

# MOLECULAR GENETICS

## DNA and Replication

DNA is unique to each individual...except clones, identical twins

DNA stands for...

What is the sugar of DNA?

What is the "backbone made of" of DNA?

DNA is found where?

What is special about mitochondrial DNA (mtDNA)?

Discovery of DNA...

Rosalind Franklin used X-rays to study parts of DNA

Watson and Crick developed first 3-D structure of DNA (double helix) based on Rosalind's findings

4 bases of DNA...which ones pair (complementary to which)?

Bases (nitrogenous bases) held together by hydrogen bonds

Describe the structure of a NUCLEOTIDE...(3 parts)

Describe a GENE...

What are the 2 purines...3 pyrimidines?

If a DNA molecule has 20% guanine, how much thymine will there be?

Offspring are different from parents because of 3 reasons...

### REPLICATION

3 requirements for semiconservative replication?

What does semiconservative replication mean?

Role of Helicase?

Role of Polymerase?

2 reasons DNA unzips?

Steps of Replication...

What is the human genome project?

Benefits vs Issues?