Cheatography

DNA,Lipid Cheat Sheet

by rhettbro via cheatography.com/133961/cs/27520/

DNA-genetic material

Deoxyribonucleic acid

Nucleotid-es->Nu-cleic acids	a pentose sugar, a phosphate group, a nitrogen-containing base

Nucleotides are joint by phosphodiester bonds, phosphate group connect to the 3' C of one sugar, and the 5' C of the next sugar

Backbone made up of alternating pentose and phosphates

Nucleic acid strand has a polarity: a 5' end and a 3' end

amount of A = amount of T, G = C

key features of DNA

right-handed double-stranded helix, uniform diameter

antiparallel: two strands run in opposite directions

5' phosphate group and 3' hydroxyl group

complementary base pairing (A-T;C-G)

B-DNA consists of an double helix with approximately 10 bases per turn.

DNA

Found in nucleus (and mitochondria)

Coded instructions for making proteins

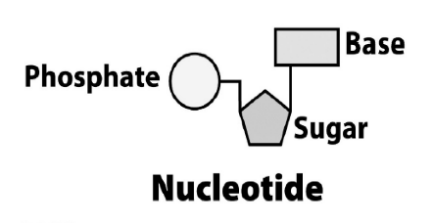
Weak bonds between bases(hydrogen bond)

Negatively charged

Relatively stable

Inheritable

Nucleotide



DNA

Lipids

Fatty acids-> Fats,Lipids,Membranes

Lipids are a broad group of compounds from biological origin that can dissolve in nonpolar solvents, such as chloroform and diethyl ether

Oily, greasy, waxy substances. Not water soluble. Extracted from organisms by organic solvents.

Even though they are different in structure (diff. types- fats,waxes,sterols,fat-soluble vitamins A D E K), they share some same properties

Functions:	Cell membrane
	Energy storage
	Thermal insulation
	Buoyancy
Lipids in our body	Phospholipids
	Free fatty acid
	Triglyceride
	Cholesterol ester

Energy storage

Glycogen in animals

glycogen used for short-term energy storage, they converted to glucose when energy is required.

Starch in plants

Lipids have more energy content per unit mass of carbohydrates

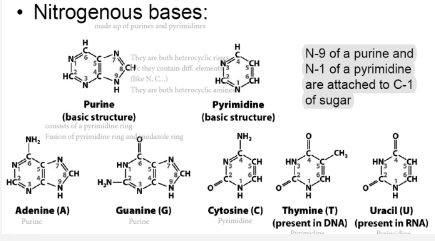
Lipids used for long-term energy storage

Triglycerides(甘油三酯) converted to fatty acids and glycerol → energy

Triglycerides are broken down to yield acetyl CoA.

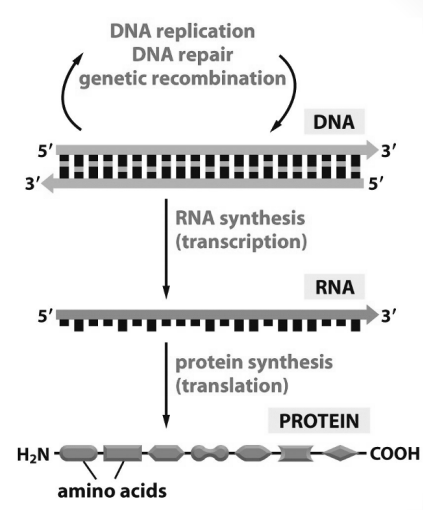
N base

- Nitrogenous bases:

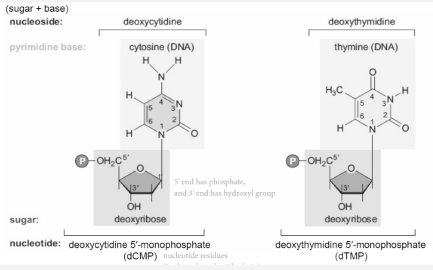


Lipids Classification

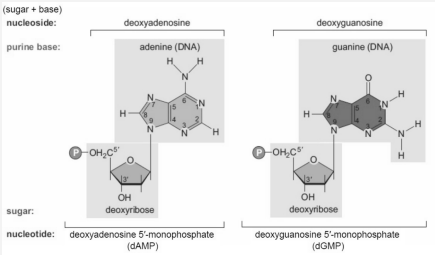
central dogma

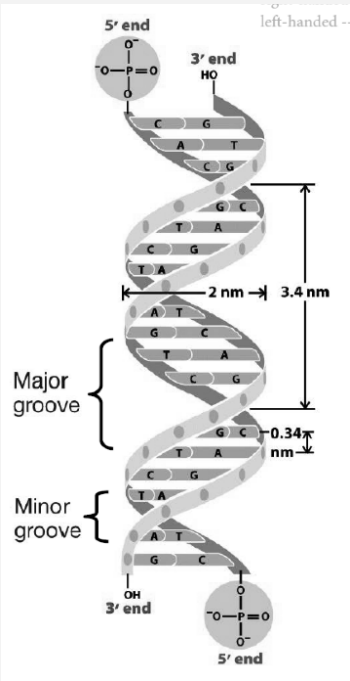


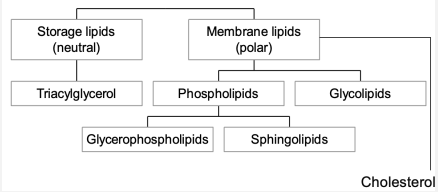
Pyrimidine base



purine base







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