I CAN explain how inherited traits are passed from generation to generation and how they are different than learned traits.

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Period \_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Simple Genetics Practice – Extra Study before Punnett squares**

1. For each genotype, indicate whether it is heterozygous (HE) or homozygous (HO)

|  |  |  |
| --- | --- | --- |
| AA \_\_\_\_\_  DD \_\_\_\_ | Ee \_\_\_\_  HH \_\_\_\_ | Ii \_\_\_\_  oo \_\_\_\_ |

2. For each of the genotypes below, determine the phenotype.

|  |  |
| --- | --- |
| *Purple flowers are dominant to white flowers* PP \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pp \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pp \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | *Brown eyes are dominant to blue eyes* BB \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Bb \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bb \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

3. For each phenotype, list the genotypes. (Remember to use the letter of the dominant trait)

|  |  |
| --- | --- |
| *Straight hair is dominant to curly.* \_\_\_\_\_\_\_\_\_\_\_\_ straight \_\_\_\_\_\_\_\_\_\_\_\_ straight \_\_\_\_\_\_\_\_\_\_\_\_ curly | *Pointed heads are dominant to round heads.* \_\_\_\_\_\_\_\_\_\_\_\_ pointed \_\_\_\_\_\_\_\_\_\_\_\_ pointed \_\_\_\_\_\_\_\_\_\_\_\_ round |

4. Red the dominant color over a white flower. What is the genotype of a white

flower?\_\_\_\_\_\_\_\_\_

5. Red is dominant over a white flower. Rr would be what phenotype?\_\_\_\_\_\_\_\_\_\_\_\_\_

6. A flowers genotype is Yy. How would you write the genotype of the recessive color

pink?\_\_\_\_\_\_\_

7. Is the genotype Yy heterozygous or homozygous?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Green furred sloth is dominant over a brown furred sloth. What is the possible genotype(s)

of the green furred sloth?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. What is the phenotype of the recessive sloth in #8?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. A black guinea pig is heterozygous and black is dominant. Write the genotype.\_\_\_\_\_\_\_\_\_\_

11. Different forms of a single gene like brown eyes and blue eyes are called

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

12. If red eyes are written RR or Rr and blue eyes are written as rr, blue eyes are said to be

what?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. The physical appearance of a trait is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

14. Two different alleles, example Rr, for the same gene is said to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

15. The letters SS, Ss, and ss are examples of how you write the inherited combination of alleles

(the actual gene) that is called what? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. Two alleles that are the same, RR or rr, for the same gene is said to be

what?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

17. If red eyes are written RR or Rr and blue eyes are written as rr, red eyes are said to be

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.