Questions (think of questions that might be on the exam)

A. The Genetic Code
   1. The main function of genes is to
      _____
      _____
   2. **Genes** and DNA
      i. Gene – section of DNA that contains
         _____
         _____
      ii. A gene is made up of a series of _____ in a row
         ❖ EXAMPLE: ATGACGTAC
   3. Order of the Bases
      i. Order of bases in a gene forms a
         _____
         ❖ Determines what _____ is made
      ii. One group of _____ bases (a _____) codes for 1 _____
         ❖ i.e.) _____ always codes for alanine

B. How Cells Make Proteins
   1. Information from a gene is used to produce a
      _____
   2. Protein synthesis = _____
   3. Takes place in the _____ in the cytoplasm
   4. The Role of RNA
      i. Genetic messenger from _____ in nucleus to
         _____
      ii. Different from DNA
         a. RNA has _____ strand – DNA has _____
         b. RNA has a different _____
         c. RNA has (___) _____ instead of thymine (T)

Q. How is RNA different from DNA?

   5. Types of RNA
      i. Messenger RNA – (_____) copies the coded message from the _____ and carries it to the _____ in the cytoplasm
      ii. Transfer RNA – (_____) carries _____ to the ribosome and adds them to the _____
   6. Translating the Code
      i. First - the DNA molecule must _____ and make _____
      ii. Second - _____ leaves the nucleus and enters the _____
      iii. Third - the _____ attaches to the _____ and "_____" the code
      iv. Fourth - _____ puts the _____ it carries on the _____

Q. What is the function of tRNA?

Q. What are two types of mutations?

C. Mutations
1. **Mutation** – any change in a _____ or _____
2. Can cause the production of the _____ during protein synthesis
3. Results in a change in the _____
4. Types of Mutations
    i. Changes in a _____ during DNA replication
        a. Substitution or _____ of bases
    ii. Chromosomes don't always _____
        a. Too few or too _____
5. Effects of Mutations
    i. Source of _____
    ii. Few mutations are _____ and some are _____

Summary (about 5 sentences):