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Lesson Plan: DNA

Title: DNA- The Central Dogma

Audience: 11th and 12th grade Human Biology (some previous chemistry; all have had biology)

Goals: To have students review the basic tenets of the central dogma

Student Objectives:

At the end of the lesson, students will be able to:

1. Compare and contrast the structures of DNA and RNA
2. Explain the process of protein synthesis from DNA to protein

Purpose: To review DNA, RNA, replication, transcription and translation

Materials/ Resources:

Textbook, class handouts

Prior preparation: none

Time required: One class period

Procedure: See attached handout ; then have students review a partner's paper with them. If this is not comfortable, students may work in pairs and review the paper of another pair.

Assessment: Assignment is the assessment, as well as individual exam

Name: _____

Date: _____

Partner(s): _____

DNA & The Central Dogma

Use the following terms to construct a few paragraphs that sum up our discussion of DNA. Your first paragraph should be about the structure of DNA. Subsequent paragraphs should compare DNA and RNA, as well as discuss the central dogma (replications, transcription, translation). Underline all terms as they are used. You are not limited to using a term once. In addition, you may change the form of then word when needed (ex: translation may become translate). When you are finished, you will trade your paper with a partner for peer review.

Terms:

5 prime, 3 prime

RNA

DNA

Enzymes

Replication

Transcription

Translation

Sugar

Helix

Polymerase

Helicase

Strand

Sense strand

Antisense strand

Intron

Base

Exon

Ligase

Histone

Protein

Phosphate

Adenine

Thymine

Uracil

Cytosine

Guanine

Phosphate

Hydrogen bond

Ribosome

mRNA

tRNA