

## **The Complete Dominance of Gregor Mendel**

Read the story of Gregor Mendel. Highlight all the words that are included on the unit vocabulary list.

The history of genetics holds one of the great stories of science. Gregor Mendel (1822-1884) was not a scientist by trade. He grew up in a farm family, so had a strong background in growing plants. Instead of farming or medicine, he decided to become a monk and focus on education. He lived for a time in a monastery in what is now the Czech Republic (he was Austrian). For years, he bred and cross-bred edible peas, observing how different traits were passed on. He began to notice that traits would seem to disappear from one generation but reappear in the next. He recognized these hidden traits which we now call recessive.

He had also changed the way that we look at how traits are passed on in general. For traits to be hidden at all, they had to come in pairs, one passed on from the mother and one from the father. These are what we call alleles. Mendel's pea plants were following an inheritance pattern we call COMPLETE DOMINANCE. A dominant allele will always express its trait over a recessive one. If both alleles are recessive, only then will the recessive trait be expressed.

Once the microscope was developed, we learned that our genetic code is contained in the nucleus of cells on structures called chromosomes. Traits are determined by this code (DNA) in sections called genes, which sit on the chromosomes. With his discovery of recessive traits, Mendel had seen evidence that we get one set of chromosomes from each parent.

Mendel's story is also similar to many that have made groundbreaking discoveries. His work was never widely published, known or accepted in his lifetime; however, as time has gone on, his work has gained more and more respect. He started us on the path to understanding how the genotype affects the phenotype. It is perhaps for this reason, that we sometimes use the term 'Mendelian' to refer to complete dominance.

**After you finish this reading, grab an Issues and Life Science book. We are going to use this activity to review the basic ideas we have been studying. Please do all work in your notebook.**

### **[60] Mendel, First Geneticist D-31→ D-34**

1. Start on Part B: (D-32)
2. Read the text and answer the STOPPING TO THINK 2 questions.
3. Choose one of the traits from the *Mendel's Results* table. Do a punnett square for two heterozygous parents.
4. Read D-33→ D-34. Take notes on anything that is new information.
5. Do the analysis questions in your notebook (including the graph).
6. Let me know if you need help figuring out the ratios.

**7. HOMEWORK: study your vocabulary, notes and materials for the quiz tomorrow.**