

Genetics Science Learning Center

NAME _____

Objective: Students will browse the Genetics Science Learning Center Website to learn about basic genetics, including the structure of DNA, transcription and translation. Answer the questions as you browse through the site topics.

Website #1

What is Heredity?

1. The passing of traits from parents to a child is the basis of _____
Two things helps to define our traits. What are they? _____
2. Every child receives _____ of its chromosomes from his mother, and _____ from his father.
3. When a sperm and egg join, they create a single cell called a _____
4. Each child inherits a _____ set of chromosomes

What is a Trait?

5. Give an example of a physical trait:

6. A dog fetching a bone is an example of what kind of trait. _____
Name 3 environmental factors that can define our traits. _____

7. Scientists describe the set of information for each form of a trait as an _____

What is DNA?

8. What is DNA? _____
9. What does DNA stand for? _____
10. Why is DNA called a blueprint? _____
11. The "twisted ladder" shape of the DNA molecule is called a _____
12. Name the four bases found in a DNA molecule. _____
13. A DNA strand is made of _____ which make up _____ which make up sentences.
14. These "sentences" are called _____

What is a Gene?

15. What is a gene? _____

16. Blood cells use a protein called _____ to capture and carry oxygen.
17. When a gene is changed, it is said to be _____
18. A mutation in the hemoglobin gene cause what disorder? _____

What is a protein?

19. How is a protein like a car engine? _____
20. Receptor proteins are responsible for picking up

21. Each gene in DNA encodes information on how to make a _____
22. Once in the cytoplasm, the _____ reads the message.
23. What happens when the protein is made? _____

What is a Chromosome?

24. If you stretched the DNA from a cell out, how long would it be? _____
25. The packaging of _____ into a chromosome is done in several steps, starting with the _____
_____ of DNA. Then the DNA is wrapped around some proteins.
These proteins are packed tightly together until they form a _____. Chromosomes are efficient
_____ for DNA.
26. What are the sex chromosomes called? _____
27. How many chromosomes are in a human cell? _____ in a mosquito? _____ a carp? _____

Website #2 - "Build a DNA Molecule"

28. Build a DNA molecule. What is the base pair rule? (Which letters pair with which letters)

29. What are the three parts of a nucleotide?

Website #3 – Things you may not know about DNA

30. What are three NEW things you learned about DNA?

