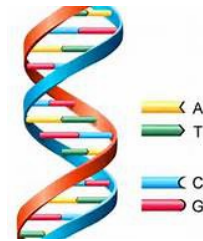


Nucleic acid

a biomolecule that stores and transmits genetic information such as DNA

DNA



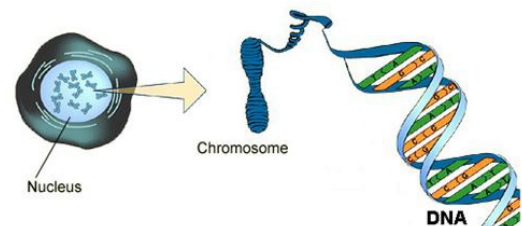
called deoxyribonucleic acid; holds the code to make proteins

Trait



a characteristic of an organism that is determined by specific proteins coded in the DNA (ex. hitchhiker's thumb)

Chromosome



a long strand of DNA all coiled up

Generation

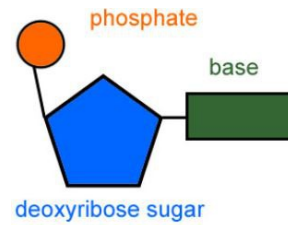


a single step in natural descent of a species

Heredity

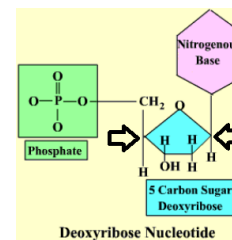
the passage of genetic instructions from one generation to the next generation

Nucleotide



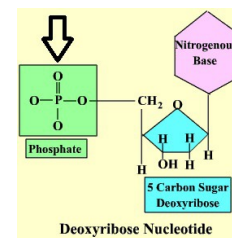
the monomer of DNA; made of 3 parts - deoxyribose sugar, phosphate, nitrogenous base

Deoxyribose sugar



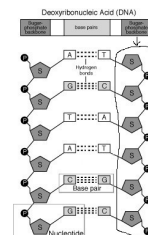
the sugar in DNA that is covalently bonded to both a phosphate group and a nitrogenous base

Phosphate group



group that covalently bonds to the deoxyribose sugar along the sides

Sugar-phosphate backbone



the "sides" of a DNA molecule; sugar-phosphate-sugar-phosphate, etc.

Nitrogenous base

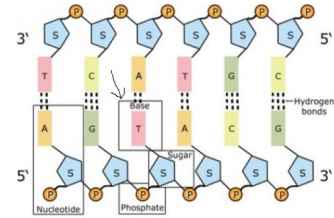
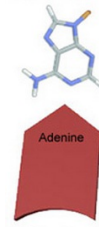


Image adapted from: National Human Genome Research Institute.

A, T, C, G in the middle of DNA; the order determines traits, or characteristics

Adenine



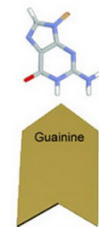
nitrogenous base "A"; connects to thymine

Thymine



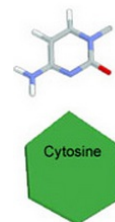
nitrogenous base "T"; connects to adenine

Guanine



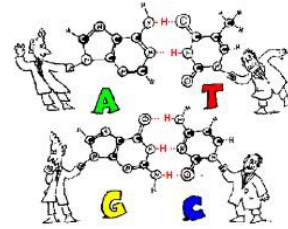
nitrogenous base "G"; connects to cytosine

Cytosine



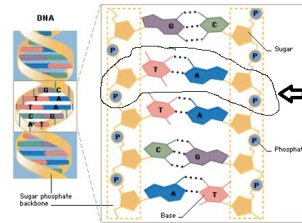
nitrogenous base "C"; connects to guanine

Base pairing



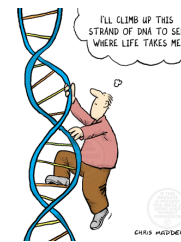
the rule of how nitrogenous bases are paired: A-T, G-C (- = hydrogen bond)

Complimentary nucleotides



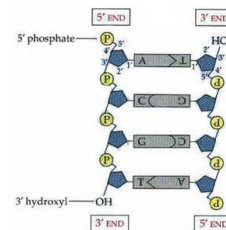
another term for base pair but includes the sugar and phosphate groups also

Double helix shape



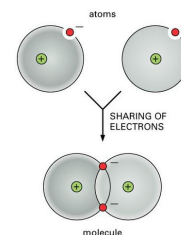
the spiral shape of DNA like a staircase

Antiparallel



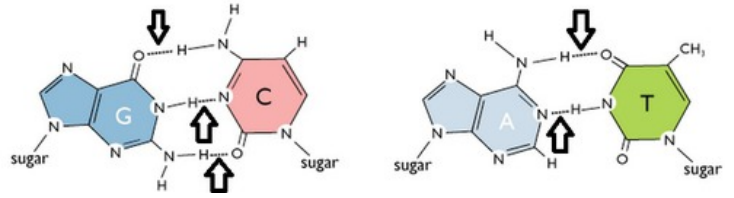
one side of DNA is upside down and the other is right side up (3' to 5', 5' to 3')

Covalent bond



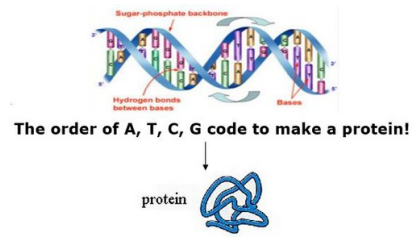
chemical bond where electrons are shared between atoms (ex. sugar to phosphate group)

Hydrogen bond



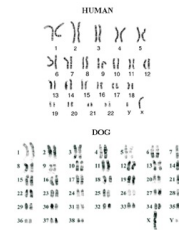
the chemical bond between two polar molecules where hydrogen (H) is attracted to a highly electronegative atom such as oxygen (O) or nitrogen (N)

Genetic code



A, T, C, and G; all living organisms use the same 4-letter code to make proteins

Genome



All of the chromosomes of a species (ex. humans have 2 pairs of 23 for a total of 46)