

### Practicing Translation

1. Define Translation.
2. Where does translation occur in the cell?
3. What is the function of each type of RNA during Translation?
  - a. mRNA:
  - b. tRNA:
  - c. rRNA (ribosomes):
4. Translate the following sequences of mRNA:
  - a. AUG CCC GCA CUA CAA GAU AUU AAA GCG UCU AUG UGA
  - b. AUG GGU GCC CAG AAA GGA CAC CUC CGA ACG CCC UAA
  - c. AUG CCC CGU AAU AUA GGC GAA CAU AUG CGG UUU UAA

### Putting it all together ...

Here is a strand of DNA: (in the nucleus)

TAC GGG CAT CTA GTA GAT GGC GTG CTG AAT ATA ACC GAC TGC ATC

Transcribe it here into mRNA: (travels from the

Translate it here:

How many codons are in this gene of DNA? \_\_\_\_\_

How many amino acids are in this gene of DNA? \_\_\_\_\_

### Practicing Replication

1. How many strands of DNA are in one double helix?
2. Draw the structure of a nucleotide:
3. Define DNA Replication:
4. Where does Replication occur in the cell?
5. How do the bases pair up when DNA replicates?
6. Replicate the following sequences of DNA:
  - a. ATG CCG CAG CGG GAT TTA ATG CAG TCA
  - b. GCA CAG GGT TAT TCG TGA CGT GAT TCG

### Practicing Transcription

1. Define Transcription.
2. Where does transcription occur in the cell?
3. Which type of RNA is made during transcription?
4. Transcribe the following sequences of DNA:
  - a. ATG CCG CAG CGG GAT TTA ATG CAG TCA
  - b. GCA CAG GGT TAT TCG TGA CGT GAT TCG
  - c. ACG GGC CCA CCG TTA TAA CAG CTA CGG