

Name \_\_\_\_\_

Period \_\_\_\_\_

**Assignment Checklists****Unit – Organic Chemistry**

Assign. ID	Recommended Readings	Due Date
A	Notes 22-1 <i>Organic Compounds</i>	
B	Notes 22-2 <i>Hydrocarbons</i>	
C	Notes 22-3 <i>Functional Groups</i>	

Assign. ID	SCORE	Assignment	Due Date
1	5 4 3 2 1	Crucial Vocabulary	
2	5 4 3 2 1	Properties of Organic Compounds / Hydrocarbons	
3	5 4 3 2 1	First Ten Alkanes (Video and Activity)	
4	5 4 3 2 1	Functional Groups (Video and Activity)	
5	5 4 3 2 1	World of Chemistry – Carbon (Episode 21)	
6	5 4 3 2 1	World of Chemistry – The Age of Polymers (Episode 22)	
7	5 4 3 2 1	Learning Objectives	

NOTES:

## Organic Chemistry – Crucial Vocabulary

Term	Definition
Alkanes	
Alkenes	
Alkynes	
Cyclic Hydrocarbons	
Functional Group	
Aldehyde	
Alcohol	
Amines	
Ketones	
Ether	
Ester	
Carboxylic acid	

### Properties of Organic and Inorganic Compounds – youtube video

Property	Organic	Inorganic
Solubility in Water		
Melting point		
Boiling Point		
Decomposition		
Reaction with Oxygen		

### Alkanes, Alkenes & Alkynes – youtube video

Property	Alkanes	Alkenes	Alkynes
Types of bonds			
Suffix and meaning			
Example (show structure)			
Saturated OR Unsaturated?			

## First Ten Alkanes – youtube video

Name	Number of Carbons	Chemical Formula	Structural Formula
Methane			
Ethane			
Propane			
Butane			
Pentane			
Hexane			
Heptane			
Octane			
Nonane			
Decane			

## Functional Groups – youtube video

Functional Group	Drawing (with R)	Example molecule
Alcohol		
Ether		
Aldehyde		
Ketone		
Carboxylic acid		
Ester		
Amines		

## ***The World of Chemistry – episode 21 – carbon***

1. What is organic chemistry?
2. How many carbon compounds exist?
3. How many bonds can carbon form?
4. When was nylon first developed? Why was its development so essential?
5. What was the first organic synthesis?
6. What is a hydrocarbon?
7. What is meant by an isomer?
8. How are organic compounds divided into categories?
9. How are esters used?
10. What were the "ingredients" in the synthesis of acetylsalicylic acid - aspirin?
11. What must be done to produce a drug found in nature?
12. What is special about benzene?

## ***The World of Chemistry – episode 22 – the age of polymers***

1. What determines the name for an age (stone age, bronze age, etc.)?
2. What are some examples of polymers in nature?
3. What is the common starting material for most manmade polymers?
4. In fractional distillation \_\_\_\_\_ molecules travel to the top of the fractionating tower while \_\_\_\_\_ molecules collect at the bottom.
5. Arrange the following fractions in order from lightest to heaviest: asphalt, jet fuel, lubricating oil, gasoline, diesel fuel
6. What happens during catalytic cracking?
7. What is meant by a chain reaction?
8. What polymer is produced in the largest quantities?
9. Describe the differences between high and low density polyethylene.
10. What was the key to the design of PETE soft drink bottles?
11. Why are polymers so widely used in the automobile and aircraft industries?

# UNIT: Organic Chemistry

Objectives - The student will be able to:

**Differentiate between properties of inorganic and organic compounds. List at least three ways they are different from each other.**

**Differentiate between alkanes, alkenes, alkynes, and cyclic hydrocarbons (Aromatic Hydrocarbons)**

**Identify, name and draw structural formulas for the first ten alkanes.**

**Recognize that many organic compounds contain functional groups, which determine the properties and uses of that compound and include: Give the name & structural formula for a NEW example of each functional group. Circle the functional group**

**aldehydes**

**alcohols**

**amines**

**ketones**

**ethers**

**esters**

**carboxylic acids**



Organic Chemistry – Modeling Activity

Name: \_\_\_\_\_

Group: \_\_\_\_\_

1. Build the following examples of alkanes:

methane, propane, butane

Signature: \_\_\_\_\_

2. Build the following examples of alkenes:

ethene, propene

Signature: \_\_\_\_\_

3. Build the following examples of alkynes:

ethyne, propyne

Signature: \_\_\_\_\_

4. Build each type of functional group:

amine, aldehyde, alcohol, ester, ether, carboxyl, ketone

Signature: \_\_\_\_\_