Monday February 13th

5.3 Part I Quiz on Thursday!

Tutoring TODAY! Quiz retakes all week!

Starter:

A heterozygous female fruit fly is mated with a white eyed fruit fly.

- What are the genotypes of these two flies?
- If a fruit fly is dominant for one of its alleles, is it possible the fruit fly could show the recessive phenotype? Why or why not?
- Can you tell a fruit fly's genotype from the fly's appearance alone? Explain your answer.

Patterns of Inheritance

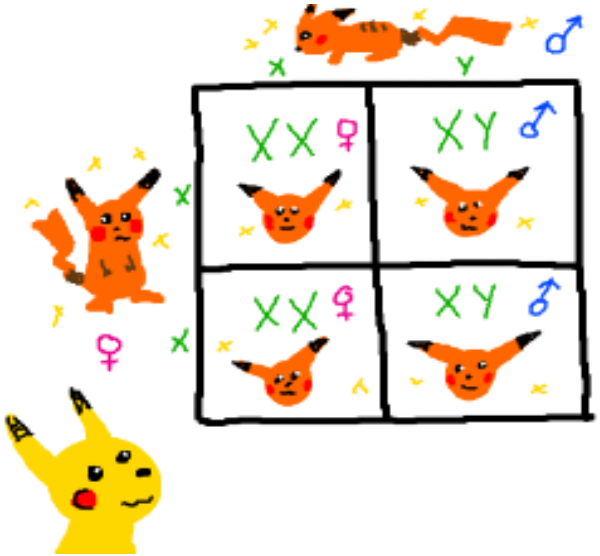
Today's Objective:

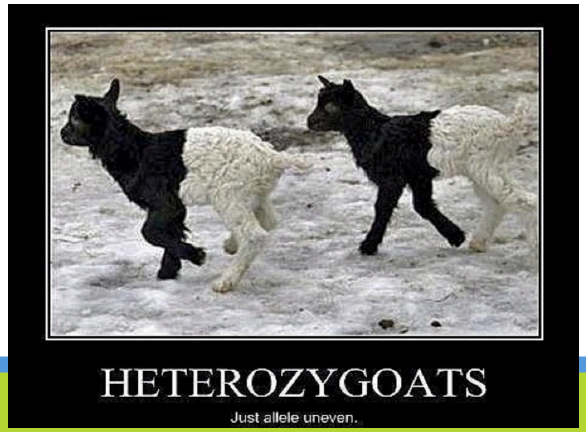
- Given a possible genotype or phenotype, I can demonstrate all possible offspring results using Punnett squares

Patterns of Inheritance

Punnett Squares:

- Used to predict outcome of ALL POSSIBLE offspring



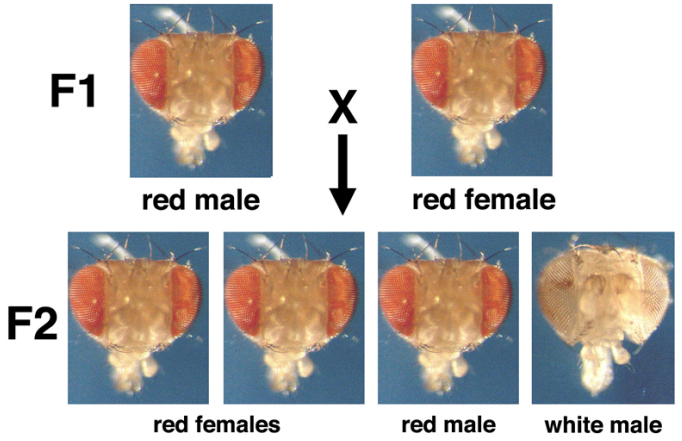


Patterns of Inheritance

Side Note: Monohybrid Crosses

- "Cross" or mating between two individuals observing only ONE trait

(Tomorrow DIhybrid crosses)

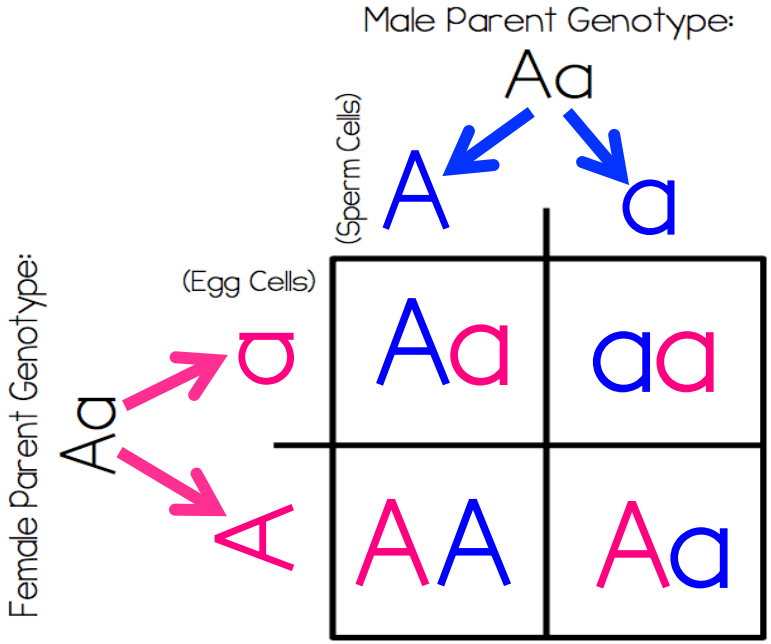


Patterns of Inheritance

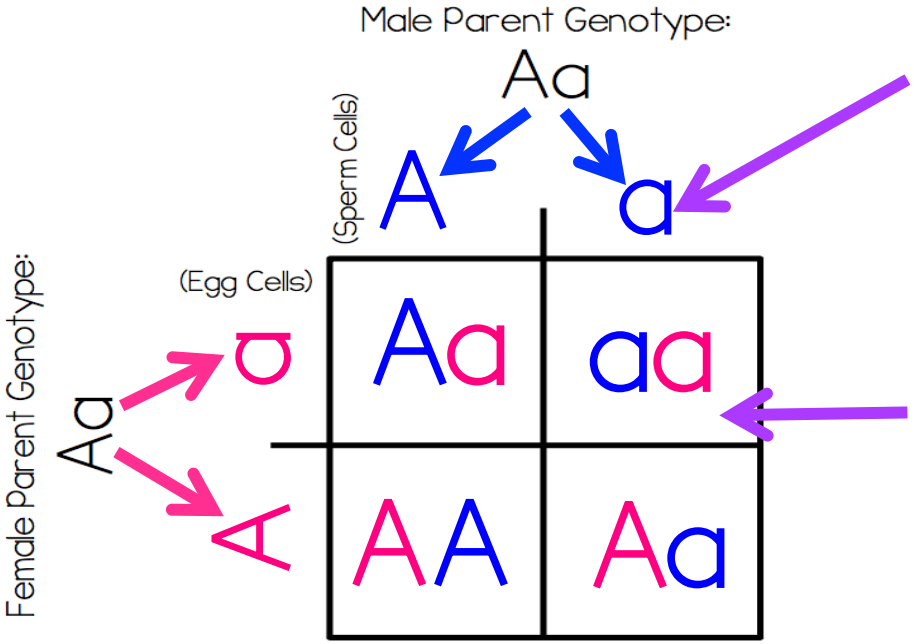
Cross two heterozygous parents:

Aa x Aa

Note: two alleles because parent cells are diploid!



Patterns of Inheritance



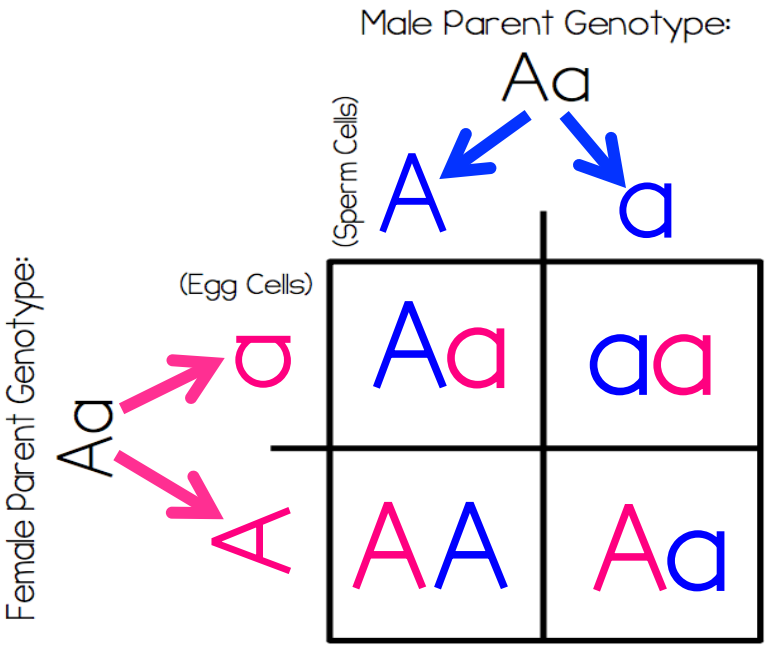
Why is there only one letter?

One letter because of HAPLOID gamete (egg or sperm)

Why are there two letters?

Two haploid gametes = Diploid zygote

Patterns of Inheritance



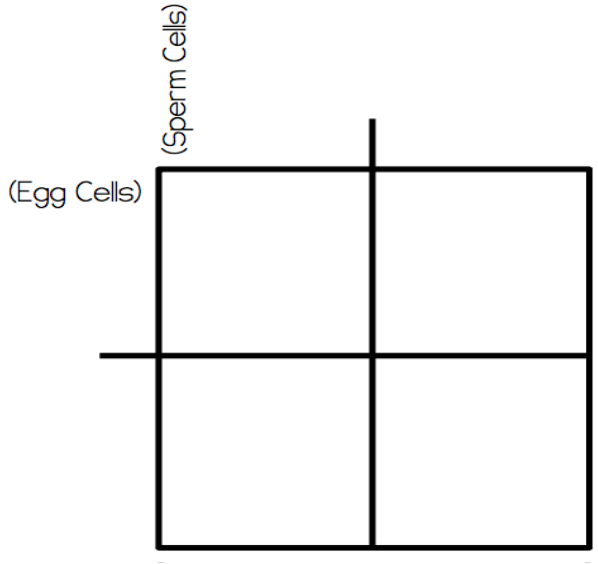
All POSSIBLE Offspring Genotypes

1 AA : 2 Aa : 1 aa

Note: these are possibilities! Only one of these will actually become an offspring!

Patterns of Inheritance

Red fruit fly eyes are dom. (R) and white fruit fly eyes (r) are recessive. Cross a homozygous dominant and a heterozygous fruit fly.



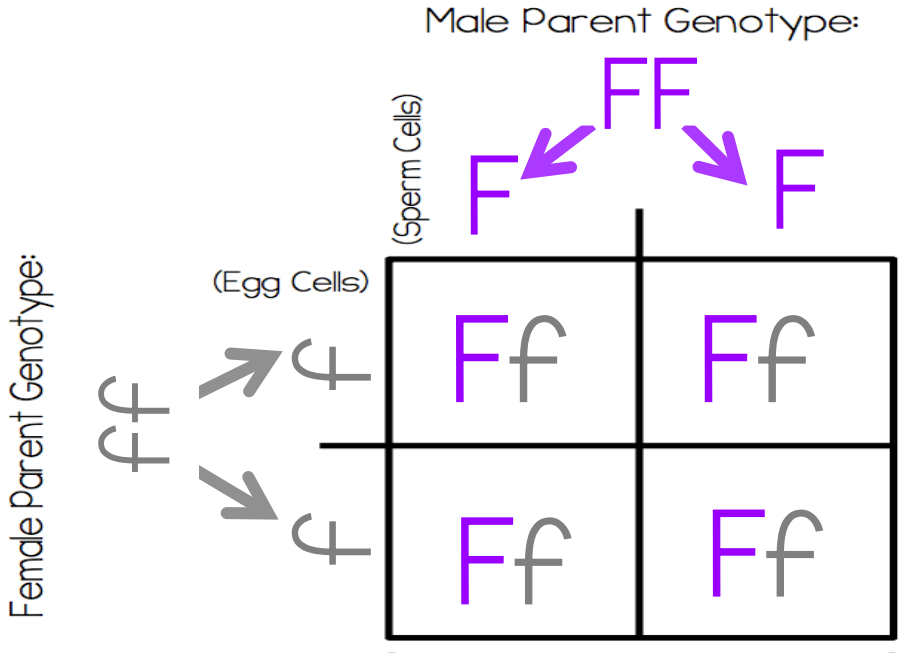
Patterns of Inheritance

Example:

Cross a homozygous dominant purple flower with homozygous recessive flower.

Parent Genotypes =

FF x ff



Patterns of Inheritance

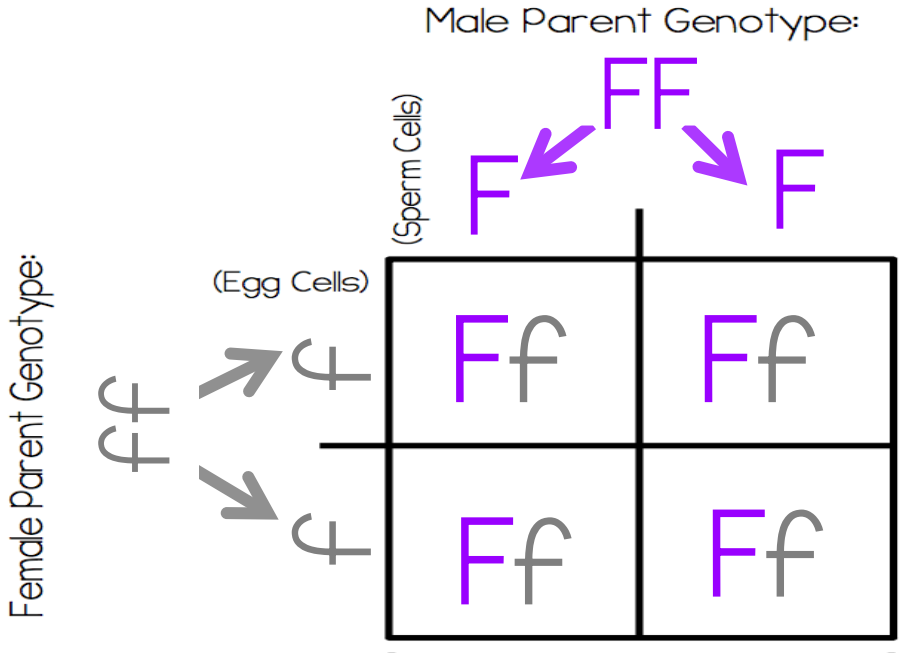
Possible Offspring Results:

Genotypic Ratio:

0 FF : 4 Ff : 0 ff

Phenotypic Ratio:

4 purple : 0 white



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