synthesis of vitamin D from the sun and a target tissue for active metabolite ie when the skin is exposed to sunlight and makes vitamin D from cholesterol. The ultraviolet rays from the sun hits the skin's cholesterol and produces energy for synthesis of vitamin D to occur

Exposure to acids: Disrupted phosphodiester bonding of the DNA which causes the DNA to cleave into nucleotides and nucleosides, DNA deprivation of purines causing DNA melting and loss of DNA sequence

Exposure to alkali: denaturation of the DNA, hydrolysis of phosphodiester bonds which will be cleaved to smaller fragments

8. Watson: DNA is a double-stranded molecule consisting of 2 sugar phosphate backbone on the outside held together by hydrogen bonds between pairs of nitrogenous base on the inside

Crick: Realized pairing rules meant that the strand contained information necessary to make a new copy of the entire molecule & that the order of bases may provide a genetic code.

9	DNA	RNA
i)	Double-stranded molecule	Single-stranded molecule
ii)	Stable under alkaline conditions	Unstable under alkaline conditions
iii)	Contains sugar ribose	Contains deoxyribose sugar
iv)	Susceptible to UV damage	relatively resistant to UV damage
v)	Thymine, ~~cytosine~~ cytosine & guanine for base pairing	adenine, uracil, cytosine and guanine for base pairing

10 i) Activated precursors of DNA and RNA

ii) Stores energy in the form of ATP

iii) Required for activation of intermediates in many ~~biological~~ biosynthetic pathway

iv) Serve as convenient and universal carriers of metabolic energy and high-energy electrons

v) GTP (Guanosine Triphosphate) involved in protein biosynthesis as a source of energy.

Akademerin Chisom
18/MHS06/013
BCH 202

1. Vitamins are classified into: i) Fat soluble and ii) Water-soluble
b) They aid in growth and maintenance of good health.
2. Riboflavin is a part of two coenzymes that aid in extracting energy ~~released~~ needed for metabolism. Thiamine helps in breaking down glucose for energy and acts as a maintenance agent.
3. Nomenclatures:
i) Nucleotide: Nitrogenous base + Pentose Sugar + Phosphate group
ii) Nucleoside: Nucleotides - Phosphate Group. ie Nitrogenous base + Pentose Sugar
iii) Nucleic acid: Composed of nucleotides. If the pentose sugar is a compound base, polymer is RNA. If the sugar is derived from ribose as deoxyribose, polymer is DNA
4. There are three different compounds with vitamin A activity;
i) Retinol reaction ii) Retinal oxidation iii) Retenoic acid
The involvement of vitamin A in the visual cycle is related to the retenal, within the eye. The form of vitamin A in the eyes is called retinal. Vitamin A, in form of 11-cis retinal is responsible for visual phototransduction - a signal cascade that alerts other to relay signals to the centre of the brain to process visual perception.
5. Rhodopsin plays the pivotal role in vision. It is a membrane protein found in the photoreceptor cell of the retina, made up of Opsin (a protein) and 11cis retinal. When light falls on the retina 11-cis retina isomerizes to 11-trans retinal. The all trans retinal is then released from the protein. After this separation, the all trans retinal is recycled and converted back to the 11-cis retinal form by enzymatic reactions. Rhodopsin is needed to see in dim lights and is only regenerated when the retina is attached to retinal pigment epithelial which produces retinal.
6. The production of vitamin D is caused by the skin. When sunlight hits the skin, it becomes exposed to ultraviolet rays which penetrates into the epidermis. The skin is the site for the