**UNIT 5 – HEREDITY – REVIEW GUIDE FOR UNIT EXAM**

Know these basic definitions (review from integrated science) genotype, phenotype, dominant, recessive, heterozygous, homozygous, true-breeding, hybrid, diploid, haploid, homologous chromosomes

Be able to compare and contrast mitosis and meiosis

Explain how and when meiosis generates genetic diversity

How do the movement of chromosomes during meiosis explain Mendel’s Law of Segregation of alleles and Mendel’s Law of Independent Assortment?

What is genetic linkage? Be able to use recombination frequencies to find relative distances between genes that are linked.

Be able to recognize and predict the phenotypic and genotypic ratios for the following modes of inheritance:

 Monohybrid

 Dihybrid

 Sex-linked

 Mitochondrial inheritance

Be able to do a chi-square problem similar to the following” *In mice, brown fur is dominant to white fur. A heterozygous brown mouse is mated to a white mouse. They produce 43 brown offspring and 47 white offspring. What is your null hypothesis? Are the observed numbers of offspring significantly different from the expected numbers? Why or why not? Show your work.*

How can environment affect phenotype?

Know the difference between the following: pleiotropy, epistatsis, genomic imprinting

Be able to interpret a karyotype and identify the sex of the individual and any aneuploidies

Be able to both draw and interpret a pedigree

What are the advantages and disadvantages of sexual reproduction?

There are 31 multiple choice questions. 29 are from this unit, one is from the cell cycle, one if from energetics.