

DNA Replication

- Explain how the replication mechanism is important for DNA replication.
- Describe the process of DNA replication.

Where is DNA?

DNA - What is a double-stranded DNA replication?

Condition: while synthesizing the

"complementary strand" of replication in DNA

- Original strand is a template for new strand to build

DNA Replication

What's going on during the Synthesis Phase?

Double helix structure of DNA strands "unzip"

Each parental (original) strand gets a new complementary strand

Two new double helices are formed

- Each new one (daughter DNA) strand used one (parent) strand
- DNA Polymerase creates the complementary strand from each

Replication happens in both directions

What does each newly formed double helix contain?

A complementary strand

A complementary strand (newly formed) and the original strand

What's the role of DNA?

- Explain the "one gene one polypeptide" hypothesis.
- Show the relationship between DNA and proteins.
- Describe how genes are used to code.

All proteins are made up of amino acids. What amino acids make up a polypeptide?

Amino acids

What are genes?

One strand of DNA is made up of many genes.

Specific segments of the strand are the "messages" that code for each gene.

Transcribing a gene

DNA is transcribed into a polypeptide (or protein)

DNA is translated into a polypeptide (or protein)

- The genetic code for the gene is expressed.
- DNA strand of genetic information expressed as a gene.