

Name: _____ Period: _____ Date: _____



Penguin Bay Biology

- Biology Class, Simplified -

Punnett Squares

Monohybrid Crosses

A Punnett square is a diagram that predicts the traits two individuals can produce when crossed.

Remember, a monohybrid cross is a cross of one trait!



Randall and Rochelle have 4 children. Complete the Punnett Square predicting the traits of each child.

Randall: Eye color: brown (heterozygous)

Hair color: blonde

Earlobes: attached

Rochelle: Eye color: blue

Hair color: brown (heterozygous)

Earlobes: free (heterozygous)

#1: Eyes

Alleles for Randall's Eyes: _____

Alleles for Rochelle's Eyes: _____

Place the alleles on the outside of the chart and complete the cross:

Child #1	Child #2
Child #3	Child #4

Genotype: _____

Phenotype: _____

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Randall: Eye color: brown (heterozygous)

Hair color: blonde

Earlobes: attached

Rochelle: Eye color: blue

Hair color: brown (heterozygous)

Earlobes: free (heterozygous)

#2:

Alleles for Randall's Hair: _____

Alleles for Rochelle's Hair: _____

Place the alleles on the outside the chart and complete the cross:

Child #1	Child #2
Child #3	Child #4

Genotype: _____

Phenotype: _____

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Randall: Eye color: brown (heterozygous)

Hair color: blonde

Earlobes: attached

Rochelle: Eye color: blue

Hair color: brown (heterozygous)

Earlobes: free (heterozygous)

#3:

Alleles for Randall's Earlobes: _____

Alleles for Rochelle's Earlobes: _____

Place the alleles on the outside the chart and complete the cross:

Child #1	Child #2
Child #3	Child #4

Genotype: _____

Phenotype: _____

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Using the data from your Punnett squares, describe what each child looks like:

Trait	Child #1	Child #2	Child #3	Child #4
Eye color				
Hair color				
Earlobes				

Application:

1. If a brown female dog has three brown puppies and one white puppy, is the mother dog's genotype homozygous or heterozygous?

2. Explain your answer. Why would the mother dog's genotype be homozygous or heterozygous?
