

Scientific Skills Activity

Name _____ Per. _____

Guinea Pig Genetics

Directions: ClassLink → Pearson Easybridge → Realize → Orange Heading “Biology” → Science Skills Activity: Guinea Pig Genetics

Overview: Click on the Overview tab

1. What is the investigative question of this activity?

Learning Outcomes: Click on the Learning Outcomes tab

1. What is the 3rd learning outcome? (This is what you will be doing...)

Investigation: Click on the Investigation tab

1. What 3 traits of guinea pigs are studied in this lab, and what letter is used to represent each trait?

2. What is the phenotype of your chosen pet guinea pig? Be sure to include the fur color, coat type, and eye color of your pet guinea pig. (To select the traits click on the traits tab on the right side of the screen)

3. Click the next button. Select any male and any female guinea pig. Look at the possible offspring that these two guinea pigs could produce. For each possible offspring, record the **phenotype AND the genotype**:

4. Based on the patterns of inheritance that you see among the offspring, describe which guinea pig traits (*color*: black or brown, *coat*: smooth or rough, and *eyes*: dark or pink) appear to be recessive and **explain why**.

5. Based on the patterns you observed, what are all of the possible genotypes for your pet guinea pig?

6. Choose a male and a female guinea pig that you think could be the parents of your pet guinea pig. Complete the table below. If the parent guinea pigs you selected could not be the parents of your guinea pig, write “not possible” in the last column and select a different set of possible parents. ***Try to identify multiple possible parental combinations.***

Genotype of Male Parent	Genotype of Female Parent	Phenotypes of Possible Offspring	Possible Genotypes of Your Guinea Pig

7. **Identify Knowns and Unknowns** Describe the method you used to identify the potential parents of your guinea pig.

8. **Analyze Data** Your classmate claims that they can correctly identify the genotype of their pet guinea pig simply by looking at it. If your classmate is correct, what must be the phenotype and the genotype of their guinea pig? **EXPLAIN YOUR ANSWER.**