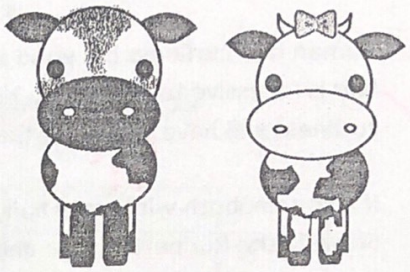
3 types of Dominance Worksheet original by C Kohn, WUHS

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).



	n	n
N	Nn	Nn
N	Nn	Nn

	n	n
N	Nn	Nn
n	nn	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: NN

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

c. If Brandy is homozygous dominant, what would be his offspring's possible phenotypes: no horns

d. If Brandy is heterozygous, what would be his offspring's possible phenotypes: no horns OR horns

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.

	I^B	I^O
I^A	I^AI^B	I^AI^O
I^O	I^BI^O	I^OI^O

a. What possible blood types could their children have?

AB, A, B, O

b. Which genotype could receive any kind of blood? I^AI^B

c. Which genotype could give blood to anyone? I^OI^O

Agricultural Sciences