

## Summary of Learning

The following are two samples of student summaries at the conclusion of the lesson.

### Mendel's Legacy

In 1865, Mendel presented his findings in two lectures to the Natural Science Society in Brno. After his presentations, Mendel's work was published as *Experiments on Plant Hybrids* in the Natural Science Society's journal. Although Mendel presented and published his work, it was not fully understood during his lifetime and did not attract much attention. Many thought Mendel demonstrated what was already known about hybrid offspring reverting to their previous traits. Scientists, including Mendel, also did not understand how the experiments with pea plants could be applied to other organisms.

Gregor Mendel died in 1884 at the age of 61 without seeing his work gain recognition. In fact, Mendel's ideas remained mostly unread for nearly thirty-five years after their publication. In the early 1900s three independent scientists each rediscovered Mendel's published article and work. The work of these geneticists, botanists, and biologists built on Mendel's work, some even replicated Mendel's experiments and gathered data consistent with Mendel's data. Eventually Mendel's conclusions were referred to as Mendel's Laws. Scientists have identified a number of traits that follow the pattern of Mendelian inheritance, but not all genetics are as simple as the traits described by Mendel. Even so, Mendel's work is the foundation of understanding genetics and the reason Mendel is viewed as the father of modern genetics.

From Mendel, we have learned a lot of information about genetics and scientific discoveries have been made when those scientist looked at Mendel's data and graph. We have learned from Mendel that in genetics, there are dominant and recessive genes and when they mix, a ratio is born. Mendel was able to roughly predict the outcome of 2 "parent" pea plants' offspring. He then would organize it into a graph which we could mathematically find a ratio of which trait would be more prominent in a hybrid. Also, a scientist named Reginald Punnett developed a matrix system to track traits from parents to offspring by using what Mendel demonstrated with math.

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In the beginning I learned that ~~gen~~ a gene has to come from 1 parent each and that means the offspring collects 2 genes. This is because Meiosis takes half the DNA. Then using the genes ~~you~~ depending how many dominant and/or recessive traits were given to the offspring you create genotypes. You could use the Punnett square in order to figure out what the offspring would look. If it has <sup>an</sup> dominant traits then it would be round, green, and a long stem. Then using the genotype the phenotype can be determined. So basically I learned how if the offspring has dominant genes then it would have looked ~~like~~ dominant. I also learned about Mendel's lifestyle. For example I learned how

Mendel grew up on a farm ~~but~~ and was thought as gifted and talented. However he didn't do well on tests.