**Protein Synthesis Notes**

***Proteins and Protein Structure***

1) Proteins-

2) Elements that make up Proteins:

3) Monomer that makes up proteins (draw basic structure):

 

4) How many types of monomers are there?

5) Structure of Proteins:

6) Types and function (list all 5):

***Enzymes***

1) Reactants-

2) Products-

3) Catalyst-

 

4) Enzyme:

5) MOST ENZYMES ARE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6) Substrate-

7) Active Site of Enzyme-

8) Enzymes fit their substrates like a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9) Enzyme-substrate complex-

10) Factors that affect enzymes

1)

2)

3)

***Protein Synthesis***

1) protein synthesis-

2) gene-

***RNA (Main player in protein synthesis)***

1) Ribonucleic Acid (RNA) is a type of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2) Ways RNA is different from DNA:

 1.

 2.

3.

3) 4 Bases in RNA

 1.

 2.

 3.

 4.



***Protein Synthesis Main Parts***

Basic Steps in Protein Synthesis

1.

2.

***Transcription*** 

1) Location of transcription-

2) Objective of transcription-

3) mRNA-

4) Steps of Transcription

1.

2.

3.

5) Practice Transcription

DNA: ACGGATG

mRNA:

***mRNA Editing***

1) Introns-

 “\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_”

2) Exons-

3) Introns-

4) After editing, where does the mRNA transcript go?

***The Code***

1) Codon

2) genetic code- the amino acids and “start” and “stop” signals that are coded for by each of the possible 64 mRNA codons (see figure below)

Example: UUU codes for Phenylalanine

3) What does GAG code for?



**Start at center and go out to decipher code**

**Make sure you have mRNA first!!**



***Translation***

1) Location of translation-

2) Objective of translation-

3) Important molecules for Translation

 1. tRNA-

 2. rRNA-

4) Steps of Translation

 1.

 2.

 3.

4.

 5.

5) The first amino acid in a protein is always \_\_\_\_\_\_\_\_\_\_\_\_\_\_. 

6) The first codon read on the mRNA is always \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

7) Practice:

DNA: TAC GTA CCT AAT TGA ATT

mRNA:

amino acid sequence: