

Name:

Period:

CODOMINANCE AND INCOMPLETE DOMINANCE

Practice setting up keys for the phenotypes listed in each set. For each given phenotype, write the genotype, ex: Blue eyes: (bb). Remember that the "medium" trait must always be heterozygous.

1. Birds can be blue, white, or white with blue-tipped feathers.

| Phenotype | Genotype |
|---------------|----------|
| Blue | |
| White | |
| White w/ Blue | |

a. Circle one: Is this Codominance OR Incomplete Dominance?

2. Flowers can be white, pink, or red.

| Phenotype | Genotype |
|-----------|----------|
| White | |
| Red | |
| Pink | |

a. Circle one: Is this Codominance OR Incomplete Dominance?

3. A Who can have curly hair, spiked hair, or a mix of both curly and spiked.

| Phenotype | Genotype |
|----------------|----------|
| Curly | |
| Spiked | |
| Curly & spiked | |

b. Circle one: Is this Codominance OR Incomplete Dominance?

Zorks can have yellow, green, or orange hair. The allele that controls this trait is INCOMPLETELY DOMINANT, where orange hair is caused by the heterozygous condition. Show a "key" for the genotypes and phenotypes of hair color

| Phenotype | Genotype |
|-----------|----------|
| Yellow | |
| Green | |
| Orange | |

4. Show the cross between a yellow and a green haired.

a. What is the ratio of possible genotypes of the offspring?

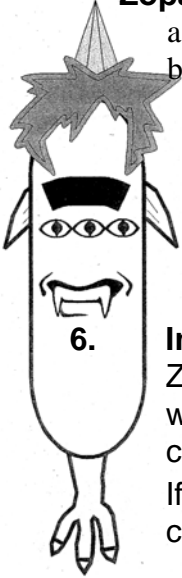
b. What are the possible phenotypes of the offspring?

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5. Show the cross between Zorville, an orange haired Zork, and Zopal, a green haired.

- a. What is the probability of having a green offspring? _____
- b. What is the probability of having an orange haired offspring? _____

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6. In the land of Zork, green hair is highly valued. Green haired Zorks get special benefits. Oscar Zork has orange hair but wants a wife that will give him children with green hair. What color hair should he look for in a wife? _____

If he can't find this type of Zork what should be his second choice? _____

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Most Zorks are either green lipped or purple lipped. In a small island off Zorkbabwe is a rare tribe that displays codominance; that is, Zorks either have green lips, purple lips, or green lips with purple spots. When the spotted-lipped Zorks come into contact with other Zorks not from the island they are treated with great fear. Create a key for the genotypes and phenotypes of zork lip color.

| Phenotype | Genotype |
|------------------------------|----------|
| Green Lips | |
| Purple Lips | |
| Green lips with purple spots | |

7. Zack Zork has green lips. Zabrina Zork has green lips with purple spots.

What is the ratio of possible genotypes of the offspring?

What are the chances their offspring will also have green lips with purple spots?

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8. Zabrina's first offspring is a bouncing baby girl named Zahari who is born with beautiful green lips with purple spots. Her second offspring, Zan, has bright grape-purple lips. Her third offspring, Zabby, has pure green lips. Which one of these offspring does NOT belong to Zack? How did you know?

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