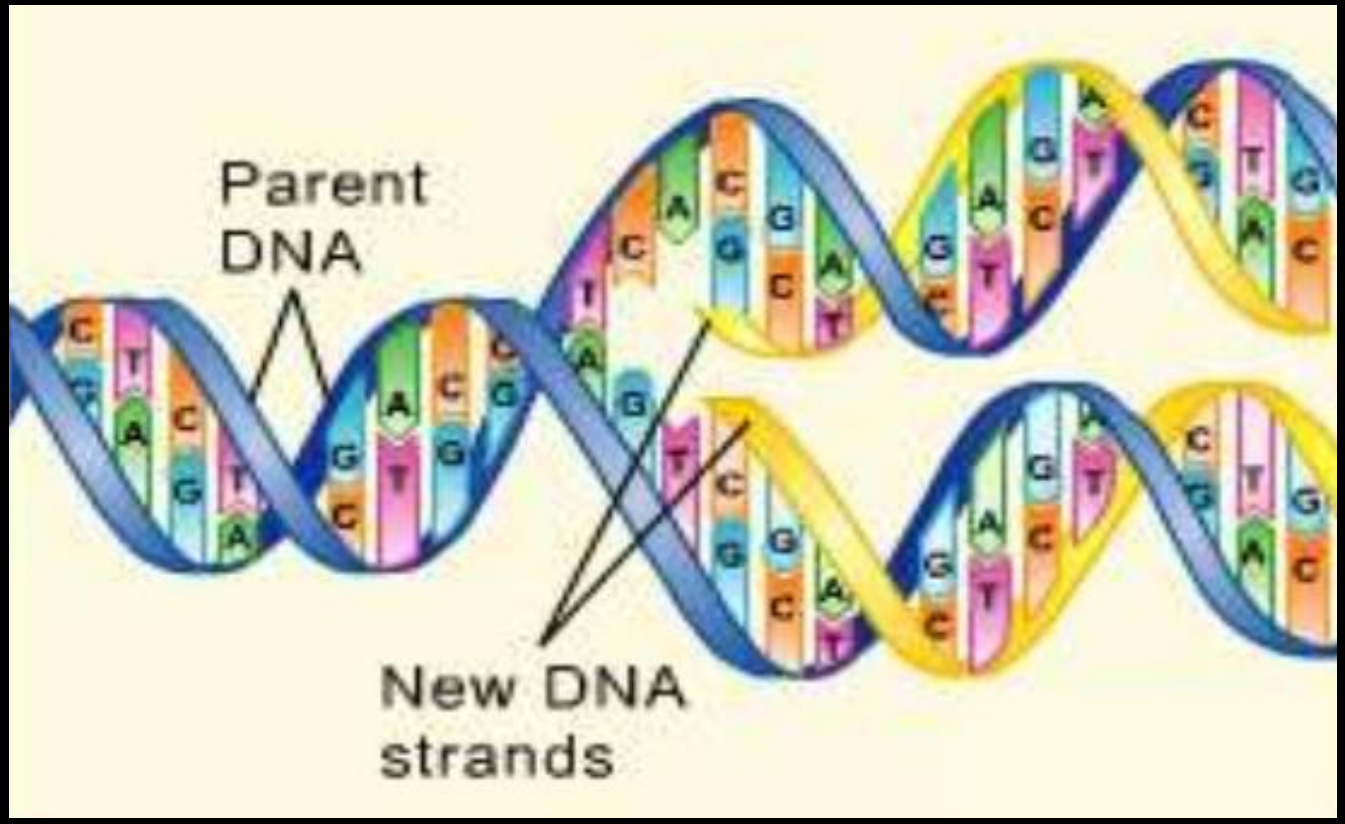
DNA Replication - Pt 1

Learning Objectives

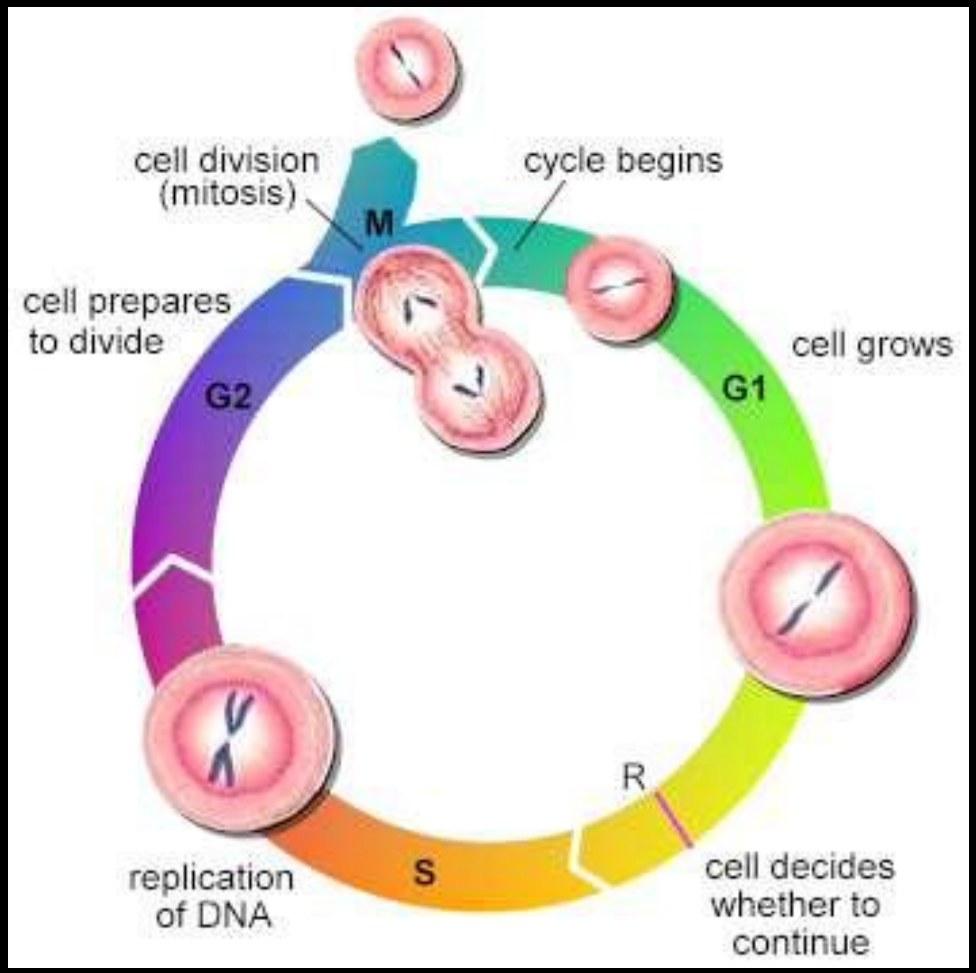
- Explain what DNA replication is and the purpose

What is DNA Replication?



DNA Replication - the process of making two identical copies of DNA from the original parent DNA

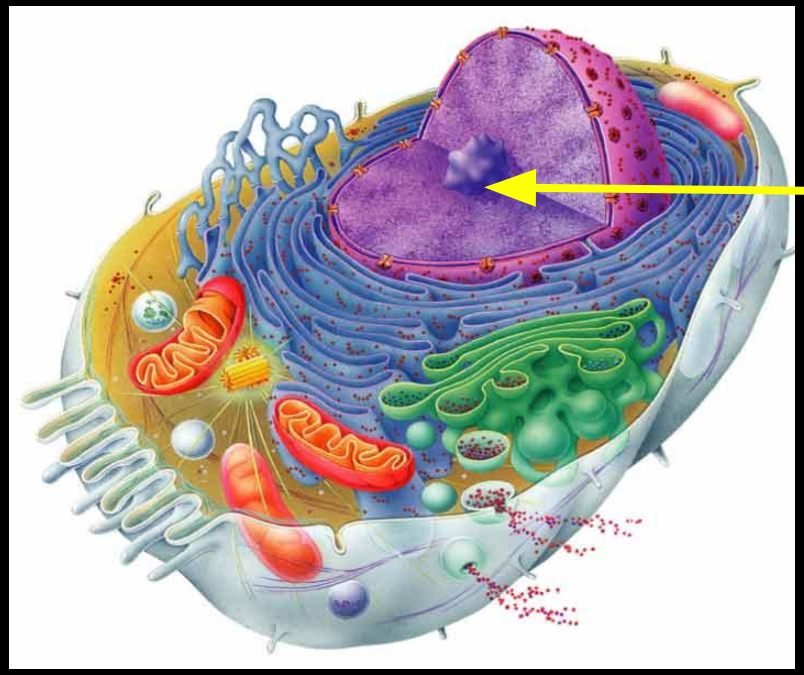
Purpose of DNA Replication



DNA has to be copied before a cell divides

New daughter cells have an identical set of DNA.

Where Does Replication Occur?



DNA Replication occurs in the nucleus

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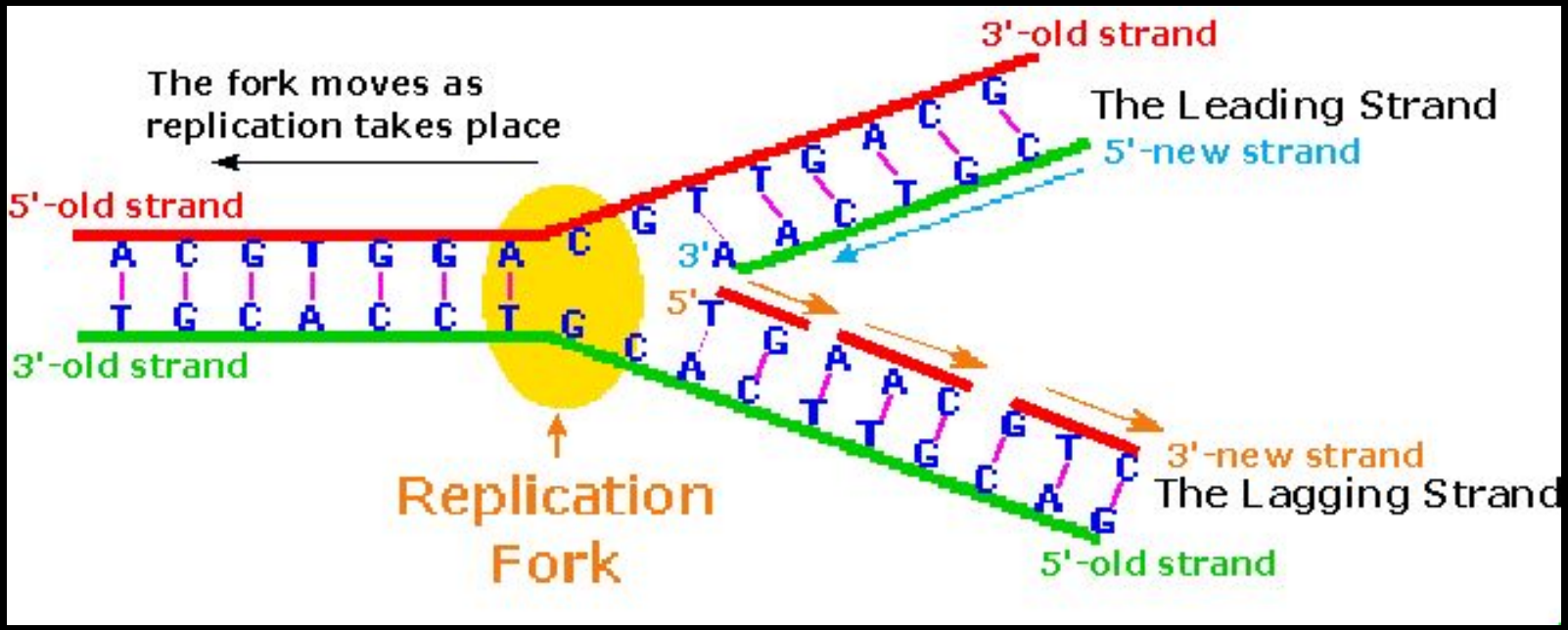
How does DNA replication start?



- Replication starts at the Origin of Replication
- The parent DNA strand unzips forming a Replication Fork

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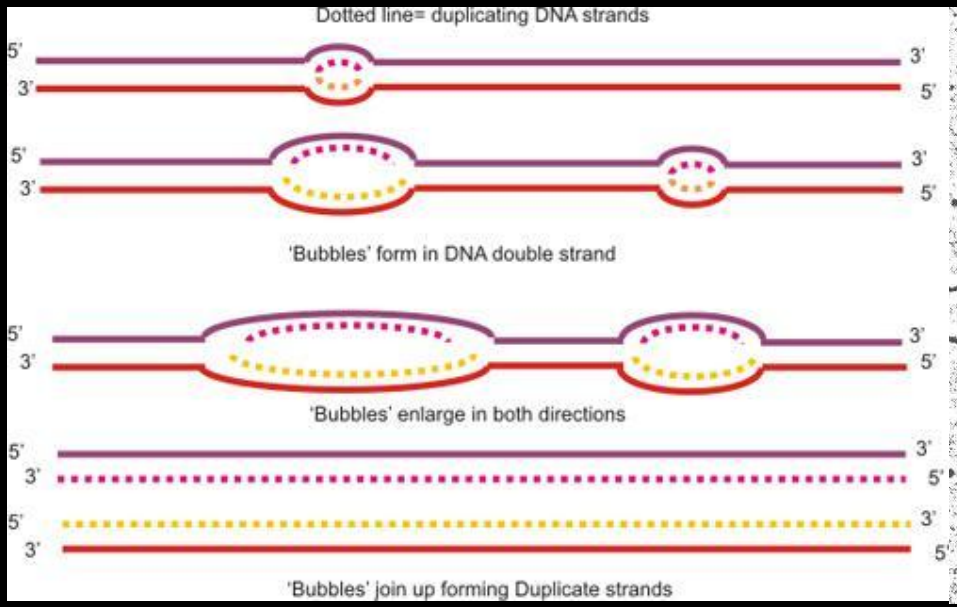
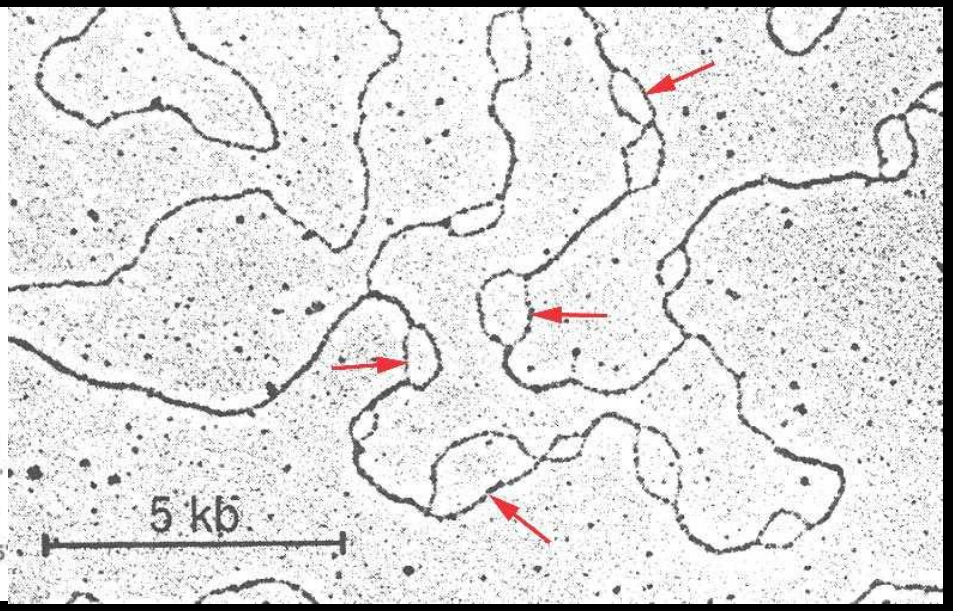
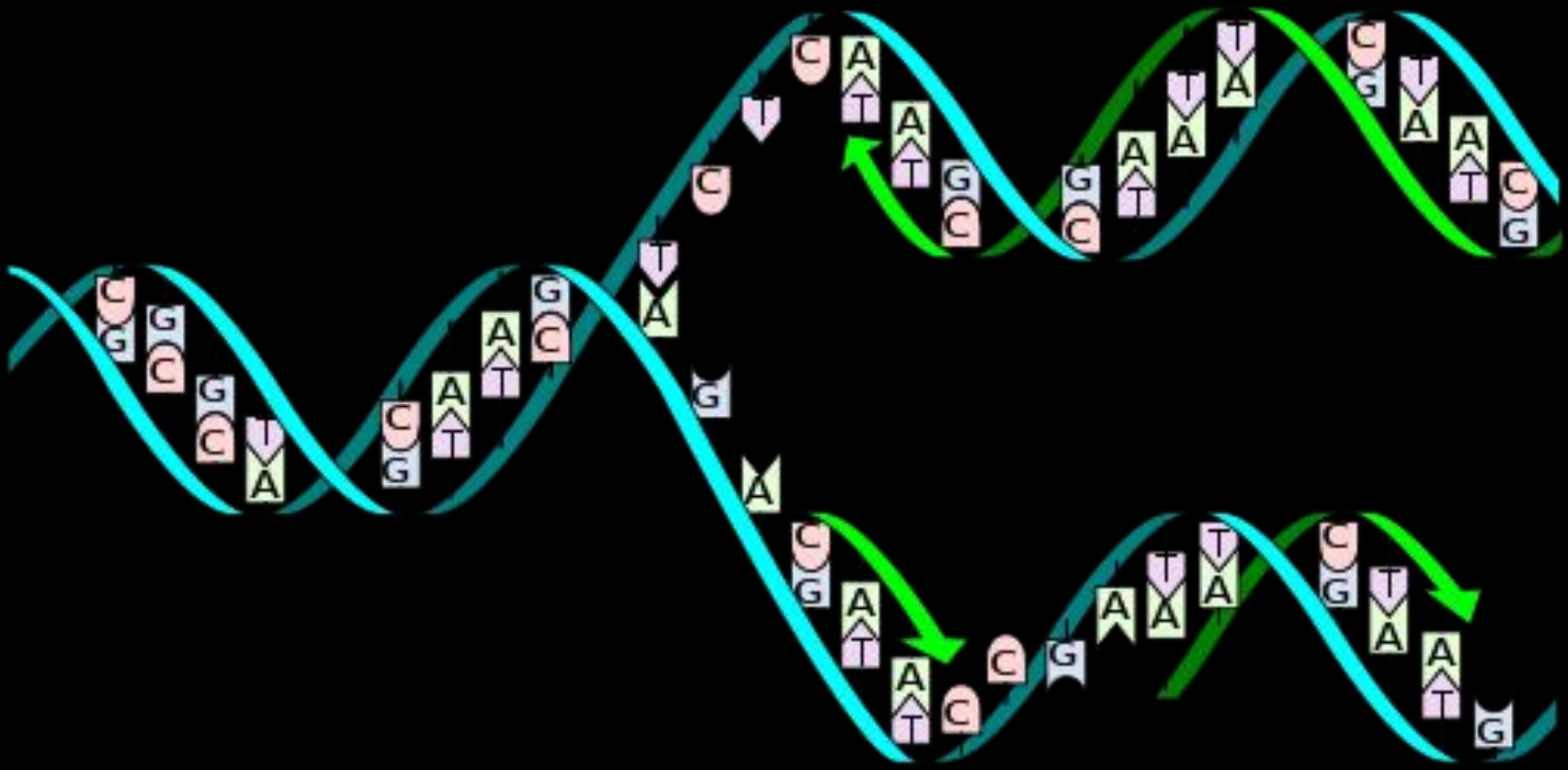
Replication Bubbles





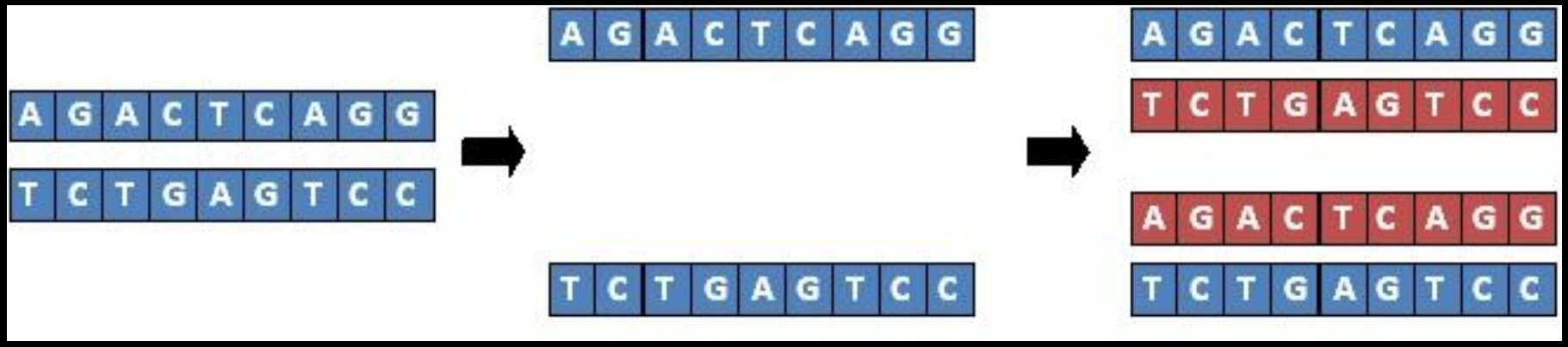
- Each DNA strand has multiple sites of replication - replication bubbles
- Replication proceeds in both directions until each chromosome is completely copied.

DNA Template



Each side of the parent DNA strand serves as the template for the new strands

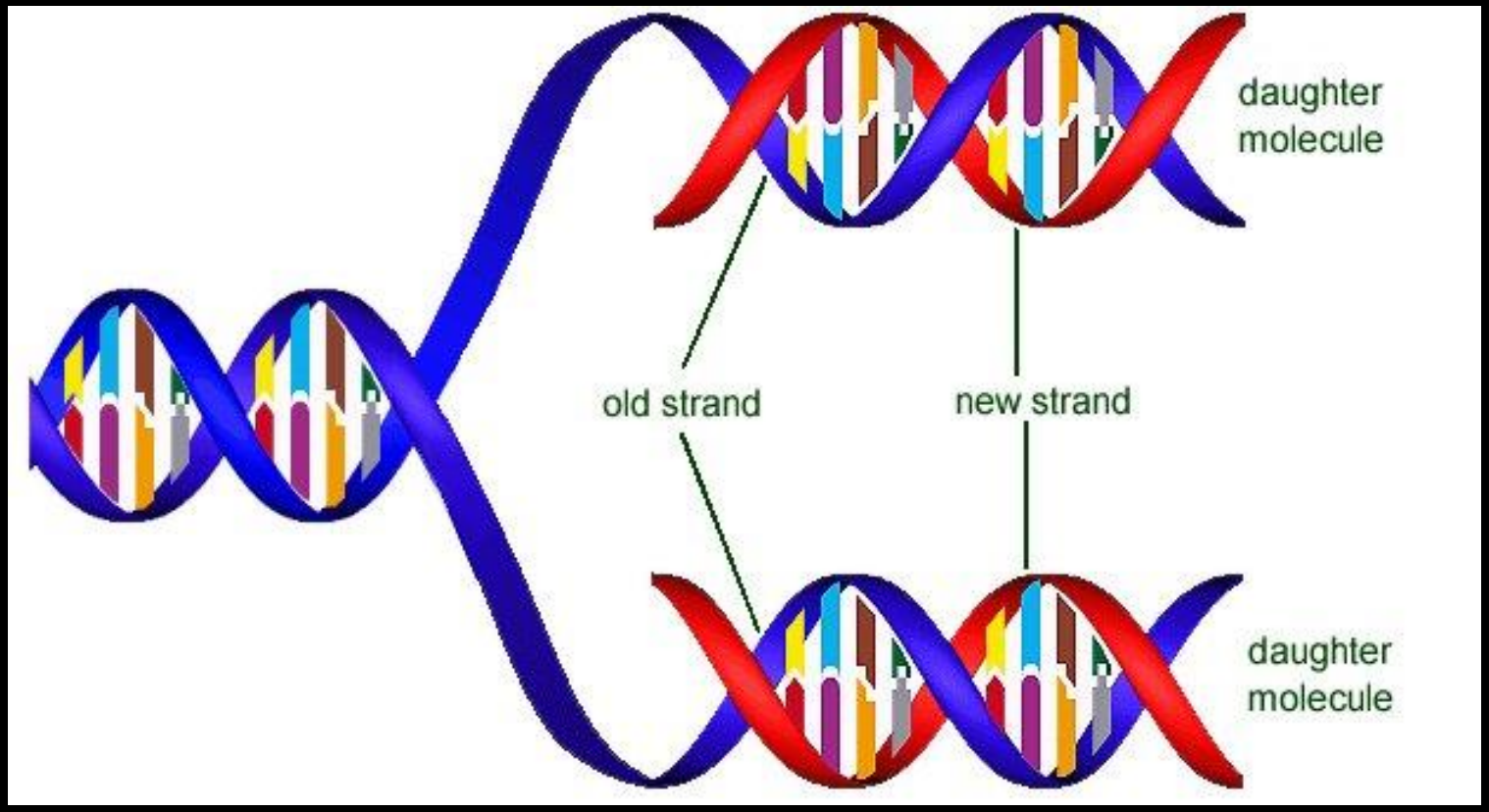
Complementary DNA Strands



Two new complementary DNA strands are made following the rules of base pairing

G≡C A=T

Semi-Conservative Replication



Two identical copies of DNA are made, each containing one original strand and one new strand.

YouTube Video

DNA Replication
by Interact Medical

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