

GENETICS

DNA

Double helical structure (Watson & Crick)

Sugar phosphate back bone

Adenine

Nitrogenous base pairs

Purine = ~~Adenine~~ + Guanine

Pyrimidines = Thymine + Cytosine

Hydrogen bonds between bases hold the two chains together.

Growth & ÷ via Mitosis = semi conservative process

Protein synthesis

Transcription Template of DNA Messenger RNA

Translation mRNA combines with transfer RNA & ribosomal

RNA protein synthesis takes place

Codons (3 base pairs) code 20 AAs

Punnett Square

AD	a ^{normal}	a	50%	Affect = 75%
Carrier	A	Aa	Aa	Carrier
	a	aa	aa	

AR	A	a	Affected = 25%	Sickle cell
	A	AA	Aa	Carrier = 50%
	a	Aa	aa	Normal = 25%

X linked dominant = all daughters affected No sons (male affected)
 X linked dominant (♀) = 50% sons 50% daughters affected

Hypophosphataemic Rickets

X linked recessive (Carrier ♀) 1x affected son & 1x carrier daughter
 Carrier ♀, affected ♂ 1x affected son & 1x affected daughter
 eg Duchenne Haemophilia A (X^h) 1x affected daughter & 1 normal each