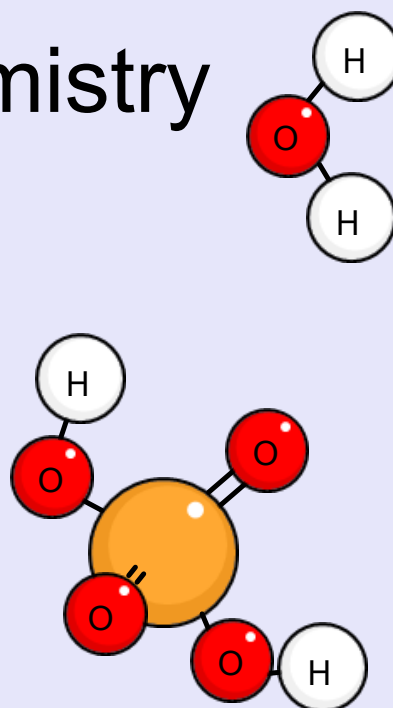
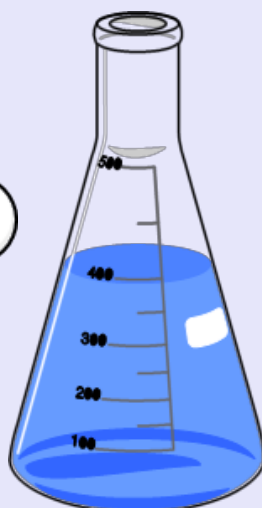
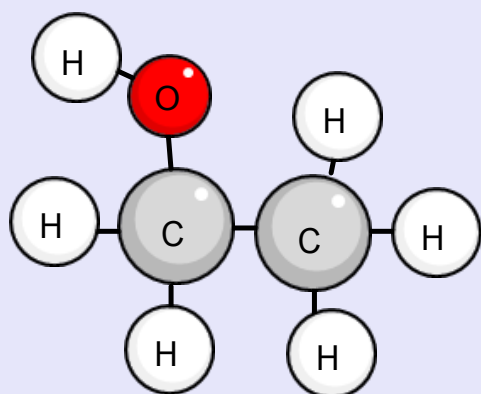
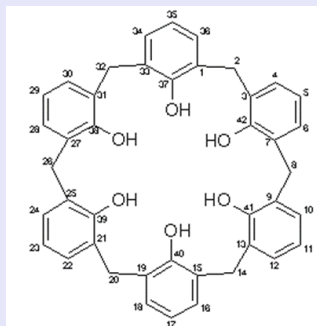


Introduction to Chemistry





Unit 1: Introduction to Chemistry, Organic

This chapter is an introduction to chemistry. I am using Organic chemistry as a means to introduce many of the fundamental concepts of chemistry.

Objectives: In this chapter you should be able accomplish or understand these basic concepts or ideas: Power Standard:

#1-1 Chemistry involves chemicals: Chemicals have unique names and structures for organic substances:

- « I can create structural, formulas, and names for simple organic structures.
- « I can create organic structures/names of small chains, single, double, triple, alcohols, and carboxylic acids.

#1-2 Chemistry involves chemicals that undergo chemical reactions:

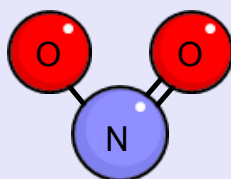
- « I can predict the products and balance a combustion of an organic compounds.
- « I can differentiate between incomplete and complete combustion.

#1-3 Chemical changes create new substances with new properties (differentiation between physical and chemical processes):

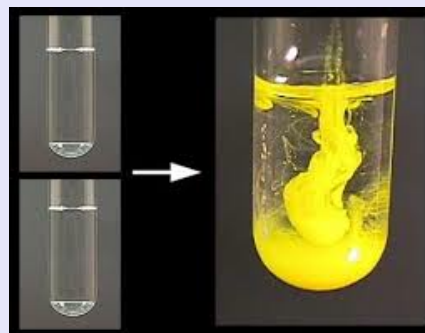
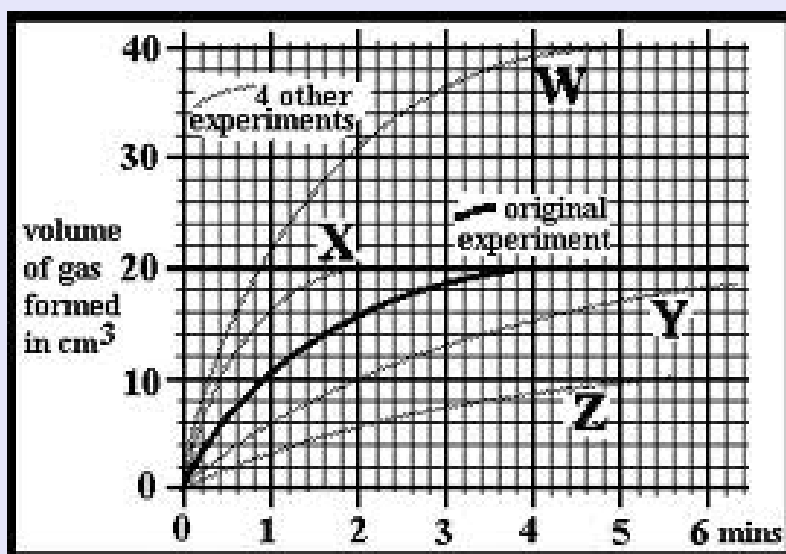
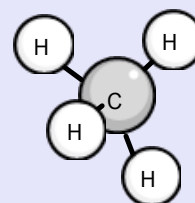
- « I can identify phase changes and/or physical manipulations as physical processes.
- « I can identify indicators of chemical processes.

What is Chemistry?

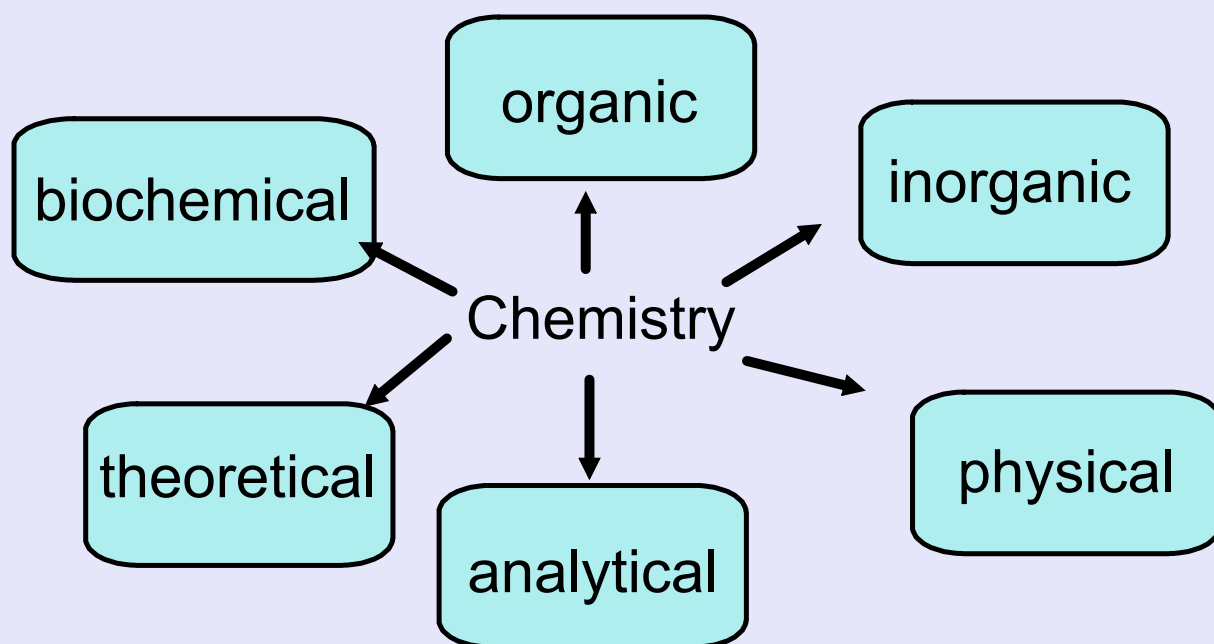
Chemistry is



the study of the composition, structure, and properties of matter and the changes it undergoes.



What are different branches of chemistry?



What are chemicals?

Periodic Table of Elements

The periodic table shows elements arranged in groups and periods. It includes labels for s-block, p-block, d-block, and f-block. A note at the bottom states: "For elements with no stable isotopes, the mass number of the isotope with the longest half-life is given in parentheses." The logo "Ptable" is visible in the bottom left corner.

Element -pure substance with all the same atoms
 -found on periodic table
 -unique name and symbol



Compound

-a pure substance formed of **2 or more elements**
 -in **fixed proportions**
 -cannot be broken down into simpler components by physical means

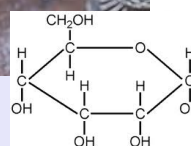
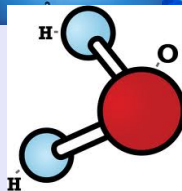
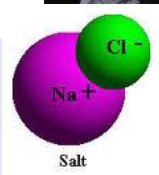
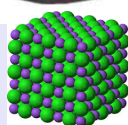
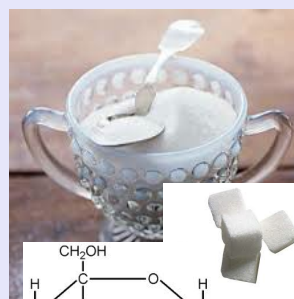
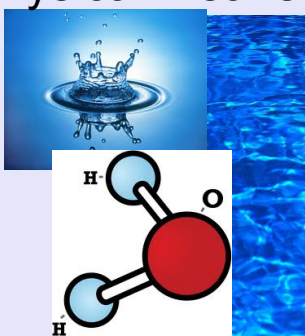


table salt
NaCl

water
H₂O

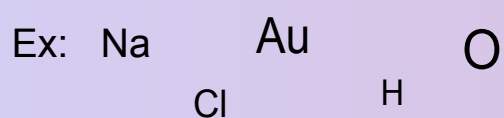
sugar
C₁₂H₂₂O₁₁

Mixtures

-not pure
 -two or more elements or compounds
 NOT chemically combined
 -can be separated by physical means

Chemical Symbol

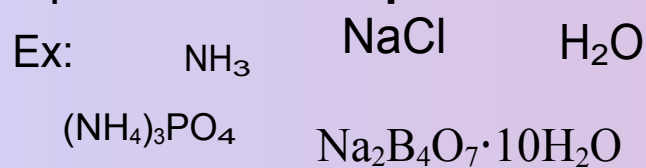
represents an **element**



"letters"

Chemical Formula

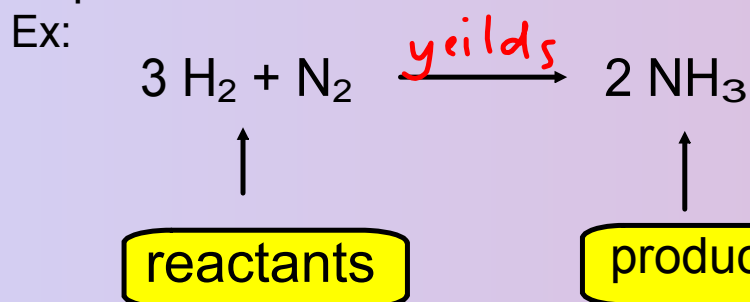
represents a **compound**



"words"

Chemical Equations

represents a **chemical reaction**



"sentence"

Na_2CO_3	$2\text{Na} + \text{Cl}_2 \longrightarrow 2\text{NaCl}$	Na
"words"	represents a chemical reaction	Chemical Symbol
"letters"	represents a compound	Chemical Equations
"sentence"	represents an element	Chemical Formula

Attachments

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