

Monohybrid Cross

Alleles for Rita>>>		
Fred's Alleles	B	b
	BB	Bb
B		
	Bb	bb
b		

Terms

Homozygous Dominant - AA

Homozygous Recessive - aa

Heterozygous - Aa; sometimes called a "-carrier"

Genotype - the alleles inherited from parents; represented by letters (example: AA)

Phenotype - observable trait that results from the genotype (example: Brown Eyes)

Dominant - masks recessive trait; only need to inherit one copy to display trait

Recessive - must inherit two recessive alleles to display trait; "hidden" when dominant allele is present

Males and Females

Female
XX

Male
XY

Dihybrid Cross

		DIHYBRID INHERITANCE			
Aa Bb x Aa Bb	AB	AB	Ab	aB	ab
	Ab	AA BB	AA Bb	Aa BB	Aa Bb
	aB	Aa BB	Aa Bb	aa BB	aa Bb
	ab	Aa Bb	Aa Bb	aa Bb	aa bb

Use FOIL to determine each possible combination that can be passed from parent to child.

Dihybrid FOIL



Incomplete Dominance



Polygenic Traits

When two or more genes control a trait

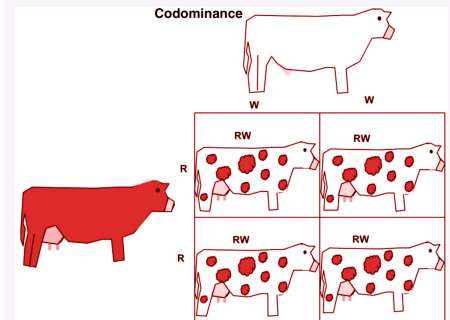
Skin Color - 4 to 7 genes

Eye Color

Height

Blood Type (Type + Rh Factor)

Codominance



Codominance (Blood Type)

Genotype	Phenotype
I ^A I ^A (I ^A I ^A or I ^A i)	Type A
I ^B I ^B (I ^B I ^B or I ^B i)	Type B
ii	Type o
I ^A I ^B	Type AB

A is Codominant with B
O is recessive to A and B
+ is dominant
- is recessive

X-Linked



* X-linked traits are much more common in males than females because males have only one X chromosome. Females need to inherit two mutated alleles to have the disease, while men can get the disease with just one mutated allele.

* X^C X is an unaffected female carrier

* X^C Y is an affected male

* X^C X^C is an affected female