DNA, GENES AND CELL DIVISION – Chapter 5 (pg 107-130)

Key Vocabulary	Assignments
Adenine Allele Amino Acid Anticodon Bacteriophage Base Pairing Rule Codon Chromatin Chromosome Cytosine DNA DNA Polymerase Double helix exons Gene Genetic Engineering Genotype Guanine Helicase Histone introns mRNA Mutagen Mutation Nitrogen Base Pair Nucleotide Phenotype Polymer Polypeptide Protein Thymine Transgenic Replication RNA rRNA RNA Polymerase Start codon Stop codon tRNA Transcription Translation Trait Uracil Variation	1. **Read 108-112** (Stop at "How do genes work?") **a.** Answer questions #1, 6, 7 on page 129 **b.** What are the four bases that make up DNA? **c.** Why must the bases appear in matching quantities? Due: 2. **Read 112-119** (Stop at "Genetic Engineering") **a.** What is tRNA? **b.** What is the relationship of tRNA and mRNA and what does that have to do with all of this codon/ anti codon business? **c.** Why doesn't translation take place in the nucleus? **d**. How can you explain that two genes can vary in nucleotide sequence yet code for the exact same polypeptide? **e.** Suppose an error occurred during replication so that one extra nucleotide was added. How would that mutation affect the polypeptide coded for by that gene? Due: 3. **Read 123 "**The Many Uses of Plant Tissue Culture" a. What does the word totipotent mean? b. How does this ability relate to tissue culture? c. In four sentences explain the process of plant tissue culture. Due: 4. Read the article **Building a Better Banana** by Craig Canine from Smithsonian Magazine, October 2005 and answer the questions on the online worksheet. DUE BY: