Section 3: The Molecules of Life – Nutritional Information
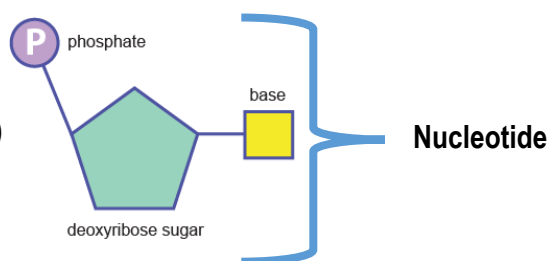
1. Nucleic Acids

   a. **Monomer Unit:** Nucleotides
   b. **Nucleotides**
      i. 5 Carbon Sugar (either ribose or deoxyribose)
      ii. Phosphate
      iii. Nitrogen Base

   c. **Functions**
      i. **DNA (like the instructions to building a lego set)**
         1. stores genetic information (codes for proteins)
         2. Spiral staircase
         3. Double stranded
      ii. **RNA (the actual people building the lego set)**
         1. Makes proteins
         2. Single strand
      iii. **ATP**
         1. energy currency of the cell
         2. 3 phosphates on it

 Link – Biochemistry Foldable – Nucleic Acids

 Link in Purple Packet – Organic Molecules Concept Map and Inductive Reasoning

What characteristics do nucleic acids possess that enable them to function in living organisms and support life?

Answer: **Nucleic acid**, naturally occurring chemical compound that is capable of being broken down to yield phosphoric acid, sugars, and a mixture of organic bases (purines and pyrimidines). Nucleic acids are the main information-carrying molecules of the cell, and, by directing the process of protein synthesis, they determine the inherited characteristics of every living thing.   https://www.britannica.com/science/nucleic-acid

Overview of Energy

	ATP	Glucose	Glycogen	Fat
Is like…	Coins and dollar bills in our pocket fire in a wood stove	The atm machine where you get the money block of wood	The bank where you store your money Wood storage rack / pile	401K – retirement plan trees
Used…	We use everyday in our body	Basic energy source	Short term energy storage	Long term energy storage
Typical Run	1st 15-20 seconds, I am burning ATP and creatine (quick energy) supply that is already present in my muscles	Glucose supply is steady because we continue to break glycogen down	For 15 minutes we tap into our supply of glycogen; if you want to burn fat, you have to work out a minimum of 20 minutes	After 20 minutes, we start to burn fat