Genetics

Tuesday, May 2, 2017
9:35 AM

Genetics: the branch of science that studies the ways hereditary information is passed from parent to offspring.

Mendel: - the father of genetics
- did experiments with pea plants

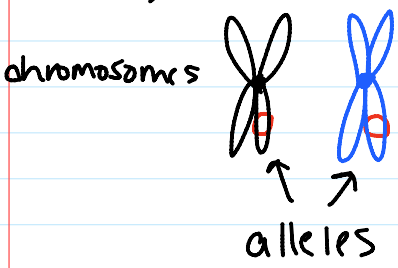
Law of Dominance (Complete Dominance)

- some traits come in 2 forms
  ex. tall vs. short
  yellow vs. green

Dominant Trait = capitol letters are used. ex. T

Recessive Trait = lower case letters ex. t

- all traits have 2 alleles (different copies or forms of a gene controlling a certain trait.)



Dominant alleles will mask the recessive alleles.

Genotype: the genetic make-up ex. TT
Tt
tt

homozygous: same alleles (pure) ex. TT

heterozygous: different alleles (hybrid) ex. Tt

Phenotype: the physical appearance
ex. tall or short

PUNNETT SQUARES
- predict outcomes of a cross between parents

- predict traits in offspring.
- calculates probability/chances of a specific outcome

ex. monohybrid cross in Pea plants

Y = yellow (dominant)

y = green (recessive)

	Y	Y
y	Yy yellow	Yy yellow
y	Yy yellow	Yy yellow

← pure yellow Pea plant

green pea plant

phenotype: all yellow

genotype: Yy

ex. #2 Monohybrid cross w/ rabbits

B = brown fur

b = blue fur

	B	b
b	Bb = brown	bb = blue
b	Bb = brown	bb = blue

← heterozygous brown fur parent

homozygous blue fur parent

½ = 50% Brown fur offspring

½ = 50% Blue fur offspring.