name

Activity Report
INDIAN CORN: HOW DOES INDIAN CORN ILLUSTRATE MENDEL'S LAW?

I. SUMMARY QUESTIONS

1. What are the dominant and recessive phenotypes in Indian corn? If you were a researcher, how would you go about testing to prove your answer?

2. Determine the ratio of phenotypes on Cob #1 using a Punnett Square. (Monohybrid Cross)

3. Determine the ratio of phenotypes on Cob #2 using a Punnett Square. (Dihybrid Cross)
(add paper if you need more room)

4. Explain why the recessive traits appeared in the F_2 generation.

5. Why did Cob #2 have four phenotypes instead of two?

II. SUMMARY QUESTION FOR CHI-SQUARE CALCULATIONS

Using your data, show the X^2 calculations for each corncob. **Show all work.** Write a statement as to whether or not the null hypothesis is accepted or rejected. If the hypothesis is rejected, explain why the X^2 value was so high (in other words, why was the data you collected not what was expected). Add paper if you need more room.

Cob 1:

Cob 2:

DATA

A. COUNT OF F2 KERNELS, MONOHYBRID CROSS Cobb #1 *Recall, you should expect a 3:1 ratio (purple/white)*

Number of each color per row											Total Observed	Total Expected
ROW	1	2	3	4	5	6	7	8	9	10		
PURPLE Color											_____	_____ (3)
WHITE Color											_____	_____ (1)

TOTAL # OF KERNELS = (total observed above) _____

B. COUNT OF F2 KERNEL, DIHYBRID CROSS Cobb #2 *You should expect a 9:3:3:1 ratio (both traits together)*

Number of each color per row											Total Observed	Total Expected
ROW	1	2	3	4	5	6	7	8	9	10		
PURPLE SMOOTH											_____	_____ (9)
PURPLE WRINKLED											_____	_____ (3)
WHITE SMOOTH											_____	_____ (3)
WHITE WRINKLED											_____	_____ (1)

TOTAL # OF KERNELS = (total observed above) _____