

## Incomplete Dominance

With incomplete dominance, a cross between organisms with two different phenotypes produces offspring with a third phenotype that is a blending of the parental traits.

- 1) Incomplete dominance is like mixing paint.  
Red + White = Pink
- 2) One doesn't totally block or dominate the other.
- 3) Instead of using a capital letter for the dominant trait and a lowercase letter for the recessive trait, the letters we use are both going to be capital (because neither trait dominates the other).

Some mice may be incompletely dominant for color.

- If mommy mouse is black, then her genotype is BB.
- If daddy mouse is white, then his genotype is WW.
- When we cross these parents in a Punnett square this is what happens.

B= Black      Both colors are dominant and will end up  
W=White      blending together.

|   |    |    |
|---|----|----|
|   | B  | B  |
| W | BW | BW |
| W | BW | BW |

All of the offspring have the genotype BW which appears as the phenotype gray because the two traits from the two different genes blended together.

What happens to two different parent traits during incomplete dominance?

Incomplete dominance is like mixing what?

During incomplete dominance, the two traits do not do what to each other?

What type of letter do we use to represent both traits during incomplete dominance?

If we mix a black mom mouse with a white dad mouse using incomplete dominance, what color will the offspring be?

## Codominance

The prefix co means together.

coexist = exist together

cooperate = operate or work together

With codominance, a cross between organisms with two different phenotypes produces offspring with a third phenotype in which both of the parental traits appear together.

- 1) Codominance is like making a dish of peas and carrots for supper. After mixing them together, you still have orange carrots and green peas.
- 2) During codominance the two traits don't blend, they appear together at the same time. Neither dominates.
- 3) Instead of using a capital letter for the dominant trait and a lowercase letter for the recessive trait, the letters we use are both going to be capital (because, just like during incomplete dominance, neither trait dominates the other).

Tabby cats are codominant for color.

-If mommy cat is black, then her genotype is BB.

-If daddy cat is tan, then his genotype is TT.

-When we cross these parents in a Punnett square this is what happens.

B= Black      Both colors are dominant and will end up  
T= Tan        blending together.

|   |    |    |
|---|----|----|
|   | B  | B  |
| T | BT | BT |
| T | BT | BT |

All of the offspring have the genotype BT which appears as the phenotype black and tan spotted because the two traits from the two different genes both appear together at the same time.

What does the prefix co mean?

What happens to two different parent traits during codominance?

Codominance is like mixing what?

Do traits blend together during codominance?

What type of letter do we use to represent both traits during codominance?

If we mix a black mom cat with a tan dad cat using codominance, what color will the offspring be?