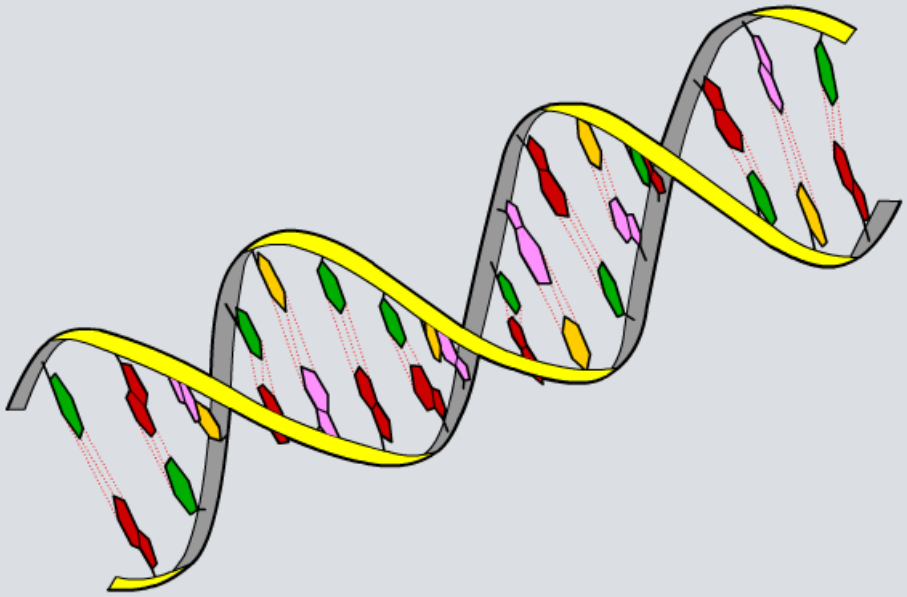
DNA Replication 2



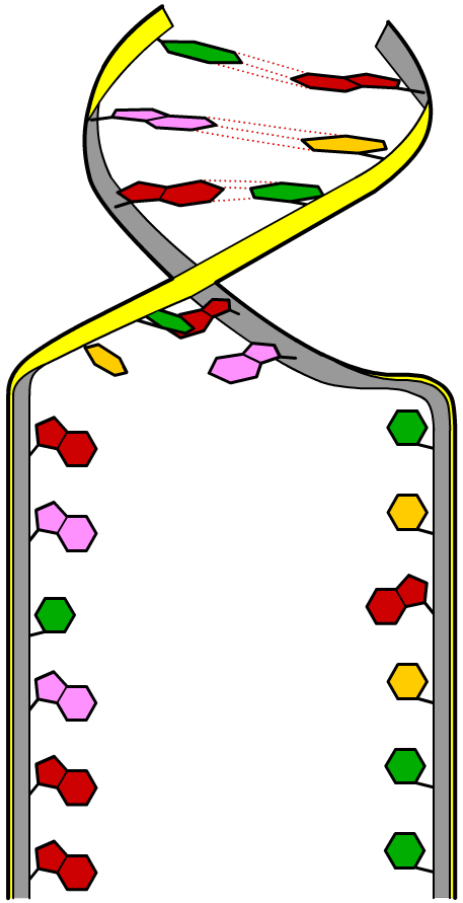
DNA replication

The discovery of DNA's structure by Watson and Crick provided evidence that complementary base pairing was key to DNA's ability to replicate.

Scientists proposed that DNA "unzipped" as hydrogen bonds between base pairs were broken.

New polynucleotide strands could then be synthesized using the originals as a template.

Several hypotheses were proposed as to the specific mechanism by which new strands are created.



Mechanisms of DNA replication

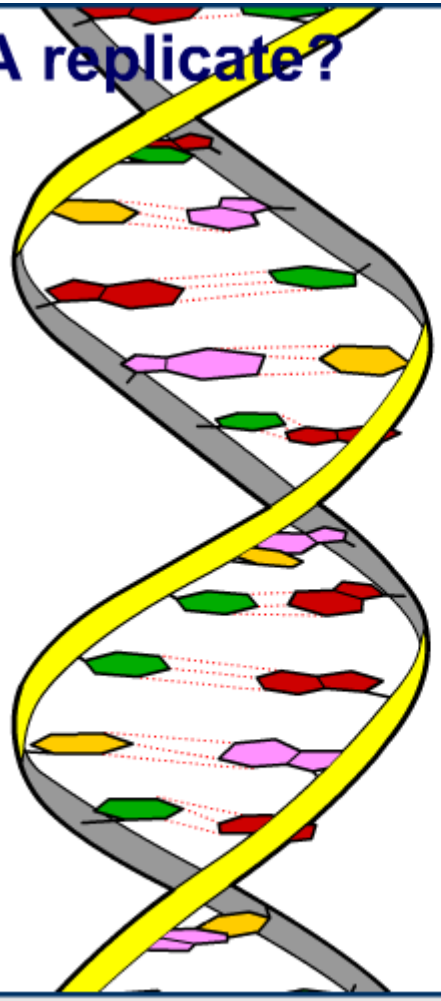
Meselson–Stahl DNA experiment

DNA replication

How does DNA replicate?

DNA replicates by a semi-conservative method.

Click "**play**" or the DNA helix to find out more.



DNA replication enzymes

Match the enzymes involved in DNA replication to their roles

DNA ligase	separates the two DNA strands before replication
helicase	catalyzes the formation of a new polynucleotide chain
single-strand binding protein	keeps the separated DNA strands apart during replication
DNA polymerase	joins together short sections of the lagging strand

DNA replication

What are the missing words about DNA replication?

1. DNA replicates by a A mechanism.

2. The two strands of a DNA molecule run in B direction. Each strand is replicated in C way.

3. The point at which the two strands are separated is called the D.

Errors in replication: gene mutations

What is a point mutation?

A **gene** or **point mutation** is a change in the nucleotide sequence of a gene. This most commonly occurs during DNA replication.

Click the buttons to find out more about the different types of point mutation.