

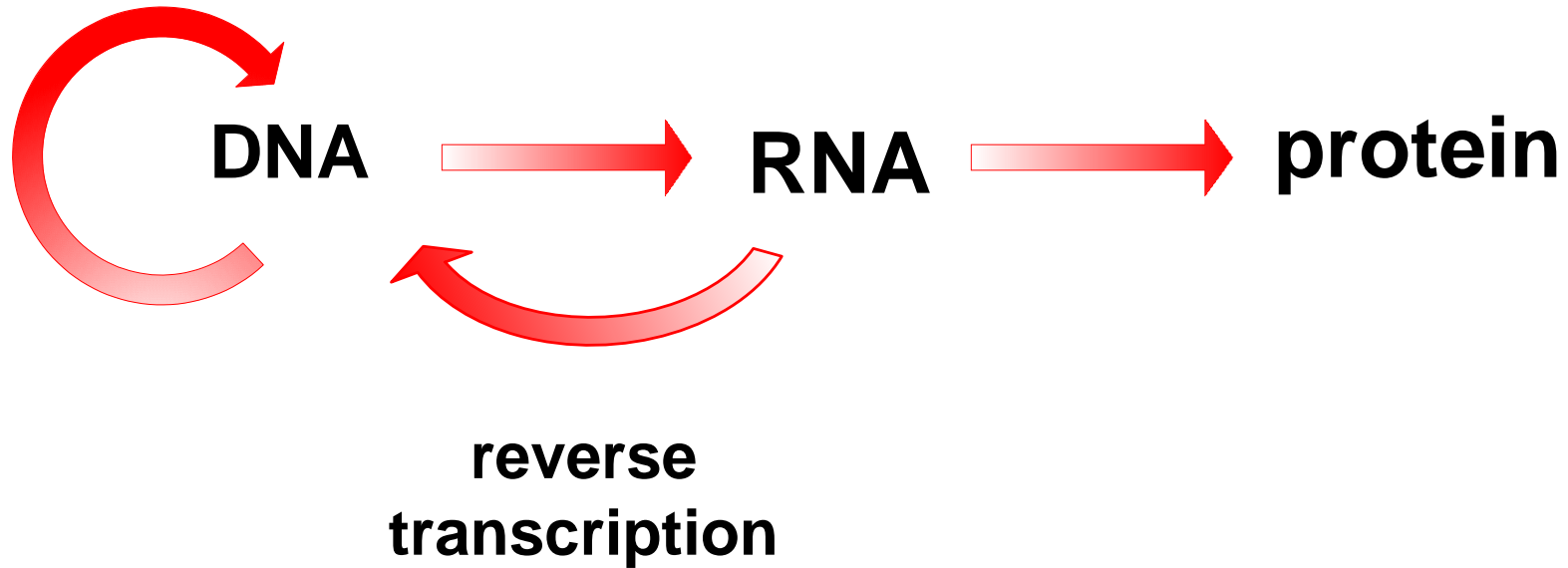
Genetic Information Transfer

Central dogma

replication

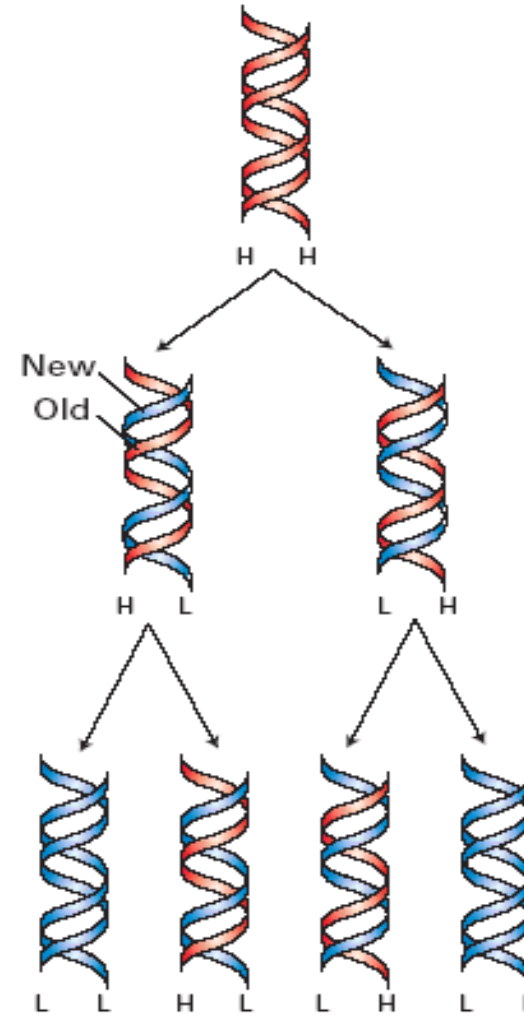
transcription

translation



- **Replication:** synthesis of daughter DNA from parental DNA
- **Transcription:** synthesis of RNA using DNA as the template
- **Translation:** protein synthesis using mRNA molecules as the template
- **Reverse transcription:** synthesis of DNA using RNA as the template

DNA Replication

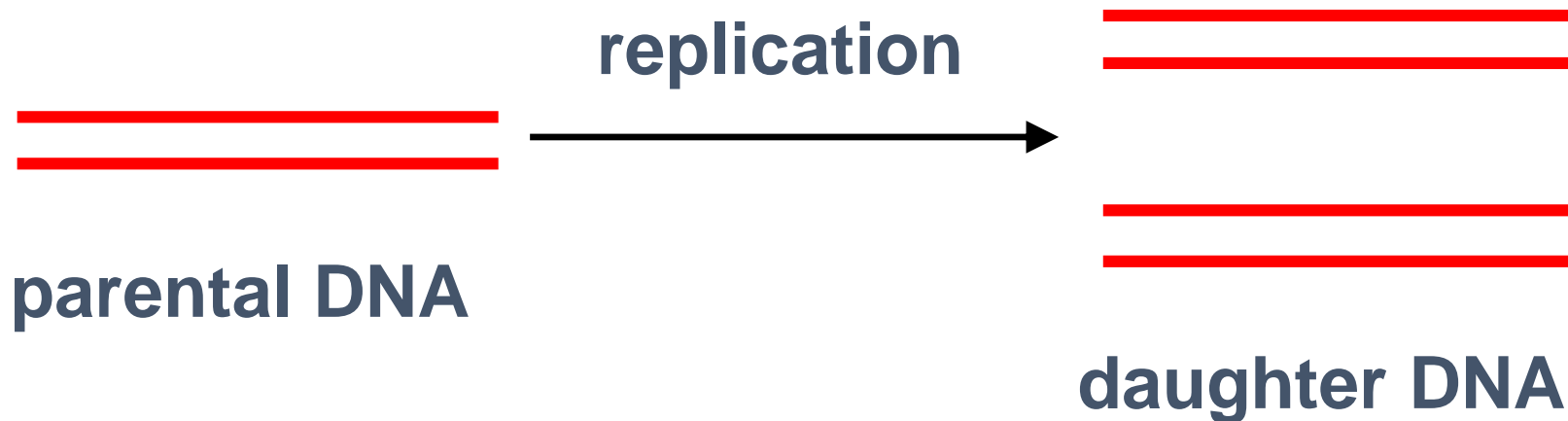


Section 1

General Concepts of DNA Replication

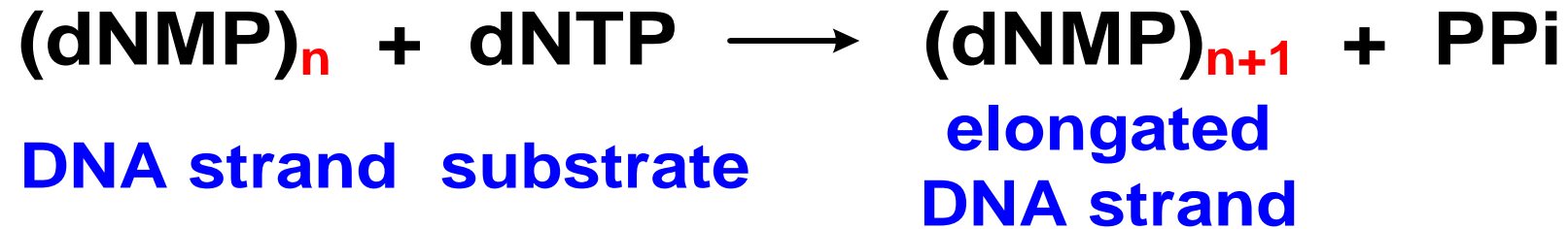
DNA replication

- A reaction in which daughter DNAs are synthesized using the parental DNAs as the template.
- Transferring the **genetic information** to the descendant generation with a high fidelity



Daughter strand synthesis

- Chemical formulation:



- The nature of DNA replication is a series of 3' - 5' phosphodiester bond formation catalyzed by a group of enzymes.

