

PUNNETT SQUARES— CROSSES INVOLVING ONE TRAIT

Name _____

In a certain species of animal, black fur (B) is dominant over brown fur (b). Using the following Punnett square, predict the genotypes and phenotypes of the offspring whose parents are both Bb or have heterozygous black fur.

	B	b
B		
b		

Genotypes: _____ % homozygous black fur (BB)
 _____ % heterozygous black fur (Bb)
 _____ % homozygous brown fur (bb)

Phenotypes: _____ % black fur
 _____ % brown fur

Now do the same when one parent is homozygous black and the other is homozygous brown.

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b		
b		

Genotypes: _____ % homozygous black fur (BB)
 _____ % heterozygous black fur (Bb)
 _____ % homozygous brown fur (bb)

Phenotypes: _____ % black fur
 _____ % brown fur

Repeat this process again when one parent is heterozygous black and the other is homozygous brown.

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B		
b		

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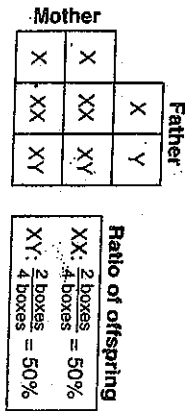
Phenotypes: _____ % black fur
 _____ % brown fur

Name _____

Date _____

What Determines the Sex of a Child?

Some diagrams provide information in a chart. Study the charts.



- Answer these questions about the diagram above.
1. What type of illustration is shown? _____
 2. What do the letters represent? _____
 3. Why are two letters written under both the mother and the father?

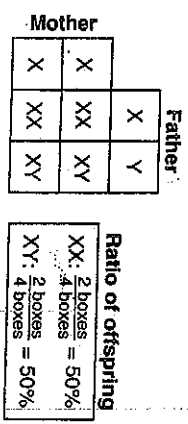
 4. What does XX represent? _____
 5. What does XY represent? _____
 6. What are the possible outcomes of this cross? _____
 7. According to the chart, what is the ratio of males to females in the offspring? _____

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