Johann Gregor Mendel (1822-1884)  
Father of Genetics  
Gregor Mendel, through his work on pea plants, discovered the fundamental laws of inheritance. He deduced that genes come in pairs and are inherited as distinct units, one from each parent. Mendel tracked the segregation of parental genes and their appearance in the offspring as dominant or recessive traits. He recognized the mathematical patterns of inheritance from one generation to the next. Mendel's Laws of Heredity are usually stated as:

1) The Law of Segregation: Each inherited trait is defined by a gene pair. Parental genes are randomly separated to the sex cells so that sex cells contain only one gene of the pair. Offspring therefore inherit one genetic allele from each parent when sex cells unite in fertilization.

2) The Law of Independent Assortment: Genes for different traits are sorted separately from one another so that the inheritance of one trait is not dependent on the inheritance of another.

3) The Law of Dominance: An organism with alternate forms of a gene will express the form that is dominant.

The genetic experiments Mendel did with pea plants took him eight years (1856-1863) and he published his results in 1865. During this time, Mendel grew over 10,000 pea plants, keeping track of progeny number and type. Mendel's work and his Laws of Inheritance were not appreciated in his time. It wasn't until 1900, after the rediscovery of his Laws, that his experimental results were understood. Gregor Mendel is known for his work on the laws of inheritance. However, he did more than just grow pea plants.
Gregor Mendel is known for his work on the laws of inheritance. However, he did more than just grow pea plants. Mendel had many interests, and while at the University of Vienna (1851-1853) he studied physics under Christian Doppler, who gave him the mathematical context for his later experiments. and took courses in chemistry and zoology. As part of his monasterial duties, Mendel taught high school science at the local schools, and was remembered as a kind and good teacher. Despite his responsibilities and his ever-increasing workload as prelate of the monastery, Gregor Mendel always found time for scientific investigations. Mendel tried to make practical use of what he found from his pea breeding experiments. He was a beekeeper; he designed beehives, and was working on breeding a strain of bees with improved honey production.

Mendel was a noted meteorologist, a founding member of the Austrian meteorological society. Mendel kept daily logs of weather patterns, and did a careful analysis of the tornado that struck Brno in 1870. Mendel also kept track of sunspot activity in relation to "northern lights" (aurora borealis) and disturbances in telegraph communication.

As is often the case in science and in other areas, a topic captures the imagination and overshadows everything else. In the 1860's the hot topic was Charles Darwin's theory of evolution. The controversy generated over that theory made it easy to overlook a pea plant study. Ironically, it was the examination of how variations are inherited during the course of evolution that led to the rediscovery of Mendel's laws in 1900. Mendel knew about Charles Darwin's theory of evolution. There is a German copy of Darwin's On the Origin of Species in the Moravian Museum in Brno that belonged to Mendel and was underlined in places by him.
Questions for Science Article on Johann Gregor Mendel (1822-1884)

Father of Genetics

1. Gregor Mendel, through his work on pea plants, discovered the fundamental laws of ________________. He deduced that ________ come in pairs and are inherited as distinct units, one from each parent.

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3. He recognized the mathematical ________________ of inheritance from one generation to the next.

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6. During this time, Mendel grew over ________________ pea plants, keeping track of progeny number and type.

7. Mendel's work and his Laws of Inheritance were not appreciated in his time. It wasn't until ________________, after the rediscovery of his Laws, that his experimental results were understood.
8. While at the University of Vienna (1851-1853) he studied physics under,_____________ _______________ who gave him the mathematical context for his later experiments.

9. Mendel taught high school ________________ at the local schools, and was remembered as a kind and good teacher.

10. He was a beekeeper; he designed beehives, and was working on breeding a strain of bees with _________________ honey production.

11. Mendel also kept track of _________________ activity in relation to "northern lights" (aurora borealis) and disturbances in ________________ communication.

12. Mendel knew about Charles Darwin's theory of _______________. There is a German copy of Darwin's On the Origin of Species in the Moravian Museum in Brno that belonged to Mendel and was underlined in places by him.