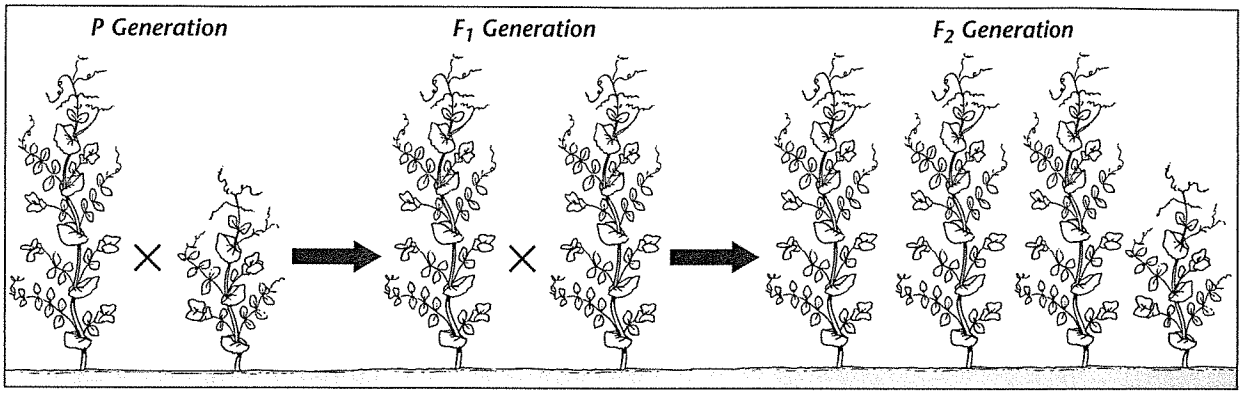
Name _____ Date _____ Class _____

Review and Reinforce

What is Heredity?

Understanding Main Ideas

Study the diagram below. Then use a separate sheet of paper to answer the questions below the diagram.



1. What trait in pea plants is being studied in the cross shown above?
2. What are the two alleles for this trait?
3. Which allele is the dominant allele? Explain how you know.
4. Which allele is the recessive allele? Explain how you know.
5. What alleles do the F_1 offspring have? Explain which allele was inherited from each parent.

Building Vocabulary

Match each term with its definition by writing the letter of the correct definition in the right column on the line beside the term in the left column.

6. ___ genetics
7. ___ allele
8. ___ trait
9. ___ dominant allele
10. ___ gene
11. ___ hybrid
12. ___ heredity
13. ___ recessive allele

a. the passing of traits from parents to offspring
b. an organism with two different alleles for a trait
c. a factor that controls traits
d. a physical characteristics of organisms
e. an allele whose trait always shows up in the organism
f. each different form of a gene
g. the scientific study of heredity
h. an allele whose trait is hidden in the presence of a dominant allele

Name _____ Date _____ Class _____

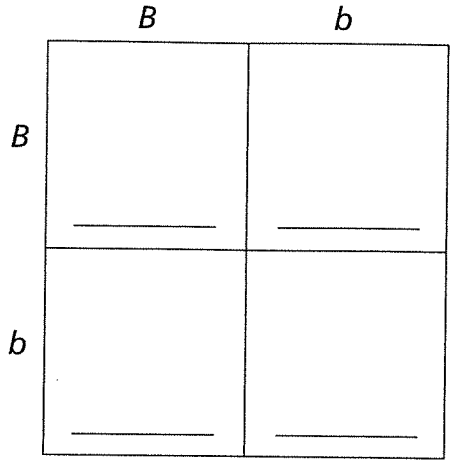
Review and Reinforce

Probability and Heredity

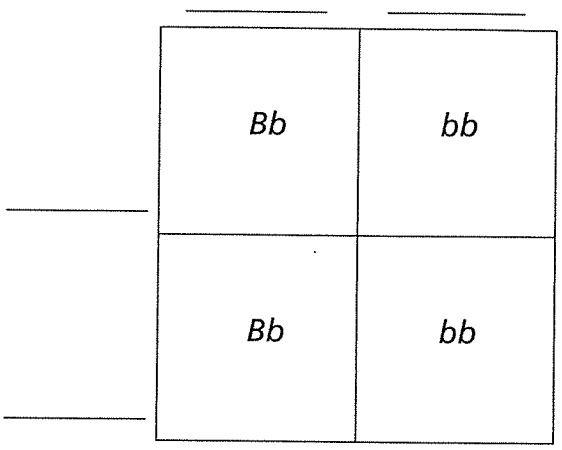
Understanding Main Ideas

Complete the Punnett squares. Then use a separate sheet of paper to answer the questions that follow.

1. Punnett Square A:



2. Punnett Square B:



3. Punnett Square A shows a cross between two black guinea pigs. What is the probability that an offspring will be black? White?

4. What color are the parents shown in Punnett Square B?

5. Which guinea pig parent(s) in Punnett Square B is homozygous? Which is heterozygous? Explain how you know?

6. What is the probability that an offspring will be black in the cross shown in Punnett Square B? What is the probability that an offspring will be white?

Building Vocabulary

Match each term with its definition by writing the letter of the correct definition in the right column on the line beside the term in the left column.

7. ___ heterozygous
8. ___ genotype
9. ___ probability
10. ___ homozygous
11. ___ phenotype

a. a number describing how likely an event is
b. an organism that has two identical alleles for a trait
c. an organism's physical appearance
d. an organism's genetic makeup, or allele combinations
e. an organism that has two different alleles for a trait

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Review and Reinforce

Patterns of Inheritance

Understanding Main Ideas

Answer the following questions on a separate piece of paper.

1. Andalusian chickens show incomplete dominance for feather color. A cross between a white bird and a black bird produces offspring that have blue feathers. A cross between two F1 blue chickens produces mostly blue chickens, but also some white chickens and some black chickens. Are the blue chickens purebred? Explain.
2. One pair of alleles controls eye color in fruit flies. More than ten different eye colors are possible, ranging from bright red to apricot to tan to white. What kind of inheritance is this? How do you know?
3. Give an example of how the environment can influence the way genes are expressed in a plant.

Building Vocabulary

Write a definition for each of these terms on the lines below.

4. codominance

____

____

5. incomplete dominance

____

____

6. polygenic inheritance

____

____

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Review and Reinforce

Chromosomes and Inheritance

Understanding Main Ideas

Complete the table below by filling in the spaces with the correct stage of meiosis—*Beginning, First Division, Second Division, or End.* Then answer the question below the table in the space provided.

	Event	Stage of Meiosis
1.	The double-stranded chromosomes move to the center of the cell. The centromeres separate.	
2.	Two cells form, each with half the number of chromosomes. Each chromosome still has two chromatids.	
3.	Four sex cells form with half the number of chromosomes as the body cells.	
4.	The chromosomes are copied.	

5. What is the chromosome theory of inheritance?

_____

_____

Building Vocabulary

Write a definition for the term shown below.

6. meiosis

_____

_____