

### Water

Polar (H<sub>2</sub>O)

Solvent

Cohesive Properties: Surface Tension & Adhesion

Thermal Properties: High Specific Heat

### Water Vocab

Surface Tension: Measure of how hard it is to stretch or break the surface of a liquid. Water has a high surface tension b/c of the H bonding of surface molecules.

Adhesion: Substances stick to each other. Water sticks to plant cells walls from H bonding.

High Specific Heat: Before temp increase, water must absorb a lot of heat.

Hydrophilic: Water-loving

Hydrophobic: Water-fearing

### Water pH

H<sup>+</sup> = OH<sup>-</sup> (neutral ph)

H<sup>+</sup> > OH<sup>-</sup> (acidic)

H<sup>+</sup> < OH<sup>-</sup> (basic)

### pH Scale

0-6 = Acidic

7 = Neutral

8-14 = Basic

### Functional Groups

Hydroxyl	OH	Polar
Methyl	CH <sub>3</sub>	Nonpolar
Carbonyl	C=O	Polar
Carboxyl	COOH	Acidic
Amino	NH <sub>2</sub>	Basic
Sulfhydryl	SH	Polar
Phosphate	PO <sub>4</sub>	Acidic

### Elements of Life

Carbon.

Oxygen.

Hydrogen.

Nitrogen.

Phosphorus.

Sulfur.

Sodium.

Calcium.

Iron.

### Macromolecules

Macromolecules	Monomers
Carbs	Monosaccharides
Proteins	Amino acids
Lipids	Fatty acids
Nucleic Acids	Nucleotides

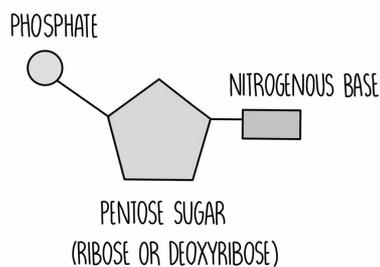
### Nucleotide Parts

Phosphate Group

5-C Sugar

Nitrogenous Base

### Nucleotide Structure



### DNA vs. RNA

DNA	RNA
A - T	A - U
G - C	G - C
Double-stranded	Single-stranded
Deoxyribose sugar	Ribose sugar

### Pyrimidines

Cytosine

Uracil

Thymine

\*Think: CUT PIE

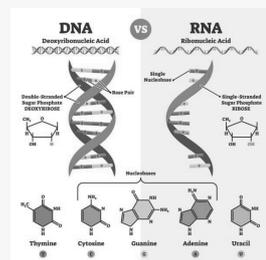
### Purines

Adenine

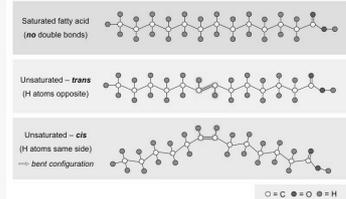
Guanine

\*Think: GREEN APPLES are PURE!

### DNA & RNA Structure



### Fatty Acids



### Pyrimidines vs. Purines

