**Mendelian Genetics**

**Essential Questions:**

*You should know the answer to each of these questions by the end of the unit.*

1. What is the basic functional unit of inheritance?
2. If we possess 50% of our parent’s genetic information why do we sometimes possess traits from only one of them?
3. How can traits sometimes “skip” a generation?
4. How can we predict the likelihood that offspring of two parents may have certain traits?
5. How can we use pedigree information to understand where certain traits originated in a familial group?
6. What is the significance of a gene not being evident in an organism’s phenotype but still being present in the genotype?
7. Are there more complex patterns of inheritance that do not follow Mendelian principles?

**Key vocabulary and phrases:**

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| **Word or Phrase** | **Student interpretation** |
| Heredity |  |
| Genetics |  |
| Traits |  |
| Alleles |  |
| Genes |  |
| Chromosomes |  |
| Gametes |  |
| Diploid |  |
| Haploid |  |
| Fertilization |  |
| Self-pollination |  |
| Cross-pollination |  |
| Hybrid |  |
| Dominant |  |
| Recessive |  |
| Parental generation |  |
| Filial generation |  |
| Segregation |  |
| Independent assortment |  |
| Probability |  |
| Genotype |  |
| Phenotype |  |
| Homozygous |  |
| Heterozygous |  |
| Punnett squares |  |
| Pedigrees |  |

**Vocab Tiers – Start of Unit**

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| Unknown | Known but in a different context | Known/understood and applied |
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**Vocab Tiers – End of Unit**

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| Unknown | Known but in a different context | Known/understood and applied |
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