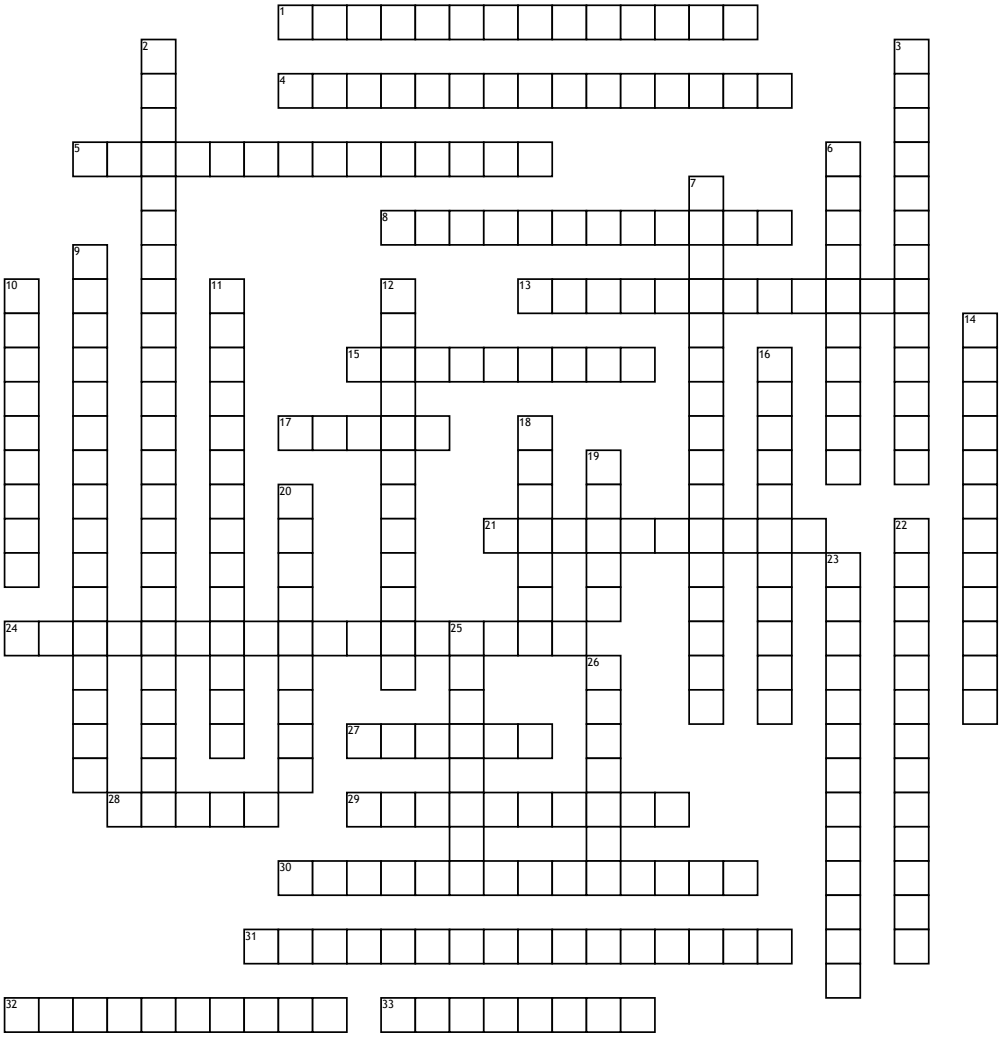
AICE Biology Unit 1 (Chapter 2 and 3)



Across

1. A process of reacting monomers molecules together in a chemic reaction to form polymer chains of three-dimensional networks.

4. A molecule consisting of a single sugar unit with the general formula (CH2O)N.

5. An organic acid containing a carboxyl group.

8. A relatively weak bond formed by the attraction between a group with a small positive charge on a hydrogen atom and another group carrying a small negative charge.

13. A chemical bond that involves the sharing of electron pairs between atoms.

15. Something unrelated to organic matter or organic life, or a chemical compound that does not contain carbon.

17. A class of organic compounds that contain an ether group - an oxygen atom connected to two aryl groups.

21. A type of chemical bonding that involves the electrostatic attraction between oppositely charged ions, or between two atoms with sharply different electronegativities.

24. A formula which shows the arrangement of atoms in the molecule of a compound.

27. An organic compound containing a carbonyl group (=C=O) bonded by two hydrocarbon groups made by oxidizing secondary alcohols.

28. An organic compound made by replacing the hydrogen of an acid by an alkyl or other organic group.

29. The bond between an alcohol group and w carboxylic acid group, formed by the elimination of a water molecule.

30. a type of covalent bond that joins a carbohydrate (sugar) molecule to another group, which may or may not be another carbohydrate.

31. The field of Biology that studies composition, structure, and interactions of cellular molecules that carry out the biological processes essential for the cell's functions and maintenance.

32. The chemical processes that occur within a living organism to maintain life.

33. Giant molecules made from many similar repeating subunits joined together in a chain of monomers.

Down

2. Describes the relations between water and hydrophobes (low water-soluable molecules).

3. Any large group of organic compounds occurring in foods and living tissues and including sugars, starch, and cellulose.

6. A reaction in which a complex molecules is broken down to simpler ones, involving the addition of water.

7. A formula giving the number of atoms of each of the elements present in one molecule of a specific compound.

9. A group of atoms responsible for the characteristic reactions of a particular compound.

10. A half-reaction in which a chemical species decreases it's oxidation number, usually by gaining electrons.

11. Large molecules such as proteins, polysaccharides, and nucleic acid.

12. A chemical reaction involving the joining together of two molecules by removal of a water molecule.

14. The branch of science concerned with the chemical and physiolochemical processes and substances that occur within living organisms

16. A C-N link between two amino acid molecules, formed by a condensation reaction.

18. Any organic compound whose molecule contains one or more hydroxyl groups attached to a carbon atom.

19. An organic compound derived from ammonia by replacement of one or more hydrogen atoms by organic groups.

20. An energy-producing reaction in living cells; coupled with a reduction reaction.

22. Sulfur-Sulfur bonds former with a protein when the thiol (-SH) groups of two cysteine residues are each oxidized, resulting in the net loss of two electrons to an oxidizing agent.

23. A sugar molecule consisting of two monosaccharides joined together by a glycosidic bond.

25. A relatively simple molecule which is used as a basic building block for the synthesis of a polymer.

26. Any substance containing carbon-based compunds, especially produced by or delivered from living organisms.

Word Bank

ether
ester
reduction
Polymerization
carbohydrates
disulfide bond
glycosidic bond
condensation
inorganic
ionic bonds
hydrolysis
biochemistry
polymers
covalent bond
monosaccharides
molecular biology
metabolism
structural formula
ketone
molecular formula
carboxylic acid
ester bonds
hydrophobic interactions
macromolecules
organic
functional groups
peptide bond
oxidation
hydrogen bond
disaccharides
monomers
amine
alcohol