

# GENETICS

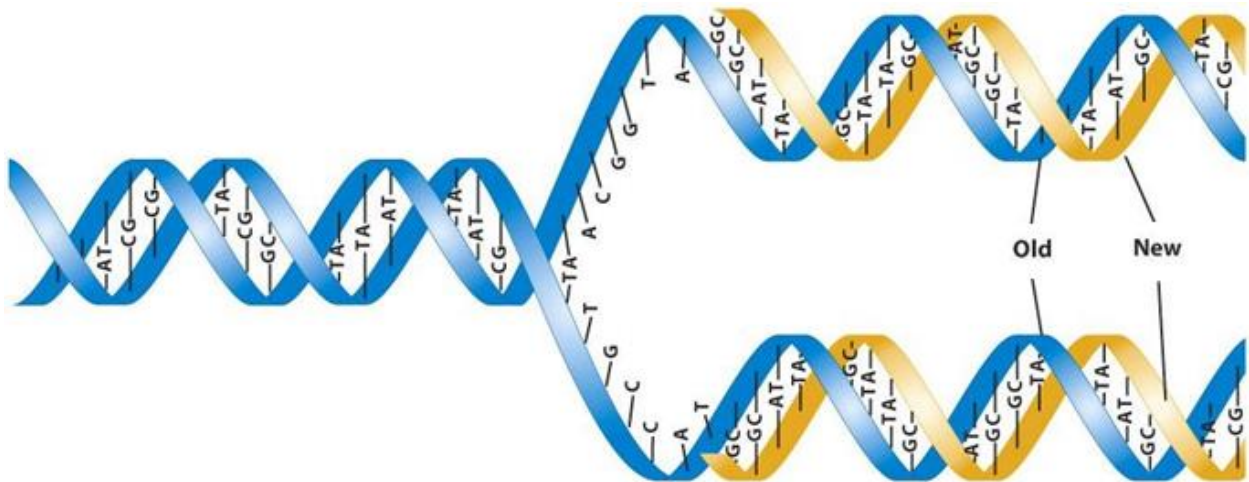
## DNA REPLICATION & PROTEIN FORMATION

### Learning Outcomes:

- I can describe the basic process of DNA replication.
- I can describe how a DNA gene sequence is used to make a protein.

### DNA Replication

- \_\_\_\_\_
- called DNA replication
  1. \_\_\_\_\_  
\_\_\_\_\_
  2. \_\_\_\_\_  
\_\_\_\_\_  
    - \_\_\_\_\_
    - \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



### Protein Formation

- \_\_\_\_\_
- 1. Transcription
  - \_\_\_\_\_  
\_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

DNA

RNA

- example:

DNA            T A C G C G A A T T G T C A C T A G A C C A C T

RNA

## 2. Translation

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

|               |   | Second Letter |     |           |     |            |            |            |           |
|---------------|---|---------------|-----|-----------|-----|------------|------------|------------|-----------|
|               |   | U             |     | C         |     | A          |            | G          |           |
| 1st<br>letter | U | UUU   Phe     | UUC | UCU   Ser | UCC | UAU   Tyr  | UAC        | UGU   Cys  | UGC       |
|               |   | UUA   Leu     | UUG | UCA       | UCG | UAA   Stop | UAG   Stop | UGA   Stop | UGG   Trp |
|               | C | CUU   Leu     | CUC | CCU   Pro | CCC | CAU   His  | CAC        | CGU   Arg  | CGC       |
|               |   | CUA           | CUG | CCA       | CCG | CAA   Gln  | CAG        | CGA        | CGG       |
| 1st<br>letter | A | AUU   Ile     | AUC | ACU   Thr | ACC | AAU   Asn  | AAC        | AGU   Ser  | AGC       |
|               |   | AUA   Met     | AUG | ACA       | ACG | AAA   Lys  | AAG        | AGA   Arg  | AGG       |
|               | G | GUU   Val     | GUC | GCU   Ala | GCC | GAU   Asp  | GAC        | GGU   Gly  | GGC       |
|               |   | GUA           | GUG | GCA       | GCG | GAA   Glu  | GAG        | GGA        | GGG       |
|               |   |               |     |           |     |            |            |            |           |
|               |   |               |     |           |     |            |            |            |           |
|               |   |               |     |           |     |            |            |            |           |
|               |   |               |     |           |     |            |            |            |           |

- example:

RNA            AUG CGC UUA ACA GUG AUC UGG UGA

Amino Acid

- \_\_\_\_\_