Transcription and Translation Practice:  

Example: Beyonce has brown eyes. Her eyes look brown because her DNA codes for a brown pigment in the cells of her eyes. This is the gene that codes for brown eyes.

DNA: T A C G C G T A T A C C G A C A T T

Transcription will make mRNA from DNA

mRNA: A U G C G C _______________________

Transcription will join amino acids to make the protein

Methionine - Arginine - ________________________________

Rules of Translation:

Three letters of mRNA = a codon

A codon “codes” for an amino acid

We use the “Genetic Code” to determine the amino acids

The complete chain of amino acids will complete the protein that will give Beyonce her brown eyes. If you have brown eyes you have the same protein. If you have blue or green eyes your DNA sequence is a little different which will make the amino acid sequence (protein) a little different.
Now try these examples: First transcribe the DNA into mRNA and then use the genetic code to translate the mRNA into an amino acid sequence.

1. DNA: A T A   C G A   A A T   C G C   G A T   C G C   G G C   G A T   T C G
   mRNA:
   Amino acid sequence:

2. DNA: T T T   A C G   G C C   A T C   A G G   C A A   T A C   T G G
   mRNA:
   Amino acid sequence:

   mRNA:
   Amino acid sequence:

4. DNA: G T A   C G C   G T A   T A C   C G A   C A T
   mRNA:
   Amino acid sequence: