Notes! Keep to study!

Name: _____ Period: _____

5.4: Complex Patterns of Inheritance

Simple Patterns of Inheritance

Examples:

In pea plants:

In humans:

Most human inheritance patterns do NOT follow simple patterns of inheritance! (Eye color, skin color, hair color, etc.)

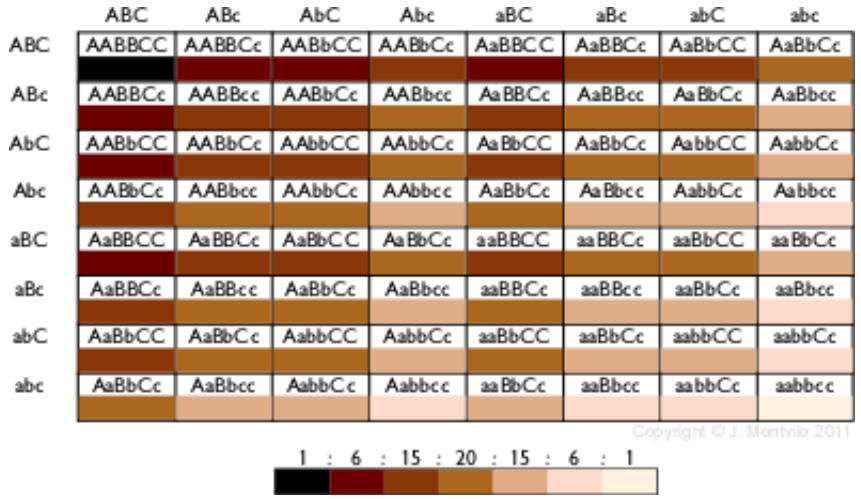
Polygenic Traits

Poly =

Genic =

Polygenic Traits:

Example in Humans:



Gene A	aa	Aa	Aa	Aa	AA	Aa	AA
Gene B	bb	bb	bb	BB	Bb	BB	BB
Gene C	cc	cc	Cc	cc	Cc	CC	CC
Phenotype	 Very Light			 Medium			 Very Dark
# of "light"/recessive alleles							
# of "dark"/dominant alleles							

Notes! Keep to study!

Multiple Alleles

Example:

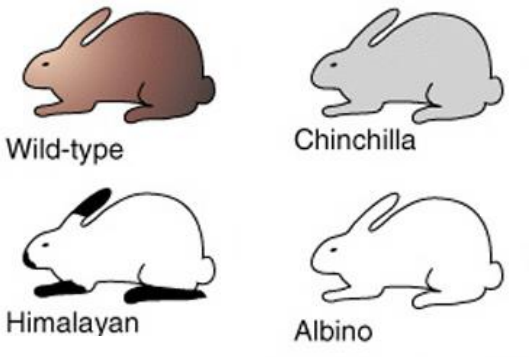
Only TWO Possible Alleles:

THREE Possible Alleles:

**NOTE! More than two alleles might be <u>possible</u>, but an individual will only have two alleles in DNA

Solving Problems with Multiple Alleles

In some rabbit breeds, fur color has multiple alleles



Allele	Phenotypes
	Wild type; the most dominant fur pattern
	Chinchilla; recessive only to wild type
	Himalayan; dominant over albino only
	Albino; recessive to all

Solve this: c^hc x $c^{ch}c^h$

<u>Possible Phenotypes:</u>

_____ Fraction: _____ Percent Chance: _____

_____ Fraction: _____ Percent Chance: _____

_____ Fraction: _____ Percent Chance: _____

_____ Fraction: _____ Percent Chance: _____