Central Dogma of Gene Expression

DNA

RNA

PROTEIN

mRNA 5’ AAUAUGUCUAGAGGGUGACGA

1. **Initiation**
2. **Elongation**
3. **Termination**
4. **Initiation**
5. **Elongation**
6. **Termination**

\_\_\_: Pre-mRNA 🡪 RNA Editing

# Directions:

1st I gave you a strand of mRNA.

1. Write out the double stranded DNA sequence that coded for that mRNA.
2. Label the ends 5’ or 3’
3. Identify the coding strand
4. Identify the template strand

2nd re-write the mRNA sequence in the top of the translation bubble

1. Put a box around the start codon
2. circle all the other codons
3. write out the sequence of the tRNA that would correspond
4. draw lines under each anticodon
5. how many amino acids will be incorporated into the polypeptide chain?
6. write out the amino acid sequence

3rd fill in the chart using the word bank below

Word Bank:

|  |  |  |  |
| --- | --- | --- | --- |
| Transcription  Translation  Nucleus  Cytoplasm  ORI  Promoter  Terminator  RNA Polymerase  DNA Polymerase  Poly-A Tail  mRNA  tRNA  rRNA  Pre-mRNA  TATA  Release factor | Ligase  Free  Bound  DNA polymerase I  DNA Polymerase III  Primase  Topoisomerase  5’ cap  Splicing  Polyadenylation signal  RNA Editing  A🡪P 🡪 E  Exon  Initiation factors  SSB’s  AUG | Replication  Ribosome  30s  40s  50s  60s  70s  80s  Translation initiation complex  Helicase  Okazaki fragment  Splicing  snRNP’s  intron | 1st tRNA  5’🡪3’ direction (used twice)  Transcription factors  If something is specific to a eukaryote or prokaryote write euk or pro next to the item in your chart!  Prokaryote (pro)  Eukaryote (euk) |