

Name: _____ Date: _____

DNA CHEAT SHEET

DNA - The BIG idea

- Contains ALL of the information that makes you YOU
- It is the code of your body: Base Pairs: A=T & G=C
 - Adenine + Thymine
 - Guanine + Cytosine
- Each Codon (3 bases) codes for an AMINO ACID
 - GGA = Glycine
- AMINO ACIDS get linked together to make PROTEINS
 - There are 20 Amino Acids that are the building blocks of proteins
- PROTEINS do everything in your body
 - There are 20,000 genes that code for proteins
 - There are HUNDREDS of THOUSANDS of proteins that can be made

DNA Replication

- Double Sided Helix - like a twisted ladder
 - Rungs of ladder are A=T & C=G
- To make copies it unzips
 - Each side is a template - semiconservative replication
 - **DNA: AGG CTA GGT TAC**
 - **DNA: TCC GAT CCA ATG**
 - Makes exact copies
 - **DNA: AGG CTA GGT TAC - original**
 - **DNA: TCC GAT CCA ATG - copy**

 - **DNA: AGG CTA GGT TAC - copy**
 - **DNA: TCC GAT CCA ATG - original**
 - Proofreads to check
 - If mistake = mutation
 - New cells have the same exact DNA
 - One side of ladder is the original; other side is the copy

DNA Transcription & Translation

- Only a small section of the DNA double helix unzips
 - Needs only one small part of the code, not everything
- mRNA reads the bases and makes a complementary strand
 - **Uracil** replaces Thymine
 - **DNA=CGAT**
 - **RNA=GCUA**
- DNA zips back together
- mRNA leaves the nucleus with the information it just copied
- mRNA in the cytoplasm has the information it transcribed from DNA and pairs with a ribosome
- rRNA (ribosomes) then reads the code & makes proteins
 - tRNA Collects amino acids and brings to rRNA
 - Amino acids are connected together at rRNA to create chains of amino acids
 - Chains are new PROTEINS
 - Each protein has a specific job it will do in the body