

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

$Aa Bb$ \times $Aa Bb$		AB	Ab	aB	ab
AB	AA BB	AA Bb	Aa BB	Aa Bb	Aa Bb
Ab	AA Bb	AA bb	Aa Bb	Aa bb	Aa bb
aB	Aa BB	Aa Bb	aa BB	aa Bb	aa Bb
ab	Aa Bb	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

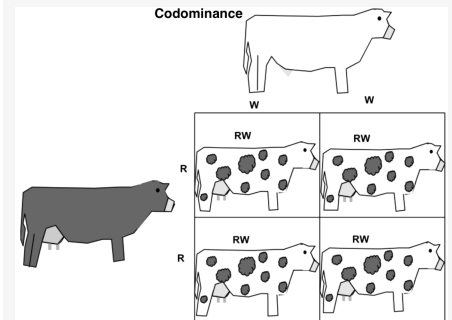
Skin Color - 4 to 7 genes

Eye Color

Height

Blood Type (Type + Rh Factor)

Codominance

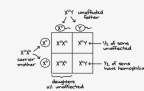


Codominance (Blood Type)

Genotype	Phenotype
$I^A I^A$ (or $I^A i$)	Type A
$I^B I^B$ (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

