

IPC Cycle Sheet

April 27, 2020 thru May 1, 2020

Goals: TLW continue working with balancing chemical equations.

Monday: Class @8:30 – 9:45 AM (1st period only)
Balancing Chemical Equations II

Homework: Do warm up #78

Tuesday: Class @11:10 – 12:25 AM (6th period only)
Balancing Chemical Equations II

Homework: Do warm up #78

Wednesday: No Meeting. Watch videos and do the HW.

Homework: Do Checkups #89 and 90

Thursday: Class @8:30 – 9:45 AM (1st period only)
Intro to Macromolecules

Homework: Do worksheet
“Macromolecules”

Friday: Class @11:10 – 12:25 AM (6th period only)
Intro to Macromolecules

Homework: Do worksheet
“Macromolecules”

Vocabulary

alkane	isomer	hydrocarbon
alkene	polymer	organic compound
alkyne	monomer	functional group
aromatic	protein	carbohydrate
amino acid	nucleic acid	

Know the following

how to recognize a hydrocarbon
how to name hydrocarbons
the difference in saturated and unsaturated
synthetic and natural polymers

Integrated Physics and Chemistry



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Mole

A mole is an Avogadro's number of anything.

Avogadro's Number

Avogadro's number is the number of atoms in exactly 12.00 grams of carbon-12.

$$N = 6.022 \times 10^{23}$$

Molar Mass

Molar mass is the mass of one mole of a substance in grams.

$$H = 1.01 \text{ grams} \quad C = 12.01 \text{ grams}$$

Limiting Reactant

The reactant that runs out and limits the amount of product obtained.

Macromolecules

The large carbon-based molecules that make up the cellular structures.

Organic Chemistry

The study of compounds made of mostly carbon and hydrogen.

Ester

An ester is formed when an alcohol reacts with an organic acid.

Hydrocarbons

Organic compounds consisting of carbon and hydrogen only

Saturated

alkanes – single bond chains

Unsaturated

alkenes – double bond chains

alkynes – triple bond chains

aromatics – benzene ring

Organic Prefixes

1 carbon = meth - 2 carbon = eth -
3 carbon = prop - 4 carbon = but -
5 carbon = pent - 6 carbon = hex -
7 carbon = hept - 8 carbon = oct -
9 carbon = non - 10 carbon = dec -

Carbohydrates

Carbohydrates are made from carbon hydrogen and oxygen atoms in a ratio of 1:2:1. (sugars)

Carbohydrates are the main source of energy for living things.

Lipids

Lipids are mostly carbon and hydrogen.

Lipids are used to store energy and provide water proofing in cellular membranes and coverings.

Common lipids are fats, oils, waxes and steroids.

Proteins

Proteins consist of carbon, hydrogen, oxygen, **nitrogen** and sulfur.

Proteins are polymers of **amino acids**.

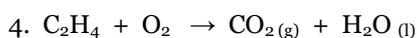
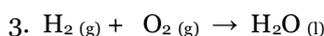
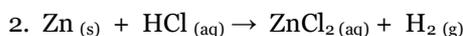
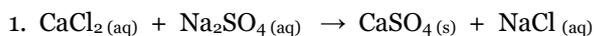
Nucleic Acids

Nucleic acids consist of carbon, hydrogen, oxygen, nitrogen and phosphorus.

Nucleic acids are polymers of nucleotides.

Checkup #89

BALANCE the following chemical equations. Please rewrite the equation for your answer.



Checkup #90

Calculate the molar mass for the following.

_____ H_3PO_4 _____ KOH

_____ $\text{CuSO}_4 \times 5 \text{H}_2\text{O}$

_____ ammonium sulfate

_____ copper(II) nitrate

_____ cesium chloride

Checkup #91

Write a chemical equation for the following chemical reaction.

1. Solid aluminum and oxygen gas react and yield aluminum oxide powder.

2. What type of chemical reaction occurred?