* Genetics: The scientific study of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
  + Heredity: The passing of physical characteristics from parents to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
    - Traits: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      * Ex.) eye color: blue, brown, green
      * Ex.) height: short, medium, tall
* Traits can be passed from generation to generation through 2 primary methods ….
  + ­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Austrian priest/monk
  + born July 22, 1822; died January 6, 1884
  + Known as “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”
  + In his job as the monastery \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, Mendel worked extensively with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_to determine how traits are passed from generation to generation.
* Mendel’s experiments
  + Mendel \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pea plants by cross-pollinating the flowers of purebred pea plants.
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: the process by which the egg & sperm cell of an organism combine to form a new organism.
    - Pollination: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: the offspring of many generations with the same traits.
      * Ex.) Short parents always produce short offspring.
      * Ex.) Blue-eyed parents always produced blue-eyed offspring.
* Mendel’s Breeding Experiments
  + Example 1:
  + Example 2:
* Mendel concluded
  + Mendel believed that individual factors or sets of genetic “information” must control the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of traits.
  + The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_that control traits exist in pairs.
  + Each parent (mother & father) contributes 1 of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
  + One factor in the pair can mask or hide the other factor.
    - Gene: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
      * Ex.) eye color, height, hair color, nose shape, etc.
    - Allele: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
      * Ex.) eye color: brown, blue, green
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ form of the gene that will always show
    - Uses a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ letter
      * Ex.) Seed shape: round (R)
      * Ex.) Seed color: yellow (Y)
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ form of the gene that will only show up if there are 2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ alleles t
    - Uses a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ case letter of the dominant allele for a trait.
      * Ex.) Seed shape: wrinkled (r)
      * Ex.) Seed color: green (y)
* Dominance versus Prevalence
  + Just because a particular trait is dominant does not mean it is more prevalent.
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: majority; happens, takes place or is found most often.
      * Ex.) Seed color: Yellow is dominant; Green is prevalent
      * Ex.) Widow’s peak: Having one is dominant; Not having one is prevalent
  + This is good because there are some \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_that are found on a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ gene but they are less prevalent in society.