

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

Young \_\_\_\_\_

DNA

21 February 2107

Science Standard 8.LS.6 Create models to show how the structures of chromatin, chromosomes, chromatids, genes, alleles and deoxyribonucleic acid (DNA) molecules are related and differ.

Directions: Complete this assignment by Tuesday, February 21, 2016 using your notes from class and the internet. Number a piece of paper 1 to 18. I highly suggest leaving a line between each number because questions 14 – 18 must be written in complete sentences! Answer the questions on this sheet of paper. Yes, you may type your answers.

**Part 1: Match the following definitions to the correct vocabulary term.**

- \_\_\_\_ 1.) DNA                      A.) Condensed or compact "rod" of DNA that carries genetic information.
- \_\_\_\_ 2.) Gene                      B.) A segment of DNA that controls protein production.
- \_\_\_\_ 3.) Chromosome            C.) Helical molecule that carries the genetic information of an organism and is passed from parent to offspring.

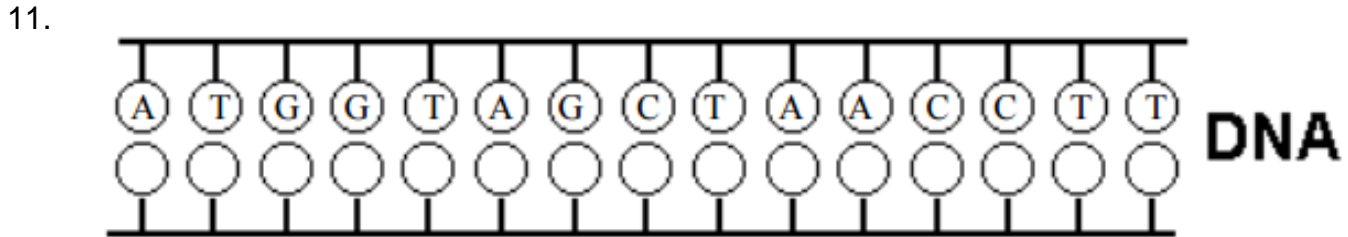
**Part 2: Write the letter on the line of the choice that best answers each question.**

- \_\_\_\_ 4.) How many nitrogenous bases are there in DNA?  
A.) 1                      B.) 2                      C.) 3                      D.) 4
- \_\_\_\_ 5.) Which of the following is not a nitrogenous base found in DNA?  
A.) Adenine            B.) Cytosine            C.) Guanine            D.) Uracil
- \_\_\_\_ 6.) DNA is made up of nitrogenous base pairs. The bases bond in which of the following patterns?  
A.) Adenine – Thymine; Cytosine – Guanine  
B.) Adenine – Cytosine; Guanine – Thymine  
C.) Adenine – Guanine; Cytosine – Thymine  
D.) Adenine – Guanine; Cytosine – Taurine
- \_\_\_\_ 7.) DNA looks like a "twisted ladder". If the "rungs" of the ladder are made up of nitrogenous bases, what are the hand rails or backbone of the ladder made up of?  
A.) Sugars and Salts                      B.) Phosphates  
C.) Sugars                                      D.) Sugars and Phosphates
- \_\_\_\_ 8.) Where is DNA located in the cell?  
A.) Mitochondria                      B.) Cell Membrane  
C.) Nucleus                                      D.) Golgi Body

- \_\_\_\_\_ 9.) How many chromosomes do we get from our mother?  
 A.) 46                      B.) 23                      C.) 22                      D.) 20
- \_\_\_\_\_ 10.) Who is credited with discovering the structure of DNA?  
 A.) Crick and Neck                      B.) Watson and Crick  
 C.) Watson and Franklin                      D.) Holmes and Watson

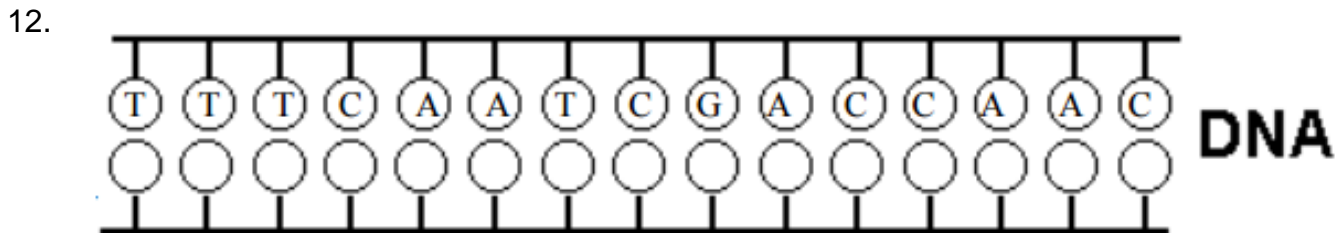
**Part 3: Copy the graphic onto your sheet of paper. Fill in the complementary missing DNA strand.**

(HINT: What base ALWAYS matches up with adenine? What base ALWAYS matches up with thymine? Etc., etc., etc.)



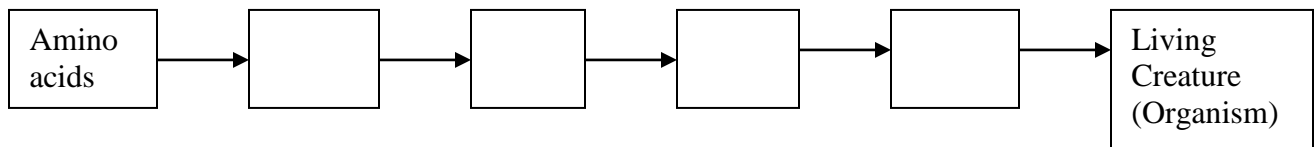
**Part 4: Copy the graphic onto your sheet of paper. Fill in the complementary missing DNA strand.**

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**Part 5: Video. Watch the video clip and answer the questions below in COMPLETE sentences.**

13. Draw this graphic on your sheet of paper and complete it while you watch the video.



14. According to the video, how many amino acids are there?
15. Based on the video, what happens if proteins are in the wrong shape?
16. Where do amino acid live in a cell according to the video?
17. What is RNA as it is described in the video?
18. Based on the video, what are ribosomes?