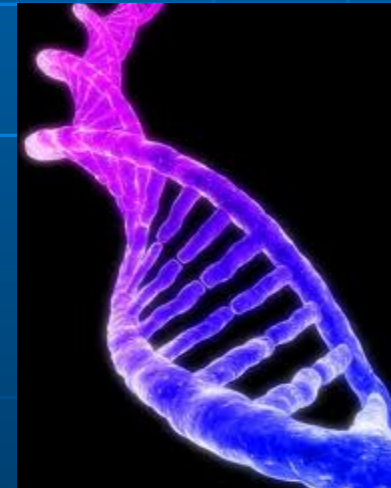
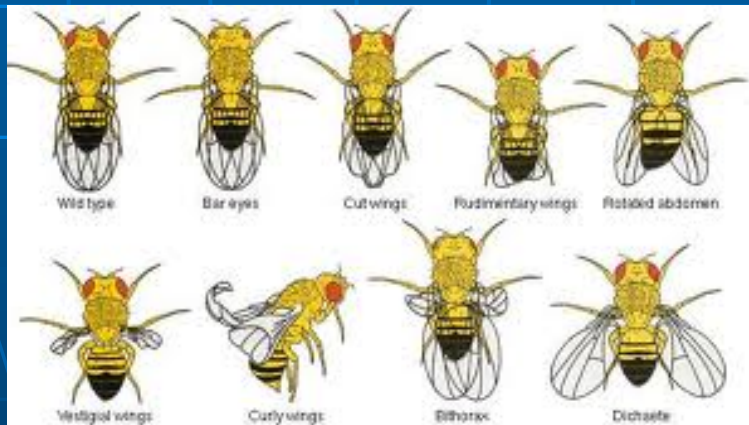


# Chapter 16-1: Genes & Variation

## Essential Questions:

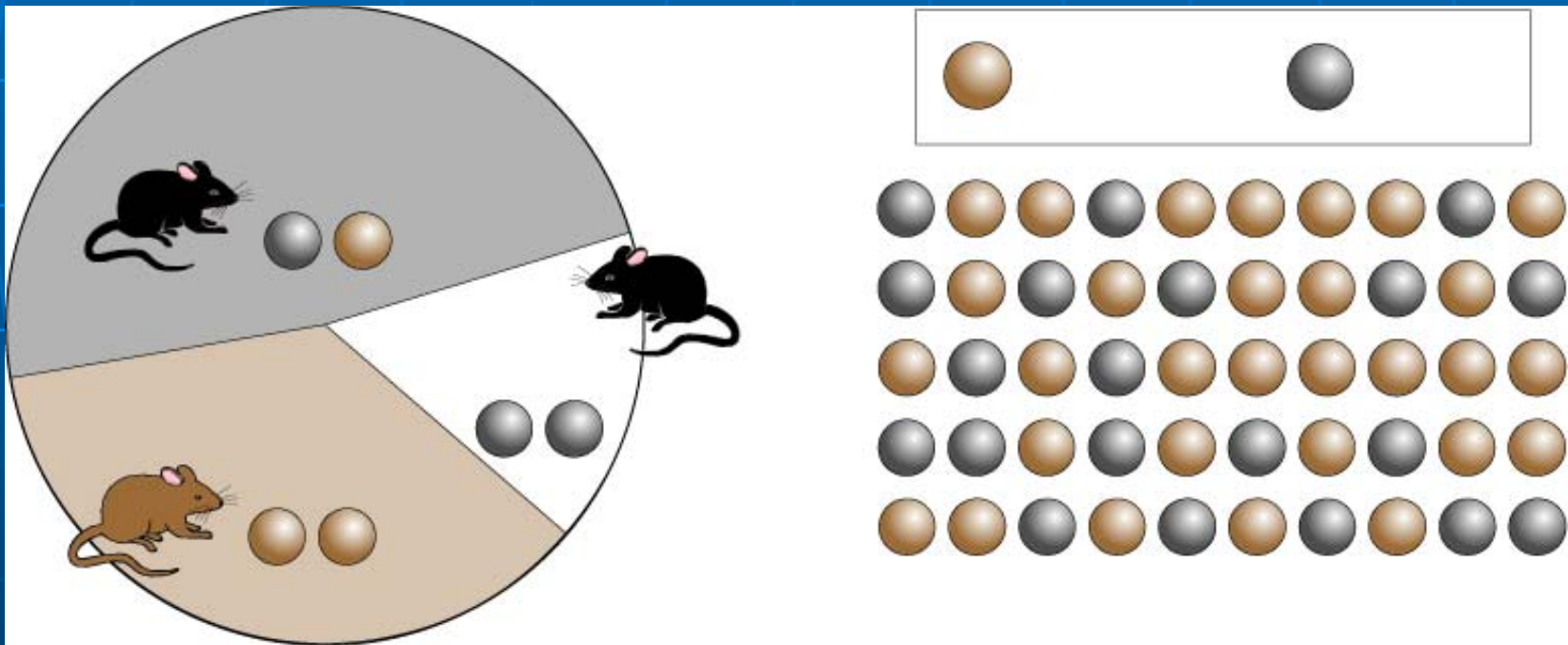
- What are the main sources of genetic variation in a population?
- What determines the number of phenotypes for a given trait?

- Darwin's ideas revisited
  - D. – no genetics knowledge
  - Now genetics & molecular biology tell us
    - how *variation* appears
    - how nat. selection acts on variation



## ■ Gene pools

- *alleles* for each heritable trait
- *Relative frequency* of allele



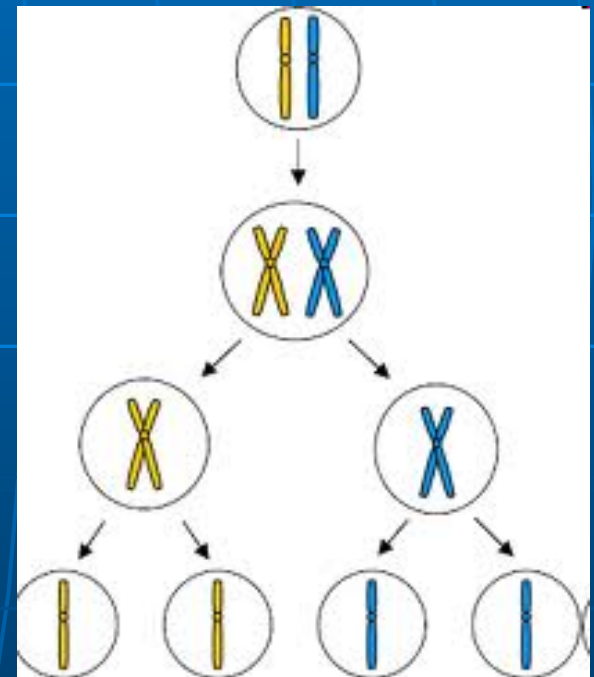
- Sources of genetic variation
  - Mutations
  - Gene shuffling



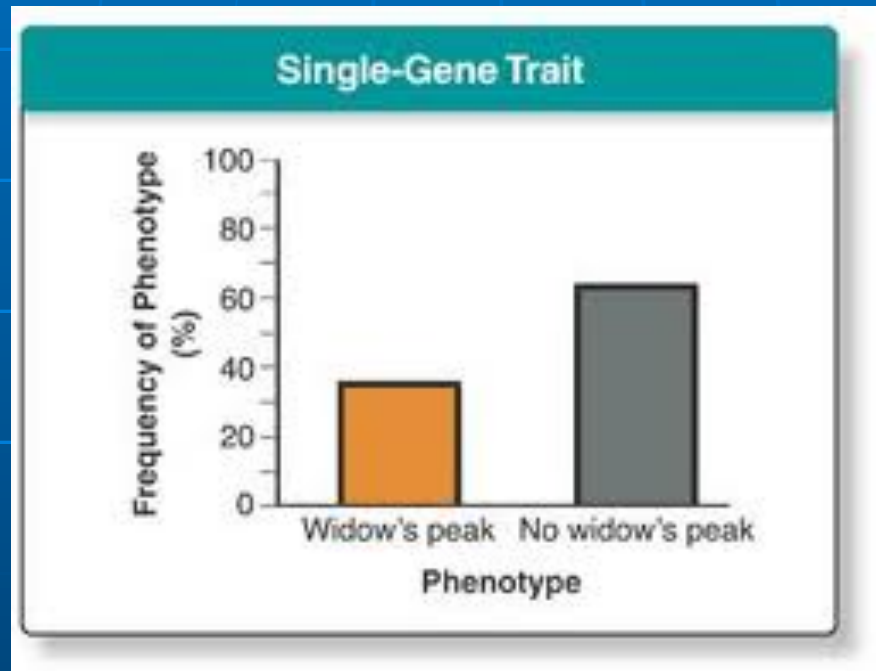
**GRUESOME GENETIC MUTATIONS**

Occasionally, they can be kinda cute.

[motifake.com](http://motifake.com)



- Single-gene & polygenic traits
  - Single-gene traits (w/ 2 alleles)
    - 2 phenotypes only



- Polygenic traits
- “bell curve” graph

