

Coloring

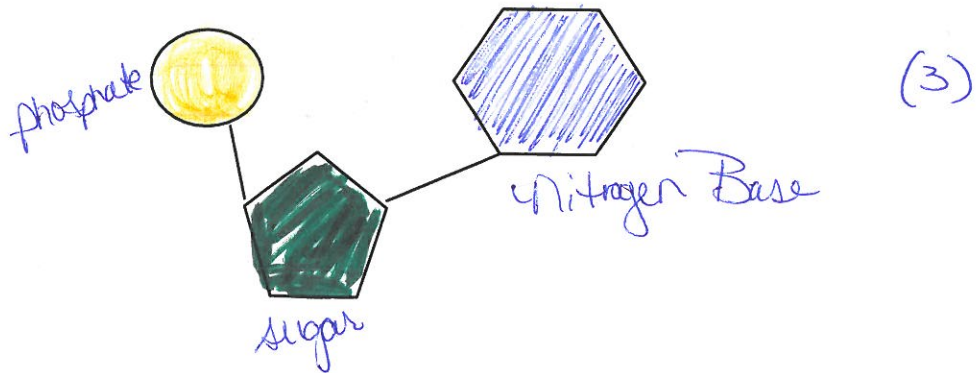
41 points

Name Key

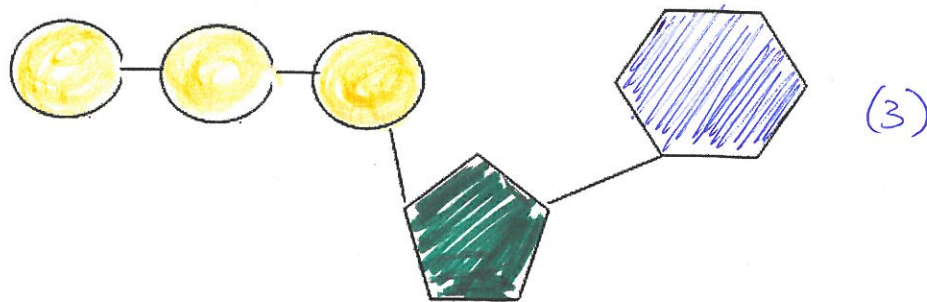
Nucleic acids carry the genetic information in a cell. DNA or deoxyribose nucleic acid contains all the instructions for making every protein needed by a living thing. RNA copies and transfers this genetic information so that proteins can be made. The subunits that make up nucleic acids are called nucleotides. Color and label the parts of a nucleotide (sugar-green, phosphate group-yellow, and nitrogen base-blue). ATP used for cellular energy is a high energy nucleotide with three phosphate groups. Color code the ATP.

+3

Nucleotide



ATP



10 Questions: (Read the top)

1. Nucleic acids carry genetic information in a molecule called DNA or deoxyribose nucleic acid.
2. DNA has the instructions for making a cell's protein.
3. The nucleic acid RNA copies DNA so protein can be made.
4. 4 nucleotides are the subunits making up nucleic acid.
5. The 3 parts of a nucleotide are a 5 carbon sugar, a phosphate, and a nitrogen base.

Use pages 194-197 Of your textbook.

1. What do the letters DNA stand for? Deoxyribonucleic acid

2. Two scientists are given credit for discovering the structure of DNA. What is the name of those two scientists.

+2 a. Watson b. Crick

3. The "backbone" of the DNA molecule is made up of two components, what are these?

+2 a. phosphate b. sugar (deoxyribose)

4. There are four different variations of nitrogen bases, what are the names of those bases?

+4 a. Adenine b. Cytosine
c. Thymine d. Guanine

5. The two bases that are purines are:

+2 a. _____ b. _____

+2 6. The two bases that are pyrimidines are:

a. _____ b. _____

+1 7. Chargoff's rule states that the DNA of any species contains equal amounts of A and T and also equal amounts of C and G.

+1 8. Based on this information, scientist could predict that the base A pairs with T and the base C pairs with G in the formation of the DNA molecule.

This is called **complementary base pairs. Thus one strand of DNA is complementary to the other strand.

+1 9. The bases are paired by hydrogen bonds along the axis of the molecule.

+2 10. Wilkins and Franklin studied the structure of DNA using X-ray diffraction, a technique to examine molecules, and helped Watson and Crick determined that the shape of the molecule was a double helix.

11. Write the complementary sequence below following DNA strand:

+1 A A T T C G C C G G T A T T A G A C G T T
T T A A G C G G C C A T A A T C T G C A A

15. Use the image at the right to complete the follow:

- Circle a nucleotide. +1
- Label the sugar and phosphate in the nucleotide. +1
- Label the bases that are not already labeled +

