

Name: _____

The Basics of Genetics Web Quest

Part 1: To answer the following questions, visit this link <http://learn.genetics.utah.edu/content/basics/>

Read through the information provided in each section and answer the questions. After each section, push the back button and return to the Tour of Basic Genetics Section.

TOUR OF BASIC GENETICS

Heredity

1. Where can DNA be found? _____
2. What is another factor that might affect us besides genes that can define our traits?

3. How many complete sets of chromosomes to humans have? _____
4. How many chromosomes are in each set? _____
5. How much of our chromosomes come from our mothers? _____
6. What is the single celled organism called that is created when the father's sperm meets the mother's egg?

7. Why doesn't each child look exactly alike? _____

Traits

8. What are traits? _____
9. What types of traits exist and how are they different? _____

10. How can environment affect physical traits? _____

11. How can the environment affect behavioral traits? _____

Name: _____

12. What is an allele? _____

13. Do you have the straight thumb allele or the hitchhiker thumb allele? _____

14. If you receive two of the same alleles from your parents, what will this determine? _____

15. What word means you have received two of the same alleles? _____

16. What word means a person received two different alleles? _____

17. If a person receives two different alleles from their parent, which allele will they have? _____

18. For one specific trait, how many alleles does one parent pass on to their child? _____

19. What is it called in cases where the trait comes out blended rather than having the dominant or recessive trait?

DNA

20. What is DNA? _____

21. What do scientists call the shape of DNA? _____

Gene

22. What are genes? _____

23. What are genes made of? _____

24. Approximately how many genes are in our body? _____

25. What word is used to describe when a gene is not normal is the "instruction" is changed? _____

26. What other instructions might genes provide in our body? _____

Protein

27. About how many cells is the body made up of? _____

28. What are structural proteins? _____

Name: _____

29. What determines how individual proteins are made and constructed? _____

Chromosome

30. How long could the DNA from a single cell stretch out to be? _____

31. Where are DNA units stored? _____

32. How many chromosomes does each cell hold? _____

33. What instrument must be used to see a chromosome? _____

34. What are the two chromosomes that would make someone female? _____

35. Do all living things have the same number of chromosomes? _____

36. How many chromosomes do mosquitos have? _____

Part 2:

Before moving on, review the following terms.

Genotype

the set of genes in our DNA which is responsible for a particular trait

Phenotype

the physical expression, or characteristics, of that trait

Child 1 received one dark hair allele (**H**) from his mother and one light hair allele from his father (**h**).

So his genotype is:

And his phenotype is

Hh

Dark Hair

Name: _____

For the next section, visit this link: <http://learn.genetics.utah.edu/content/inheritance/patterns/>

Read the entire article on the webpage and answer the questions that correspond with each section.

WHAT ARE DOMINANT AND RECESSIVE?

37. What is the only way a person can have a recessive phenotype?

38. How can someone be a carrier of the recessive trait if their phenotype is recessive?

39. Why are the terms dominant and recessive misleading? _____

40. Why is the Sickle Cell allele an example of how dominant and recessive traits aren't so clear cut?

41. Why are dominant phenotypes not always more commonly occurring than recessive phenotypes?
