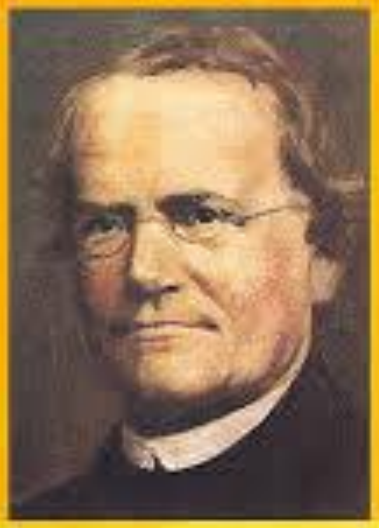
Patterns of Inheritance

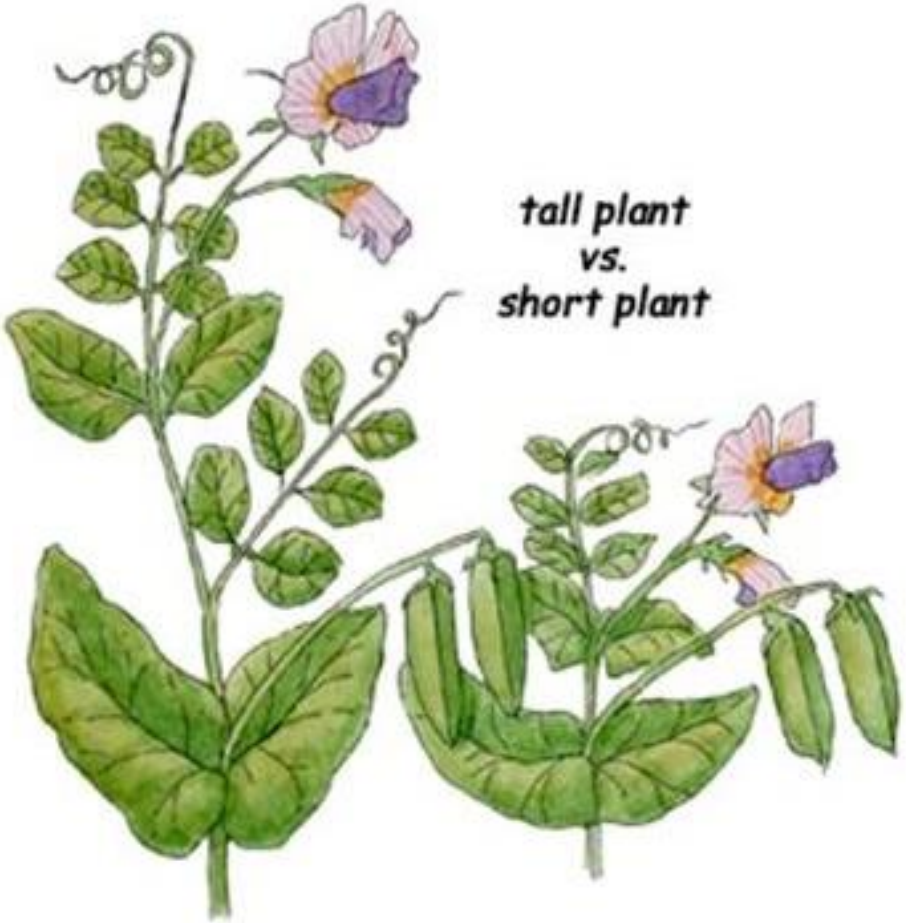
Who was Gregor Mendel?

- Gregor Mendel was an Austrian monk.
- He lived between 1822 to 1884.
- He was a teacher & a botonist
- He did experiments on hundreds of pea plants.
- Why Pea Plants?
  - Simple genetic make up
  - Traits are easily observed
  - Can cross-pollinate or self-pollinate

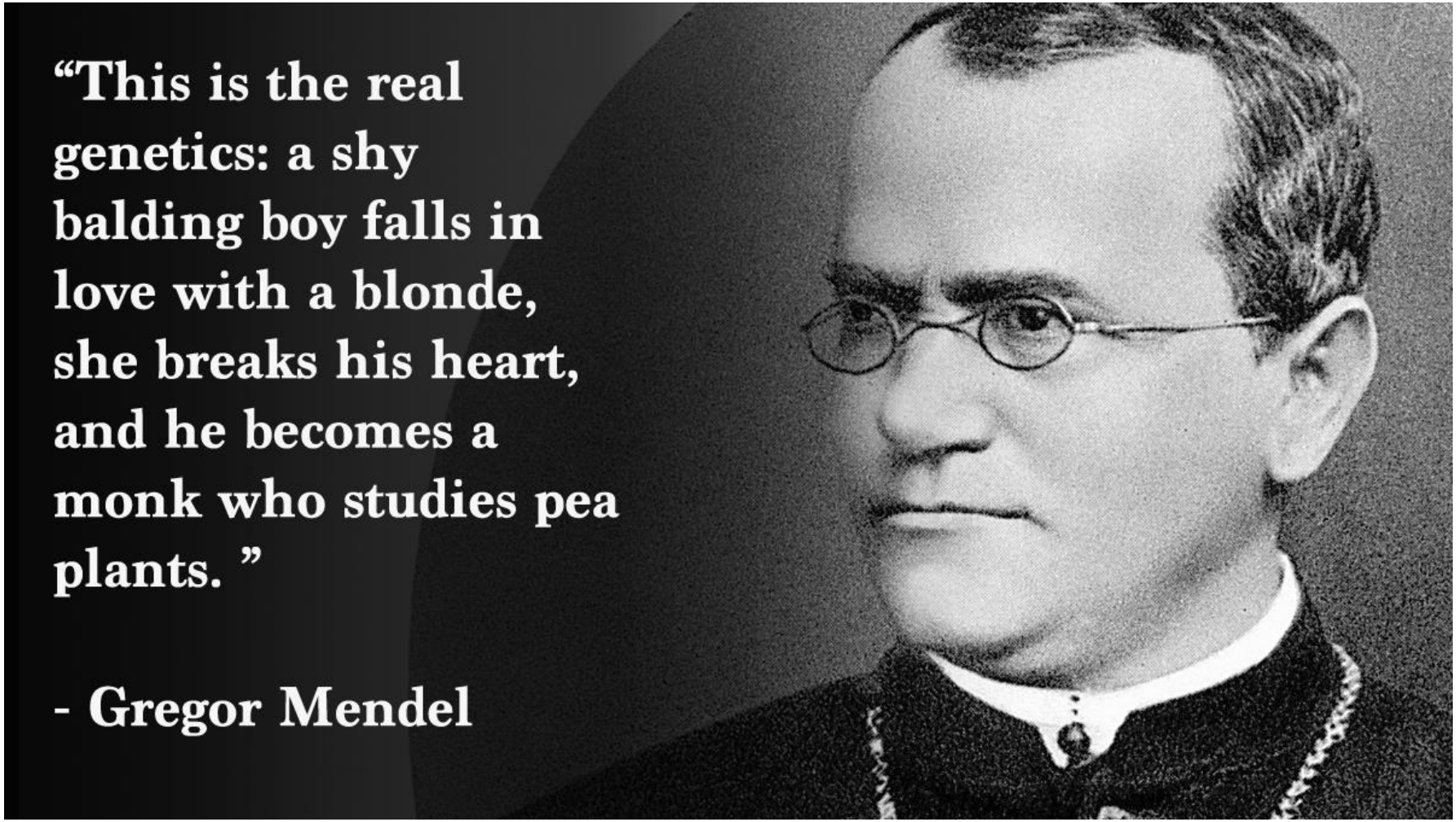
Gregor Johann Mendel

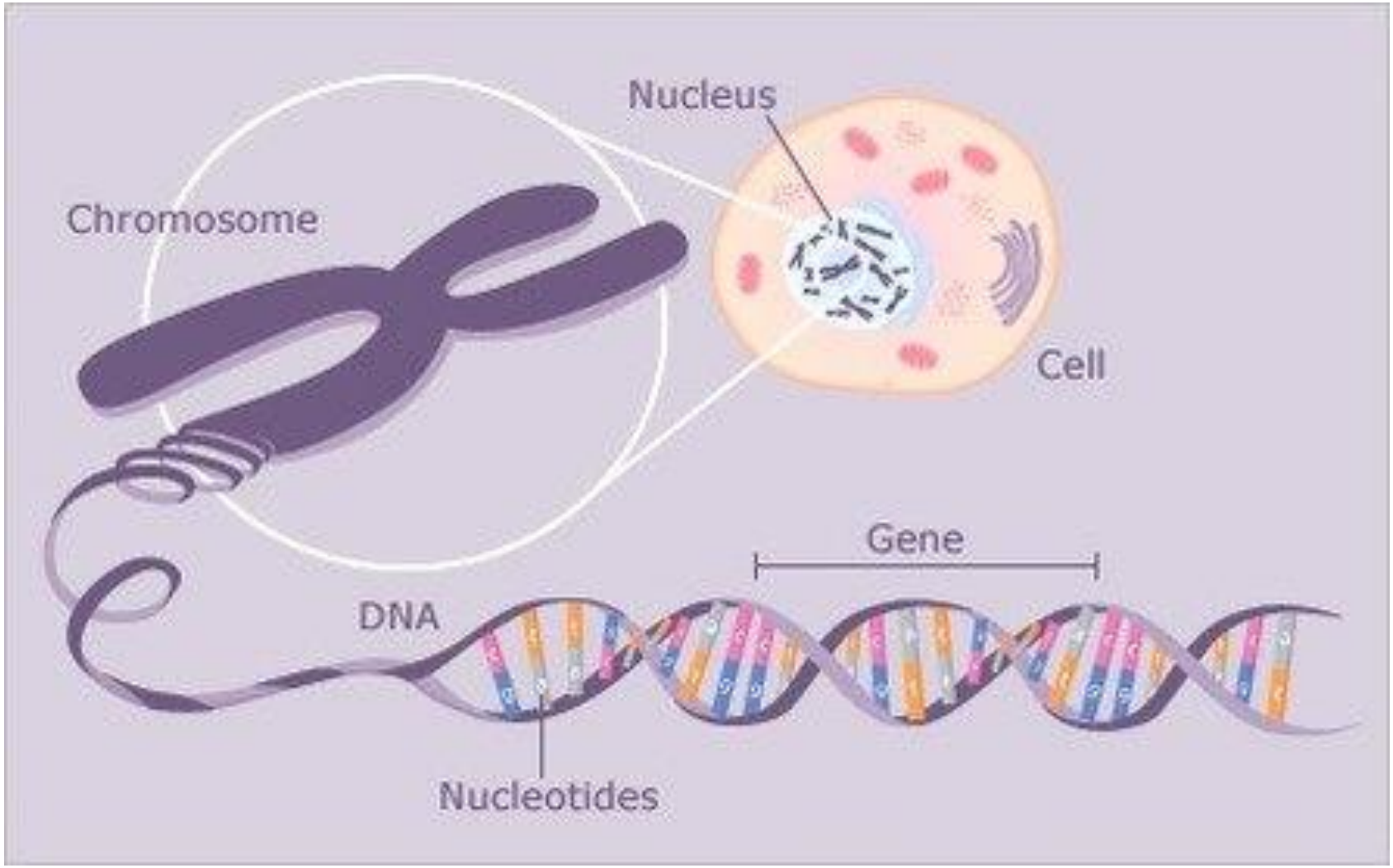
- Between 1856 and 1863, Mendel cultivated and tested some 28,000 pea plants
- He found that the plants' offspring retained traits of the parents
- Called the "Father of Genetics"





Traits that Mendel observed:


“This is the real genetics: a shy balding boy falls in love with a blonde, she breaks his heart, and he becomes a monk who studies pea plants. ”
- Gregor Mendel


Nucleus
Chromosome
Cell
Gene
DNA
Nucleotides

Patterns of Inheritance
Vocabulary

Trait – Variation of a characteristic found in a group of organisms

Heredity – Passing traits from one generation to the next

Allele – Alternative versions of a gene (think two sides of a coin)

Phenotype - Expressed trait of an organism (physical feature)

Genotype – Genetic make-up of an organism (letters we use to describe someone's genetic make-up)

Dominant – Allele that determine the phenotype (always shown as a capital letter)

Recessive – Allele that has no noticeable affect on the phenotype (always shown as a lowercase letter)

Homozygous – Two identical alleles for a gene

Homozygous Dominant i.e. RR

Homozygous Recessive i.e. rr

Heterozygous – Two different alleles for a gene

Rr