BREAKING THE CODE

TRANSCRIPTION

1. For the DNA sequence below, write the sequence of the complementary strand of DNA that will result after replication.

   DNA #1: **TACCGGATGCCAGATCAAATC**

   DNA #2: _____

2. Transcribe mRNA using DNA #1 in the problem above. Mark codons appropriately.

   mRNA: _____

3. Transcribe mRNA from the DNA strand complementary to the strand below. Mark codons appropriately.

   DNA #1: **ATGTTTCATAGGGCGATAGAGTAG**

   mRNA: _____

4. Determine the DNA sequence used to transcribe the mRNA below.

   mRNA: **AUGGUUUUCGCAGAUGGGAAUUGA**

   DNA : _____

TRANSLATION

5. Use the mRNA strand below and the genetic code chart on the back of this worksheet to determine the amino acid sequence it codes for. Abbreviations are acceptable.

   mRNA: **AUGGUUUUCGCAGAUGGGAAUUGA**

   A.A. Sequence: _____

6. Determine the anticodon sequence used to create amino acid chain in the above problem.

   Anticodons (tRNA): _____

7. Determine the amino acid sequence coded for by DNA strand below.

   DNA #1: **TACCGGATGCCAGATCAAAAAATT**

   A.A. Sequence: _____

8. What DNA sequence could have coded for the amino acid chain below?

   A.A. Sequence: Met – Ala – Thr – Leu – Tyr – Lys – Val – Arg – STOP

   DNA : _____

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