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:

|  |  |  |  |
| --- | --- | --- | --- |
| TranscriptionTranslationNucleusCytoplasmORIPromoterTerminatorRNA PolymeraseDNA PolymerasePoly-A TailmRNAtRNArRNAPre-mRNATATARelease factor | LigaseFreeBoundDNA polymerase IDNA Polymerase IIIPrimaseTopoisomerase5’ capSplicingPolyadenylation signalRNA EditingA🡪P 🡪 EExonInitiation factorsSSB’sAUG | ReplicationRibosome30s40s50s60s70s80sTranslation initiation complexHelicaseOkazaki fragmentSplicingsnRNP’sintron | 1st tRNA5’🡪3’ direction (used twice)Transcription factorsIf something is specific to a eukaryote or prokaryote write euk or pro next to the item in your chart!Prokaryote (pro)Eukaryote (euk) |