



# The Chemistry of Life and the micro universe

Teacher: **Ibadullaeva S.**

Have prepared: **Konyratbai D. Kuttybai A.**

Group: **B-17-1 m/I**

# Important Terms

- **Matter** – anything physical that takes up space
- **Mass** – the *amount* of matter
- **Atom** – basic unit of matter
- **Element** – simplest form of matter
- **Combining Power** – number of atoms an element can bond to
- **Compound** – atoms of 2 or more elements held together by bonds



# Chemical Bonds

- **Ionic bond** – oppositely charged atoms are joined
- **Covalent bond** – atoms joined by sharing electrons or “valences”
  - A. *Single*: share 1 pair of electrons
  - B. *Double*: share 2 pair
  - C. *Triple*: share 3 pair





# Polyatomic Compounds



There are two types of compounds:

- Inorganic (non-living) - do not contain the element Carbon
- Organic – (living) do contain Carbon

# The “C.H.O.N. Compounds”

- Organic compounds that contain Carbon, Hydrogen, Oxygen & Nitrogen
- Living organisms require four types for survival:



# 1. Carbohydrates

- Provide energy
- Monosaccharides (simple sugars) are the building blocks
- Disaccharides and Polysaccharides commonly exist





## 2. Lipids

- Provides energy storage
- 8 categories including fats, waxes, & **some vitamins** (A,D,E,K)



### 3. Proteins

- Each unique protein performs specific duties
- Some are enzymes (speed up reactions)
- Smaller amino acids are the building blocks





## 4. Nucleic Acids

- Stores all genetic information
- Two main types:  
DNA & RNA
- Nucleotides are building blocks



# GLOSSARY

Chemical bonds	-	Химические связи
Enzymes	-	Энзимы ( скорость реакции)
Amino acids	-	Аминокислоты
Combining power	-	Объединяющая сила
Compound	-	Соединение
Glow	-	Пылать
Synthesizing	-	Синтез
Reactants	-	Реагенты
Polyatomic compounds	-	Многоатомные соединения

**THANK YOU**

For Your Attention!