different types of molecules to each other is called -?-
66. Acids are chemicals that release -?- ions into a solution.
67. The first job of a scientist is to understand the -?- of life of a GREAT EGRET.
68. What do we call two or more elements bonded together into a molecule?
71. Organic compounds always have two -?- atoms bonded together.
72. The number of -?- on the product side and the reactant side of a chemical equation may be different.
73. -?- function by reducing the activation energy of a reaction.
74. The most common element in the human body is Water. (NOT OR YES)
75. There are thousands of different Molecules. (TRUTH or FALSE)
76. Lipids are best used to -?- in living things.
77. Electrons are the only sub-atomic particles not in the -?-
78. What do we call a charged atom?
79. What are the forces called that attract molecules to each other?

## Down

2. How many calories are in 1 gram of fat?
3. The energy required to start a chemical reaction is called the -?- energy.
4. What is it called when substances spread out moving from areas of high concentration to areas of low concentration?
5. The number of -?- on the product side and the reactant side of a chemical equation must be the same.
6. Some isotopes are unstable and -?-, so they can harm living cells.
7. What element has 118 neutrons?
10. What is the Latin word for sugar?
12. What do we call molecules that can be chained together?
14. What do we call a mixture that completely dissolves?
15. An element in the Amino group of an amino acid?
17. How many calories are in 3 grams of protein?
19. If you had a glass with 1650 million molecules of water, how many would be broken into hydrogen and hydroxide ions? pg 42
20. When an acid mixes with a base a -?- reaction occurs.
22. Water is unusual because it is a -?- at room temperature.
24. A pH value of 7 would indicate -?-
26. Reactions that release energy may occur -?-
28. Today experiments continue using tools like the Large Hadron Collider, in order to learn what a -?- is really made of.
29. Each nucleotide has three parts, a sugar, a phosphate group and a -?-
31. Water is the greatest -?- on Earth.
35. What type of mixture would cloudy substances like blood, and milk be?
36. Who first believed that matter was made of Atoms?
39. Water and carbon dioxide react together to form -?-
41. What type of bond would usually form between two non-metals.?
42. A chemical in paper formed by chaining hundreds of glucose together.
43. -?- have the function telling the cell what traits it will have.
45. The -?- is what we call the area of an enzyme where the substrates bind to it.
46. What density dependent factor apparently was limiting human population growth between 1000-1500 A.D. figure 5-10
48. How many calories are in 1 gram of sugar?
50. Enzymes are a type of -?- that cause chemical reactions.
56. There are more than -?- different amino acids used to make a proteins.
57. Isotopes have the same name but a different number of -?-
58. Proteins are made of monomers called -?-
60. Animals must -?- COM
61. What do we call two or more chemicals together, but not bonded?
62. Everything that happens in an -?- is based on chemical reactions.
63. Buffers are chemicals that help control the -?- of a solution.
65. -?- is necessary in order to maintain proper conditions for enzyme function.
69. Living things get energy to force reactions by breaking down -?-
70. Which sub-atomic particle has no charge?
74. To lose weight you must eat fewer calories than your body -?-
75. What is the pH of soap?