CORNELL NOTES

Name: _____ **Period:** _____
Class: _____ **Date:** **19-20 November 2013**

Topic: Chapter 8, Section 3 DNA

Question Column	***Notes Column***
What is DNA?	The chemical code that is stored in a cells hereditary material. Contains information code for an organisms growth And function. Deoxyribonucleic Acid is copied and passed On to all the cells in an organism.
Figure 14	DNA is coiled up and wrapped around proteins in chromosomes. It is a double helix and looks like a twisted Ladder.
Discovery	1952 scientist Rosalind Franklin found that DNA has two Chains of molecules in spiral form using X-rays. 1953 scientists James Watson and Francis Crick made a model of the DNA molecule.
DNA Model	Sides of the ladder is made of the sugar deoxyribose and Phosphate. Rungs of the ladder are made of four nitrogen Bases that pair up together. Cytosine (C) pairs with Guanine (G), Adenine (A) pairs with Thymine (T). These bases when Paired up make the DNA code or instructions.
DNA is copied Figure 15	During Interphase, the chromosomes are duplicated or copied. An enzyme separates two sides of the DNA and it unwinds and separates. New bases pair with bases on the Original DNA. Two identical DNA molecules are then Produced.
Genes	Contain the instructions to make specific proteins. Genes are Found on a section of DNA on a chromosome. Figure 17 Shows genes on human chromosome 7. Discuss this.

Cornell Notes Continued:

RNA	Ribonucleic Acid. Made in the nucleus on a DNA pattern or Gene. It's code is then carried into the cytoplasm to the Ribosomes, and proteins then can be made. RNA contains Four nitrogen bases: Cytosine (C), Adenine (A), Guanine (G), and Uracil (U).
Making proteins	Messenger RNA (mRNA) molecules carry a code from the nucleus to a ribosome (rRNA) in the cytoplasm and it attaches to it. Transfer RNA (tRNA) molecules bring amino Acids to the mRNA and rRNA. Three nitrogen bases on the mRNA pair up with three nitrogen bases on the tRNA and this process continues until a protein is made. Examples: each protein that is made by cells are used by those cells – muscle cells make proteins to help muscles move, stomach cells make proteins to digest food.
Mutations	If DNA is copied incorrectly and a mistake is made, then Proteins are not made correctly either. A mutation is a Permanent change in the DNA sequence of a gene. Some Mutations occur when a cell receives an extra chromosome Or a chromosome is missing. X-rays, sunlight, and chemicals can cause mutations. Without correctly coded Proteins, an organism can't grow, repair, or maintain itself. Mutations can be harmful, have no effect on the organism, Or be beneficial to the organism.

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