Ch 17 - Transcription and Translation Worksheet

All due on _____ beginning of the period

1. What are the differences and similarities between DNA and RNA?

2. What is the general structure and function of mRNA? Why is mRNA referred to as "messenger" RNA?

3. How do you use the rules of complementary base pairing and 5' - 3' polarity to determine the RNA sequence transcribed from a particular segment of DNA?

4. In general, how do the following cellular components work together to make an RNA molecule from a DNA template?

Transcription Factors

DNA Promoter Region

RNA Polymerase

RNA Nucleotide

5. How is mRNA "processed" inside the nucleus before it travels to the cytoplasm?

6. In general terms, how do the three different types of RNA molecules interact during translation to make a protein?

7. What is meant by the "genetic code" and how does the genetic code come into play during the synthesis of protein?

8. What is a codon? What does it mean to say that the genetic code is "triplet" and redundant?

9. What makes two proteins differ from one another?

10. You should be able to use the genetic code to decipher a particular DNA nucleotide sequence that leads to a particular amino acid sequence.

What is the polypeptide that would be created from the sequence:

DNA : gtc tac ctg cca tgg ccc tgt gga tgc gcc tcc tgc ccc tgc tgg att