

**SECTION 3-2 REVIEW AND REINFORCE**

**Probability and Genetics**

**◆ Understanding Main Ideas**

Complete the two Punnett squares below, and then answer the questions on a separate sheet of paper.

1. Punnett Square A:

	B	b
B	BB	Bb
b	Bb	bb

2. Punnett Square B:

	B	b
b	Bb	bb
b	Bb	bb

- In the cross between two black guinea pigs shown in Punnett Square A, what is the probability that an offspring will be black? White? *75% Black 25% White*
- Is it possible that the cross between two black guinea pigs in Punnett Square A would not produce a white guinea pig? Explain. *Yes BB w/ Bb*
- What color are the guinea pig parents in the cross shown in Punnett Square B? *one white: bb  
one black: Heterozygous Bb*
- Which guinea pig parent(s) in Punnett Square B is homozygous? Which is heterozygous? Explain how you know. *bb homozygous Bb Heterozygous*
- Calculate the probability that an offspring will be black in the cross in Punnett Square B. What is the probability that an offspring will be white? *50:50*

**◆ Building Vocabulary**

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

- F 8. heterozygous
- A 9. Punnett square
- E 10. genotype
- G 11. codominance
- B 12. probability
- C 13. homozygous
- D 14. phenotype

- a. a chart that shows all the possible combinations of alleles that can result from a genetic cross
- b. the likelihood that a particular event will occur
- c. an organism that has two identical alleles for a trait
- d. an organism's physical appearance
- e. an organism's genetic makeup, or allele combinations
- f. an organism that has two different alleles for a trait
- g. inheritance pattern in which the alleles are neither dominant nor recessive