

Unit 13 Vocabulary:

1. Addition Reaction: Halogen atoms break the double or triple bond on an unsaturated hydrocarbon chain and bond to either side of where the bond was broken.
2. Alcohol: A hydrocarbon with an -OH (hydroxyl) group somewhere on the hydrocarbon chain.
3. Aldehyde: A hydrocarbon with a -CO (carbonyl) group containing a hydrogen (H) bonded to a primary chain carbon.
4. Alkane: A hydrocarbon with the general formula $\text{C}_n\text{H}_{2n+2}$, where all the carbon-carbon bonds are single bonds.
5. Alkene: A hydrocarbon with the general formula C_nH_{2n} , where only one of the carbon-carbon bonds is a double bond.
6. Alkyl Group: An alkane fragment substituted onto a primary hydrocarbon chain; e.g. *methyl* group.
7. Alkyne: A hydrocarbon with the general formula $\text{C}_n\text{H}_{2n-2}$, where only one of the carbon-carbon bonds is a triple bond.
8. Allotrope: A molecular form of only one element. Oxygen has two allotropes; O_2 (diatomic oxygen), and O_3 (ozone).
9. Amide: A hydrocarbon with a -CO-NH- (amide) group substituted onto the primary hydrocarbon chain.
10. Amine: A hydrocarbon with a -N= (amine) group substituted onto the primary hydrocarbon chain.
11. Combustion: A form of reaction where a hydrocarbon reacts with oxygen to form the products of carbon dioxide (CO_2) and water (H_2O). Also known as burning; is a highly exothermic reaction.
12. Dehydration Synthesis: The joining of two organic molecules by the removal of an -H from one molecule and an -OH from the other molecule, forming an HOH (water) molecule in the process.
13. Ether: A molecule of two hydrocarbon chains connected by a single oxygen molecule (-O-) between the two chains.
14. Ester: A hydrocarbon with a -COO (carboxyl) group bonded to a secondary carbon atom.
15. Esterification: The dehydration synthesis of an ester by reacting an organic acid with a primary alcohol.

16. Etherification: The dehydration synthesis of ether by reacting two molecules of a primary alcohol.
17. Fermentation: The anaerobic (without oxygen) respiration of simple sugars by yeast to produce ethanol and carbon dioxide.
18. Halocarbon: A hydrocarbon that has one (or more) halogen (Group 17) atoms substituted or added to a hydrocarbon chain.
19. Hydrocarbon: An organic molecule composed of carbon and hydrogen.
20. Isomer: Molecules with the same molecular formula, but different structural (shape) formulas.
21. Ketone: A hydrocarbon with a -CO (carbonyl) group bonded onto a secondary carbon atom.
22. Monomer: A single molecule, usually an alkene, alkadiene, or diol and dicarboxylic acid.
23. Organic Acid: A hydrocarbon with a -COOH (carboxyl) group bonded to a primary carbon.
24. Polymer: A long chain of connected monomer units. A few examples include: rayon, silk, polypropylene, polyvinyl chloride (PVC) plastic, and polystyrene (plastic).
25. Polymerization: The joining of many monomer units by addition reactions or dehydration synthesis to form enormous macromolecules (polymers).
26. Primary: Positional description of a carbon atom on the end of a hydrocarbon chain that is only directly bonded to another carbon atom.
27. Saponification: The hydrolysis of a glycerol ester (fat) by a strong base to form glycerol and soap.
28. Saturated Hydrocarbon: A hydrocarbon containing all single carbon-carbon bonds.
29. Secondary: Positional description of a carbon in within a hydrocarbon chain that is bonded to two other carbons.
30. Substitution Reaction: Halogen (Group 17) atoms replace hydrogen atoms on a saturated hydrocarbon chain.
31. Tertiary: Positional description of a carbon atom within a hydrocarbon chain that is directly bonded to three other carbon atoms.
32. Unsaturated Hydrocarbon: A hydrocarbon with one or more double (or triple) carbon-carbon bonds.