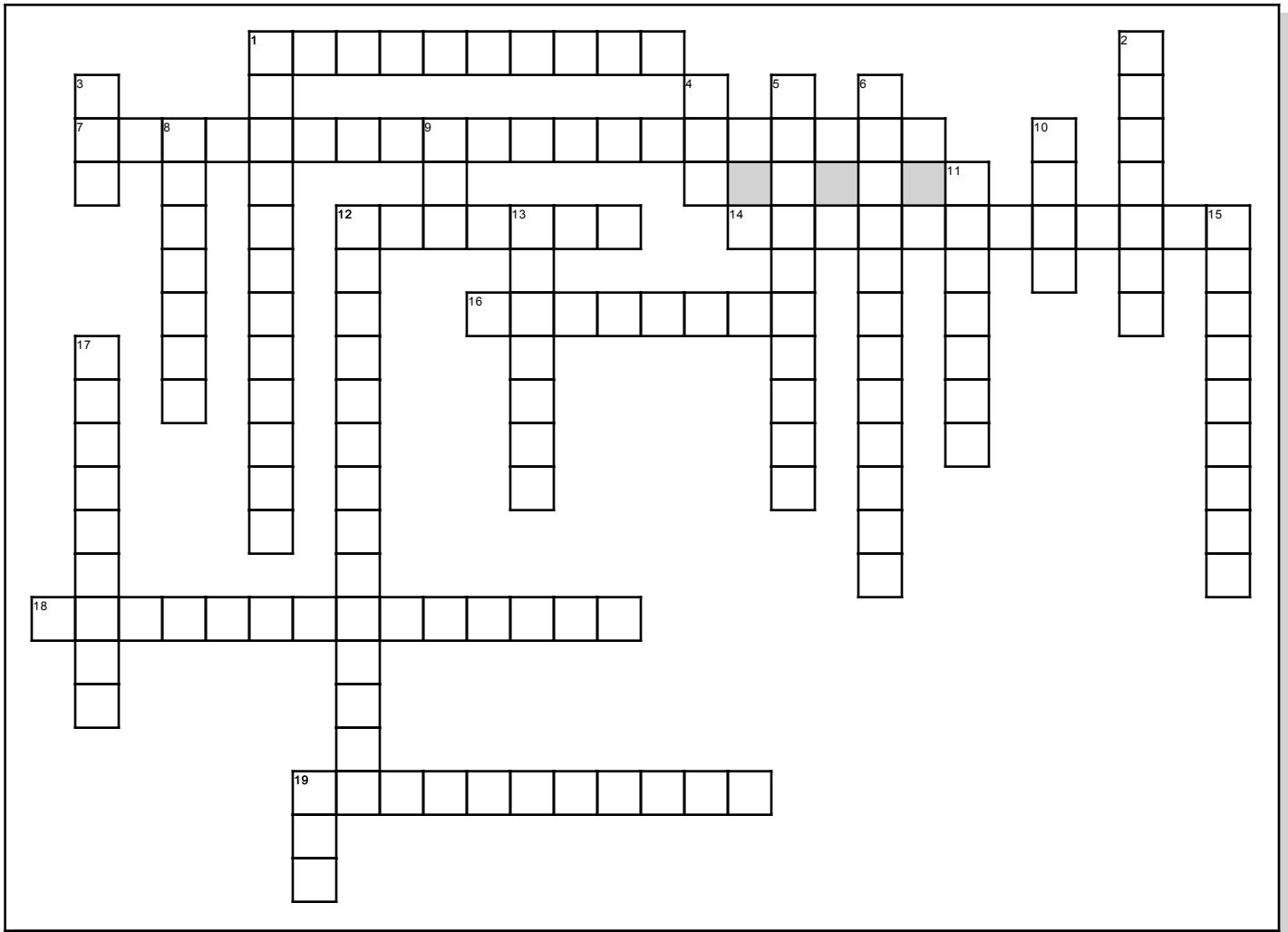


Name: _____ Class: _____ Date: _____

Biology 12 Vocabulary

Biomolecules #1

Instructions: Complete the crossword puzzle. Use the clues to help identify the words.



Across

1. A chemical reaction where larger molecules are broken by smaller molecules with the addition of water, a reaction that is normally induced by the work of enzymes such as hydrolase. A chemical reaction in which water reacts with a compound to produce other compounds; involves the splitting of a bond and the addition of the hydrogen cation and the hydroxide anion from the water.
7. The joining of two molecules associated with the removal of a water molecule.
12. A simple molecule that can form polymers by combining with identical or similar molecules.
14. A bond between two atoms formed by the sharing of a pair of electrons.
16. A three-carbon substance that forms the backbone of fatty acids in fats.
18. Olive oil, canola oil, and peanut oil are largely _____ fats; some studies consider these the healthiest oils of all.
19. A type of sugar that is one component of DNA (deoxyribonucleic acid).

Down

1. The _____ is much weaker than both the ionic bond and the covalent bond. Within macromolecules such as proteins and nucleic acids, it can exist between two parts of the same molecule, and figures as an important constraint on such molecules' overall shape.
2. A simple sugar that is the main source of energy for the body.
3. A chemical compound, transformed into ATP as food energy is incorporated into the cell by the addition of a phosphate group (and which is also reformed as cellular energy is released by the breakdown of ATP); an intermediate in the cellular energy production pathway.
4. The energy molecule of cells, synthesized mainly in mitochondria and chloroplasts; energy from the breakdown of _____ drives many important reactions in the cell.
5. The substance inside red blood cells that carries oxygen or carbon dioxide molecules, and acts as buffer by accepting excess Hydrogen ions.
6. A sugar such as sucrose, which is made up of two monosaccharides: one glucose molecule and one fructose molecule. Two common disaccharides are sucrose and lactose. Any of a variety of carbohydrates that yield two monosaccharide molecules on complete hydrolysis. Complex sugars created by the fusion of two monosaccharides (simpler sugars).
8. A chemical messenger involved in the regulation and coordination of cellular and bodily functions, e.g., peptide (protein-based) insulin and steroid (lipid-based) estrogen. (From the Greek *horman* - "to set in motion").
9. A particle that is electrically charged (positive or negative); an atom or molecule or group that has lost or gained one or more electrons.
10. One of the three main classes of foods and a source of energy in the body. _____ help the body use some vitamins and keep the skin healthy. They also serve as energy stores for the body. In food, there are two types of _____: saturated and unsaturated.
11. Greek for "*liver*." It plays a major role in metabolism and has a number of functions in the body including detoxification, glycogen storage and plasma protein synthesis. It also produces bile, which is important for digestion.
12. A simple sugar that cannot be hydrolysed to smaller units. Empirical formula is $(CH_2O)_n$ and range in size from trioses ($n=3$) to heptoses ($n=7$).
13. A white crystalline sugar formed during the digestion of starches. A complex sugar (disaccharide) consisting of 2 glucose molecules.
15. A compound consisting of two amino acid units joined together, linking the amino ($-NH_2$) group of one with the carboxylic acid group ($-COOH$) of the other.
17. A chemical bond in which one atom loses an electron to form a positive ion and the other atom gains to electron to form a negative ion.
19. Deoxyribonucleic acid, a chemical found primarily in the nucleus of cells. _____ carries the instructions for making all the structures and materials the body needs to function.