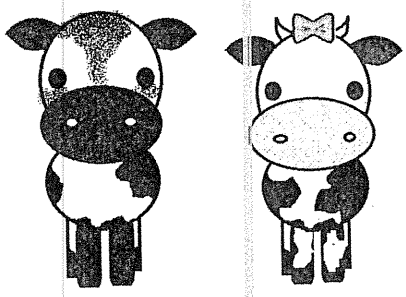
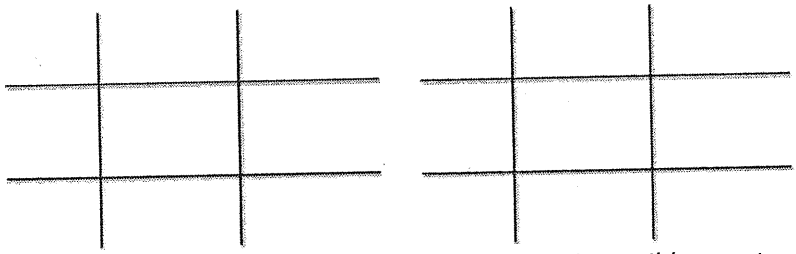
3 types of Dominance Worksheet original by C Kohn, WUHS

Partner Names: _____ block _____ Date_____

Directions: In pairs, complete the worksheet below. Each question should be answered by a different partner (i.e. you should not answer multiple questions in a row). Initial by the questions you complete.

1. Brandy the Bull has no horns (polled). Polled (or hornless) is dominant to having horns. We don't know if he is homozyous dominant (NN) or heterozygous (Nn). To test this, a farmer mates Brandy the Bull with a horned cow. For a cow to be horned, it has to be homozyous recessive (nn).





Complete the Punnett Squares above for each possible genotype for Brandy. Then answer the questions below.

a. If Brandy is homozygous dominant, what would be his possible genotypes: _____

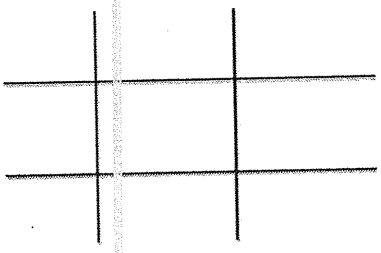
b. If Brandy is heterozygous, what would be his possible genotypes: _____

c. If Brandy is homozygous dominant, what would be his offspring's possible phenotypes: _____

d. If Brandy is heterozygous, what would be his offspring's possible phenotypes: _____

2. Blood type is inherited in a codominant manner. Jack is heterozygous for Type A blood. Jill is heterozygous for Type B blood. Neither Jack nor Jill are Type AB. Create a Punnett Square below showing their possible childrens' blood types.

Complete the Punnett square for blood type. Then answer the questions below.



a. What possible blood types could their children have?

_____

b. Which genotype could receive any kind of blood? _____

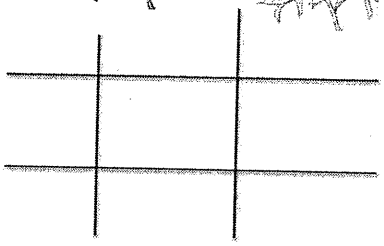
c. Which genotype could give blood to anyone? _____

3. "Spotted" flowers are an example of codominance. A red snapdragon flower (RR) is paired with a white snapdragon (WW). What will their offspring look like if both red and white are dominant traits?

The offspring of a red and white snapdragon will be _____

_____

because _____



4. Human hair curliness is a good example of incomplete dominance. Straight hair is recessive to curly hair. However, someone who is heterozygous for hair curliness will have wavy hair that is kind of curly but kind of straight.

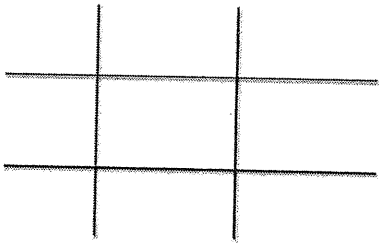
If a couple, both with wavy hair, have children, what possible genotypes and phenotypes would they have? Show in the Punnett Square and then explain.

_____

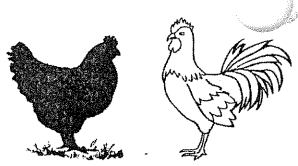
_____

_____

_____



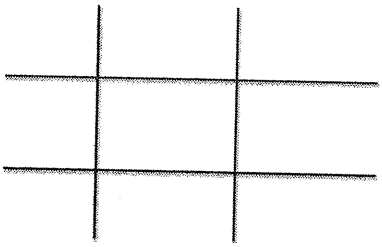
5. A white rooster is crossed with a black hen. The rooster is homozygous, and so is the hen.



If the black is **incompletely dominant** to white, what color(s) will the chicks be? Explain below and show with a Punnett Square.

_____

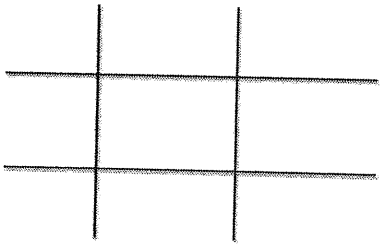
_____



If on the other hand the black and white colors are **codominant**, what color(s) will the chicks be? Explain below and show with a Punnett Square.

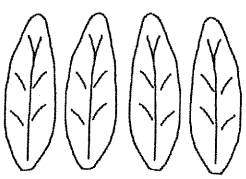
_____

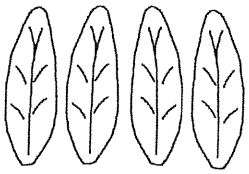
_____



In the space below, draw what the chicks' feathers would look like for incomplete dominance on the left and what they would look like for **co-dominance** in this case on the **right**.

incomplete dominance:





codominance

