

- *Zygote* = fertilized egg, the first cell of the new offspring

Gregor Mendel

- 1822 – 1884, Austrian monk
- Studied how garden pea plants passed on their characteristics
- Used the term *factor* instead of gene
- Smooth or wrinkled peas? short or tall plants? Colour?
- His experiment:
 - Remove anthers from one plant
 - Collected pollen from a different plant
 - Transfers pollen from the stigma of the individual whose anthers had been removed
 - What he did is called *artificial pollination*
 - The results showed that
 - There are some alleles that are recessive and some that are dominant
 - The color purple is dominant in peas
 - If a dominant allele exists, that gene will be expressed
 - Recessive alleles from both parents are needed for the gene to be expressed

Key terminology

- Genotype
 - The symbolic representation of the pair of alleles possessed by an organism
- Phenotype
 - The characteristics of an organism
- Dominant allele
 - An allele that has the same effect on the phenotype whether it is paired with the same or different allele
- Recessive allele
 - An allele that has an effect on the phenotype only when the organism is homozygous for this allele
- Codominant alleles
 - Pairs of alleles that both affect the phenotype when present in a heterozygote
- Locus (pl. loci)
 - The particular position of a gene on homologous chromosomes