Hardy-Weinberg Principle
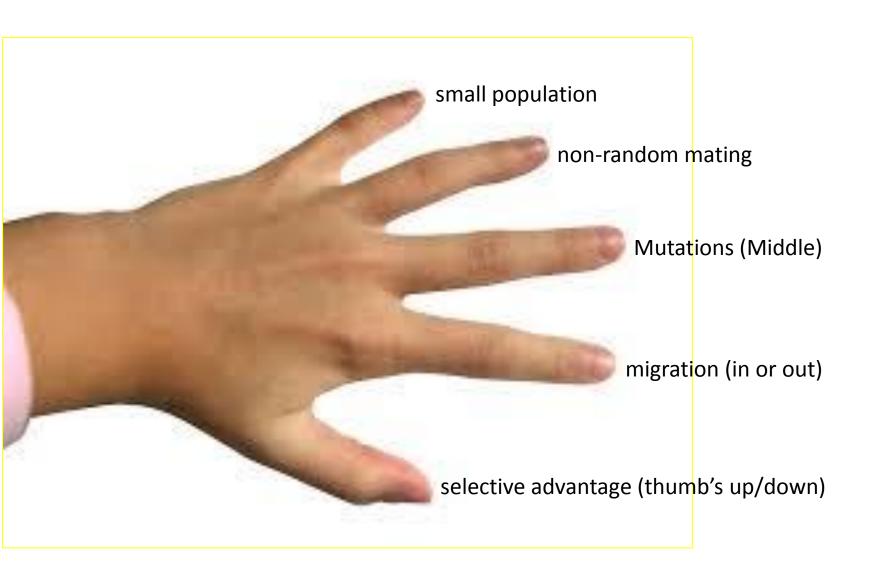
p. 341-344

Ch. 15.3

In a non-evolving population, **five** conditions must be met:

1. Large population
2. Random mating
3. No mutations
4. No migration (in or out)
5. No selective advantage

Change in allele frequency (evolution) will happen if one or more of these occurs:

small population

non-random mating

Mutations (Middle)

migration (in or out)

selective advantage (thumb's up/down)

Any dominant allele = p

Any recessive allele = q

Homo dom = AA = p^2

Homo rec = aa = q^2

Heterozygous = Aa = 2pq

*b/c the **A** can come from mom OR dad and the **a** can come from mom OR dad

So this is **2** possibilities of how to make the **pq** combo

Equations to remember:

$$p + q = 1$$

$$p^2 + 2pq + q^2 = 1$$

*use q^2 to solve for q first

Watch YouTube: Bozeman Science

H-W Equation

http://www.youtube.com/watch?v=oEBNom3K9cQ

Solving H-W Problems

http://www.youtube.com/watch?v=xPkOAnK20kw