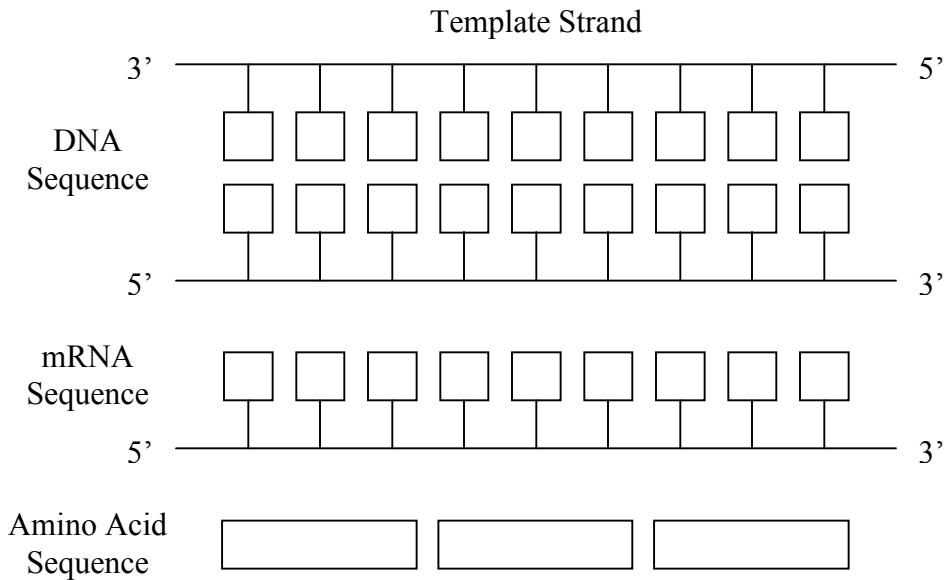


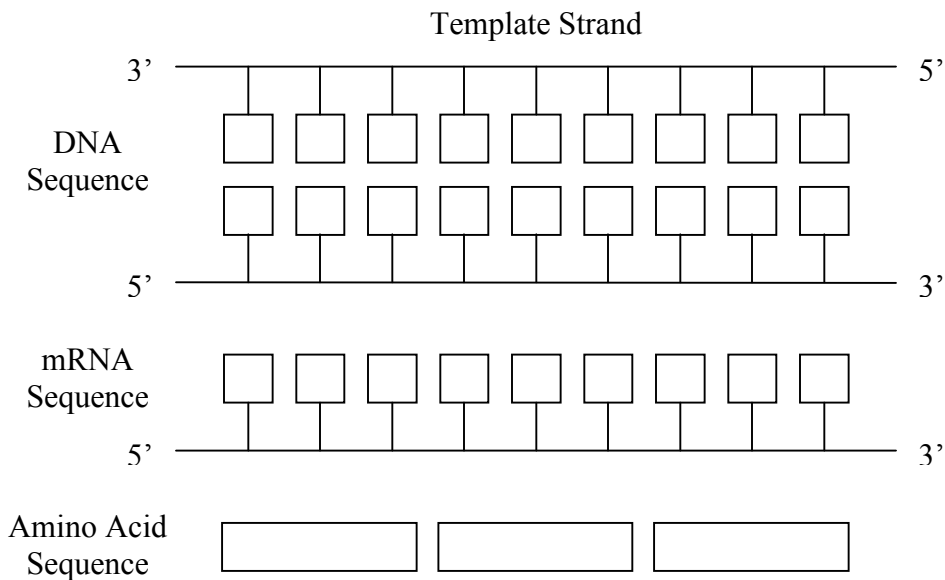
DNA and mRNA Transcription and Translation Worksheet

- DNA is made of two strands of nucleotides that are complimentary to each other.
- Each strand has 3' (pronounced three prime) and a 5' end.
- The DNA strand that starts with a 3' and ends in a 5' is the **template strand** or **sense strand**.
- The template strand (3' to 5' direction) is the strand that is **transcribed** into mRNA.
- mRNA strands are therefore complimentary to the template strand.

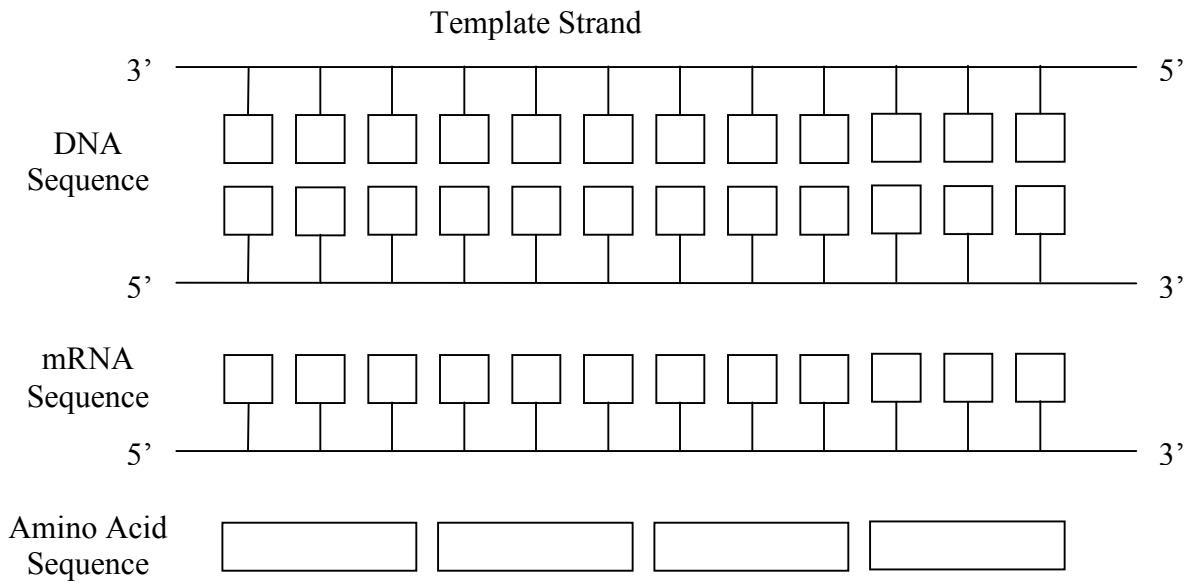
- 1) A DNA template strand has the following nucleotide sequence: C G A T T C G A T
- a) Write in the sequence of the template strand (it goes 3' to 5')
 - b) What is the sequence of the DNA strand complimentary template strand?
 - c) What is the sequence of the mRNA strand? (It is complimentary to the template strand)
 - d) What is the amino acid sequence formed from the mRNA? (Use the codon chart)



- 2) A protein has the following amino acid sequence: Cys - Phe - Lys
- a) Write in the sequence of the amino acids
 - b) What is the sequence of the mRNA strand that formed this protein sequence
 - c) What is the sequence of the template strand?
 - d) What is the sequence of the DNA strand complimentary to the template strand?



- 3) A protein has the following sequence for its nonsense strand: C G A T A T C C G A T C
- Write in the sequence of the nonsense strand
 - What is the sequence of the template strand?
 - What is the sequence of the mRNA strand?
 - What is the amino acid sequence?



- 4) A protein has the following mRNA sequence: A G U C U C U G A C U A
- Write in the mRNA sequence
 - What is the sequence of DNA template strand?
 - What is the sequence of the strand complimentary to the DNA template strand?
 - What is the amino acid sequence formed from the mRNA?

