

Incomplete Dominance & Codominance Practice Problems

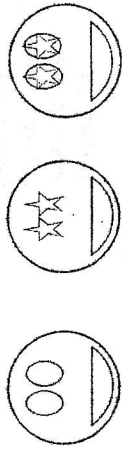
1. Practice setting up keys for the phenotypes listed in each set. Remember that the "medium" trait must always be heterozygous.

- a) Birds can be blue, white, or white with blue-tipped feathers.
- b) Flowers can be white, pink, or red.
- c) A Whoop can have curly hair, spiked hair, or a mix of both curly and spiked.
- d) A Sneech can be tall, medium, or short.
- e) A Bleexo can be spotted, black, or white.

2. Now, can you figure out in the above list, which of the letters represent codominant traits and which are incomplete.

Codominant _____ Incompletely Dominant _____

3. In Smiley's, eye shape can be starred, circular, or a circle with a star. Write the genotypes for the pictured phenotypes



4. Show the cross between a star-eyed and a circle eyed.
What are the phenotypes of the offspring? _____
What are the genotypes? _____

5. Show the cross between a circle-star eyed, and a circle eyed.
How many of the offspring are circle-eyed? _____
How many of the offspring are circle-star eyed? _____

6. Show the cross between two circle-star eyed.
How many of the offspring are circle-eyed? _____
How many of the offspring are circle-star eyed? _____
How many are star eyed? _____

More Practice Problems:

1. Four o'clock plants show incomplete dominance for flower color. Red flowers are purebreeding (F^R) and white flowers (F^W) are also purebreeding. When the two are crossed they produce pink flowers. What would be the genotypes and phenotypes of a cross between white flowers and pink flowers?
2. In cattle the gene for red coat color is incompletely dominant with the gene for white coat color. The heterozygous condition results in cattle with roan coats (showing both red & white hairs). Show the results of a cross between cattle with red coats and cattle with white coats. What is the phenotype of the offspring? Cross two of the cattle from the F_1 generation. What are the possible phenotypes of these offspring?
3. Oompah Loompas can have red, blue or purple hair. Purple hair results from the heterozygous condition. Make a key showing the genotypes and phenotypes for hair color. Is this an example of codominance or incomplete dominance?
4. Orville Oompah has purple hair and is married to Opal Oompah who brags that she has the bluest hair in the valley. How many of Opal's children will be able to brag about their blue hair also?
5. Olga Oompah has red hair and marries Oliver Oompah who has blue hair. They have 32 children. What color is their children's hair?