

# Pedigrees

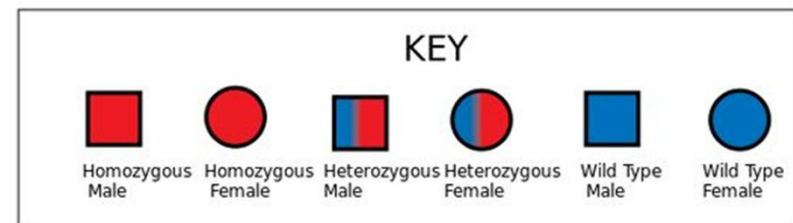
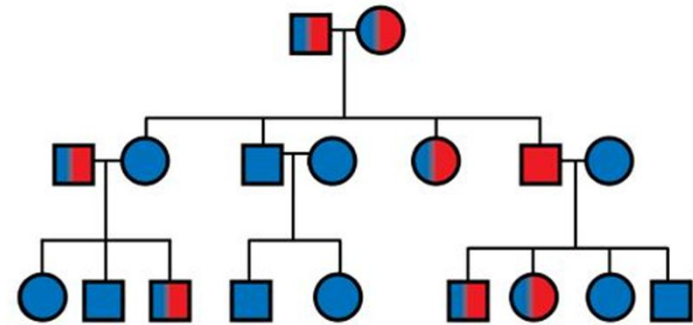
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- ▶ Many times, a cross cannot be done in humans
- ▶ Scientists used a pedigree to determine the family history instead
  - ▶ Traces the inheritance of a particular trait through generations
- ▶ Uses symbols to represent males, females and the trait
  - ▶ Male = square
  - ▶ Female = circle
  - ▶ Has trait being studied = dark, filled in
  - ▶ Doesn't have trait being studied = not filled in
  - ▶ Half full square or circle = carrier of the trait



# Pedigrees

- ▶ Relationships are shown through lines
  - ▶ Horizontal line (-----) between symbols = parents of offspring below
  - ▶ Vertical line ( | ) shows the offspring connected to parents
- ▶ Roman Numerals are used to show the generations
- ▶ Numbers show birth order in a generation



# Analyzing Pedigrees

- ▶ **Example: Tay Sachs disease**
  - ▶ Recessive genetic disorder
  - ▶ Lack of an enzyme involved in lipid metabolism
  - ▶ Missing enzyme causes lipid build up in the CNS
  - ▶ Leads to death
- ▶ Are the parents normal, carriers, or affected?
- ▶ What are the offspring?
- ▶ How many have Tay Sachs total in the pedigree?

