**Unit 6 – Meiosis and Genetics STUDY GUIDE**

Be able to define the following vocabulary:

* Heredity:
* Meiosis:
* Gamete:
* Trait:
* Hybrid/Heterozygous:
* Allele:
* Purebred/Homozygous:
* Gene:
* Dominant:
* Recessive:
* Genotype:
* Phenotype:
* Parental generation:
* F1 generation:
* F2 generation:
* Chromosome:
* Probability:

What is the purpose of meiosis?

Compare and contrast cell cycle (mitosis) and meiosis.

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Explain the relationship between chromosomes, genes, and alleles.

How are most traits transmitted from generation to generation? Use Mendel’s experiment to follow a trait from the parental generation to the F1, and then F2 generations.

What is a punnett square?

Use a punnett square to solve the problem. Mice can be black or white. Two heterozygous black mice are crossbred. What possible genotypes and phenotypes are their offspring?

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Explain how dominant traits relate to recessive traits.

What determines if traits can be inherited?

List 4 scientists discussed in class, and their contributions to our basic genetic knowledge.

In addition to answering these questions you need to be able to:

* Solve Punnett Squares