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DNA Webquest and Crash Course Video Guide

Crash Course: DNA Structure and Replication:
http://www.youtube.com/watch?v=8kK2zwjRV0M&list=SP3EED4C1D684D3ADF

Proofread sugar thymine X-ray 46 DNA nitrogen base helicase uracil phosphate DNA polymerase nucleotide phosphate single cytosine hydrogen

1. _____ stores our genetic instructions
2. Humans have _____ chromosomes.
3. The monomer of DNA is a _____
4. Nucleotides are made up of 3 parts: _____, _____, _____ _____
5. Nitrogen bases are held together by _____ bonds
6. Adenine bonds with _____ and _____ bonds with guanine
7. RNA is a _____ stranded molecule
8. RNA does not contain thymine, it contains _____, which bonds with adenine.
9. Franklin used _____ diffraction to study the structure of DNA
10. _____ unwinds the double helix
11. _____ _____ adds complimentary nucleotides down the DNA molecule.
12. DNA polymerase can also _____ DNA strands.

Webquest: 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.

Site Location: http://learn.genetics.utah.edu/

Click on the link that says "Tour of Basic Genetics." and click on "What is a DNA?" to continue.

1. What is DNA? _____
2. What does DNA stand for? _____
3. Why is DNA called a blueprint? _____
4. The "twisted ladder" shape of the DNA molecule is called a _____ _____
5. Name the four bases found in a DNA molecule: _____
6. A DNA strand is made of _____ which make up _____ which make up sentences.
7. These "sentences" are called _____

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Go back to the Tour of Basic Genetics and click on "What is a Gene?" to continue.

8. What is a gene? _____
9. Blood cells use a protein called _____ to capture and carry oxygen.
10. When a gene is changed, it is said to be _____
11. A mutation in the hemoglobin gene causes what disorder: _____

Go back to the Tour of Basic Genetics and click on "What is a chromosome?" to continue.

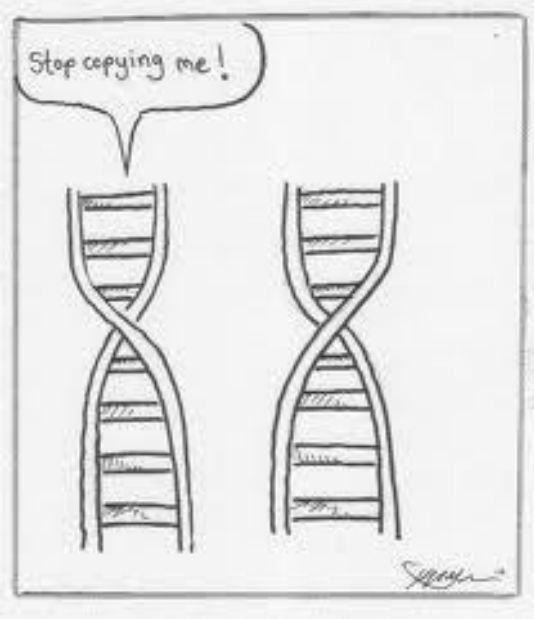
12. If you stretched out the entire DNA from a single cell, how long would it be?? _____
13. How many chromosomes are in a human cell? _____ a mosquito? _____ a carp? _____

Go back to the Tour of Basic Genetics and click on "What is a heredity?" to continue.

14. The passing of traits from parents to child is the basis of _____
15. Every child receives_____ of its chromosomes from his mother and half from his _____
16. When a sperm and egg join, they create a single cell called a _____
17. Each child inherits a _____ set of chromosomes.

Go back to the Tour of Basic Genetics and click on "What is a trait?" to continue.

18. Give an example of a physical trait: _____
19. A dog fetching a bone is an example of what kind of trait? _____
20. Scientists describe the set of information for each form of trait as an _____



Go to the class website and click on the link for the DNA replication game from the nobelprize.org website.