Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Genetics Study Guide**

1. Give an example of a trait that is influenced by the environment.
2. What is an example of something from the environment that affects your existing genetic factors?
3. Name a trait that is purely a genetic trait.
4. What is an environmental trait?
5. Why does sexual reproduction produce greater variations?
6. Single celled organisms reproducing and creating cells exactly like themselves without combining genes from two different parents is an example of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
7. In asexual reproduction in plants, how does the genetic material compare between the new plant and the parent plant?
8. Define sexual reproduction.
9. Name the parts of the cell theory.
10. What is the basic structure and function of all life?
11. Red green colorblindness is a recessive sex-linked trait located on the X chromosome. Who is more likely to get it and why?
12. Sex linked genes are on what chromosomes?
13. A father does not have hemophilia, but the mother is a carrier. If hemophilia is a sex linked trait on the X chromosome, what is the probability of having a child with hemophilia?
14. What causes Down Syndrome?
15. What is sickle cell anemia?
16. What is cystic fibrosis?
17. Below is a pedigree showing a recessive trait. What is the possible genotype for Individual 1, generation I?
18. What is the possible genotype for Individual 2, generation II?
19. What is the possible genotype for individual 1, generation II?
20. What is mitosis?
21. Meiosis results in \_\_\_\_\_\_\_\_\_\_\_\_ the number of chromosomes of the parent cell.
22. Mitosis results in \_\_\_\_\_\_\_\_\_\_\_\_the number of chromosomes of the parent cell.
23. What is the probability that the offspring will be homozygous dominant?
24. Using the same punnett square as above, what is the probability that the offspring will be heterozygous?
25. Patrick recently married Patti, a cute girl he met at a local dance. He is considered a purebred for his tall head shape (T), which is dominant over a short head (t). If Patti is a short-headed woman, what type of heads would their children have?
26. In rabbits white fur is dominant to brown fur. If the mother is homozygous recessive and the father is heterozygous, what is the probability of the offspring having brown fur?
27. Make sure you know these skills:
	1. Make a pedigree chart based on a scenario
	2. Difference/similarities of mitosis and meiosis
	3. Difference and influences in environmental traits and genetics
	4. Examples of genetic disorders including symptoms and how they are obtained