**Incomplete Dominance and Co-dominance Punnett Squares**

If it “BLENDS” then it is incomplete dominance, if both traits are expressed, it is codominant.

**Complete the following crosses, including completing Punnett Squares.**

**Show your work.**

### Flower petal color

<table>
<thead>
<tr>
<th>3 Possible Genotypes:</th>
<th>RR: RW: WW</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Possible Phenotypes:</td>
<td>Red: Pink: White</td>
</tr>
<tr>
<td>Parents:</td>
<td>RW x RW</td>
</tr>
</tbody>
</table>

1. **Genotype Ratio** __1____:__2____:__1____
2. **Phenotype Ratio** __1____:__2____:__1____
3. **What type of dominance is this** (Multiple choice)?  
   - A. Mendelian  
   - B. Sex-linked  
   - C. Co-dominance  
   - D. Incomplete Dominance

### Chicken feather color

<table>
<thead>
<tr>
<th>3 Possible Genotypes:</th>
<th>BB: BW: WW</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Possible Phenotypes:</td>
<td>Black: checkered: white</td>
</tr>
<tr>
<td>Parents:</td>
<td>BW x BW</td>
</tr>
</tbody>
</table>

4. **Genotype Ratio** __1____:__2____:__1____
5. **Phenotype Ratio** __1____:__2____:__1____
6. **What type of dominance is this** (Multiple Choice)?  
   - A. Mendelian  
   - B. Sex-linked  
   - C. Co-dominance  
   - D. Incomplete Dominance
Practice setting up keys for the phenotypes listed in each set. Remember that the “blended” or codominant trait must always be heterozygous. For each problem below circle: incomplete dominance or codominant.

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

**Circle: Incomplete Dominance or Codominance**

Possible Key for Bird Feather Phenotypes:
BB = blue; BW = blue tips; WW = white

7. Flowers can be white, pink, or red. *R for Red and W for White*
   Circle: **Incomplete Dominance** or Codominance
   RR = red, RW = pink, WW = white

8. A Hoo can have curly hair, spiked hair, or a mix of both curly and spiked. *C for Curly and S for Spiked*
   Circle: **Incomplete Dominance** or Codominance
   CC = curly, CS = mixed, SS = spiked

9. A Sneech can be tall, medium, or short. *T for Tall and S for Short.*
   Circle: **Incomplete Dominance** or Codominance
   TT = tall, TS = medium, SS = short

10. A Bleexo can be spotted, black, or white. *B for Black and W for White.*
    Circle: **Incomplete Dominance** or Codominance
    BB = black, BW = spotted, WW = white

11. In Smileys, eye shape can be starred, circular, or a circle with a star. Write the genotypes for the pictured phenotypes where *S is for Star and C is for Circle*:

    ![Smiley phenotypes]
    SS = star, SC = circle-star, CC = circle

12. Show the cross between a pure star-eyed and a pure circle eyed. **SS x CC**
    What are the phenotypes of the offspring? ___all circle-star____
    What are the genotypes? ___**SC**____

13. Show the cross between a circle-star eyed, and a circle eyed. **SC x CC**
    What fraction of the offspring are circle-eyed? ___1/2____
    What fraction of the offspring are circle-star eyed? ___1/2____

14. Show the cross between two circle-star eyed. **SC x SC**
    What fraction of the offspring are circle-eyed? ___1/4____
    What fraction of the offspring are circle-star eyed? ___1/2____
    What fraction are star eyed? _____1/4____