11.1 Genetic Variation Within Population

KEY CONCEPT

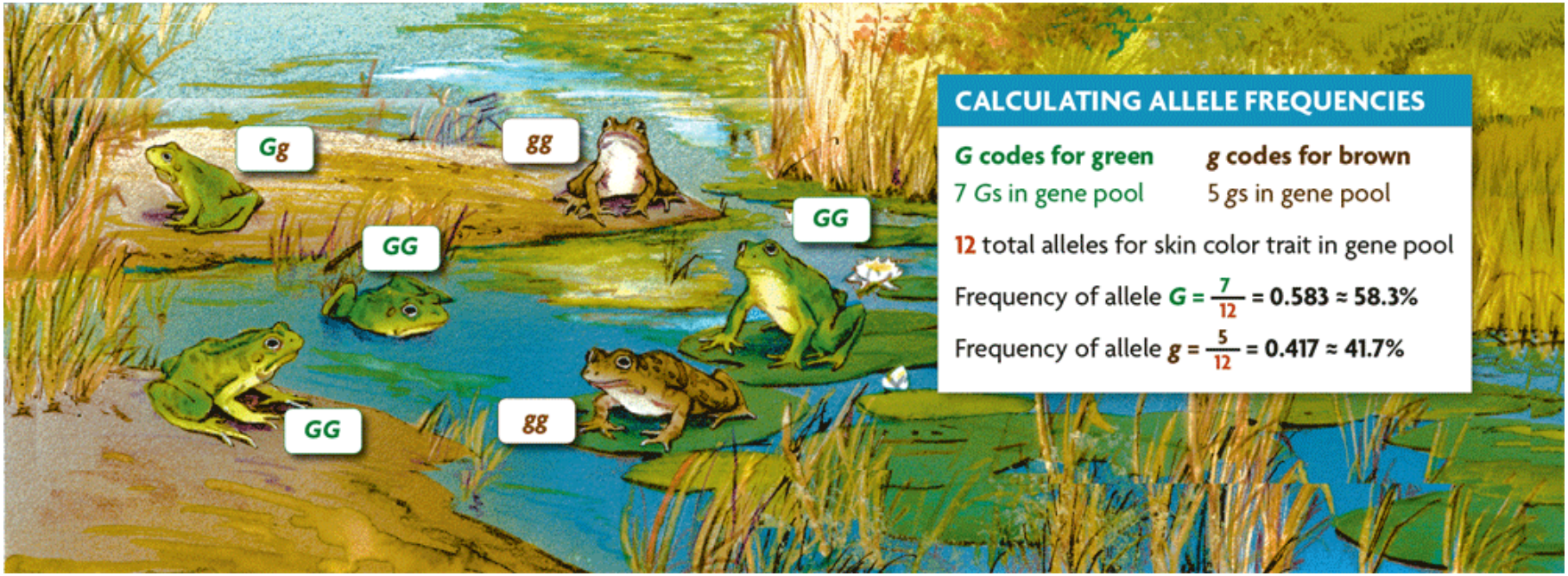
A population shares a common gene pool.

11.1 Genetic Variation Within Population

- **Genetic variation in a population increases the chance that some individuals will survive.**
  - Genetic variation leads to phenotypic variation.
  - Phenotypic variation is necessary for natural selection.
  - Genetic variation is stored in a population's gene pool.
    - made up of all alleles in a population
    - allele combinations form when organisms have offspring

11.1 Genetic Variation Within Population

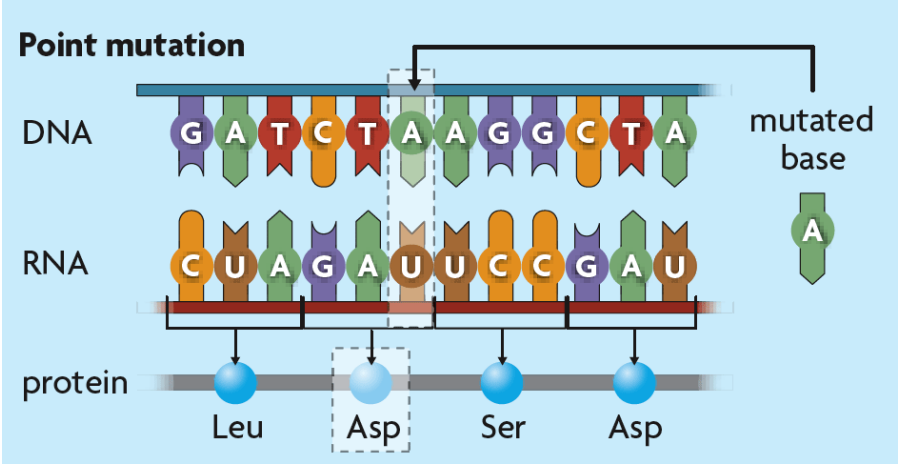
- Allele frequencies measure genetic variation.
  - measures how common allele is in population
  - can be calculated for each allele in gene pool



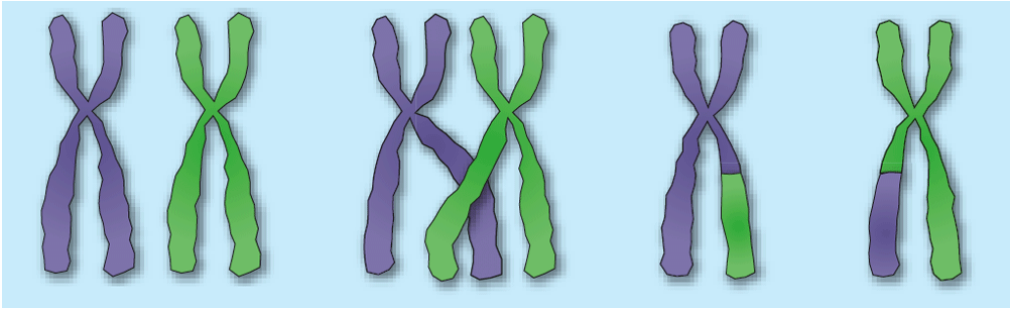
11.1 Genetic Variation Within Population

Genetic variation comes from several sources.

- Mutation is a random change in the DNA of a gene.
  - can form new allele
  - can be passed on to offspring if in reproductive cells



- Recombination forms new combinations of alleles.
  - usually occurs during meiosis
  - parents' alleles arranged in new ways in gametes



11.1 Genetic Variation Within Population

- **Genetic variation comes from several sources.**
  - Hybridization is the crossing of two different species.
    - occurs when individuals can't find mate of own species
    - topic of current scientific research

Hybrid Panthers Helping Rare Cat Rebound in Florida
Breeding with Texas cougars created "Schwarzenegger"-tough offspring.