

Genetics and Heredity

- heredity is the passing of traits from one generation to the next
- biological traits are controlled by genes located on the chromosomes in every cell

The Father of Modern Genetics

- Austrian Monk, Gregor Mendel, mid 19th century
- experimented with garden peas
- seed shape, seed colour, pod shape, pod colour, flower colour
flower position, and stem length
- used pea plants because they were able to be cross pollinated

Mendel's Laws of Heredity

-as a result of his research, Mendel suggested the following laws to govern the passing on of biological traits from adult to offspring

- 1) Inherited characteristics are controlled by "factors" called genes that occur in pairs. Each "parent" contributes one gene for each characteristic.*
- 2) One factor, or gene, masks the effect of another. This is known as the principle of dominance. The dominant gene is indicated always by the uppercase letter (R) and the recessive gene is always the lowercase letter (r)*
- 3) A pair of factors for a specific trait segregate during the formation of sex cells.*