

Genetics

What Does DNA Look Like?

Name:

Period:

Use Chapter 7, Section 1 to answer the questions below.

Section 1: What Does DNA Look Like? (p.208)

1. Inherited characteristics are determined by _____.
2. Genes are found on _____.
3. Chromosomes are found in a cell's _____.
4. Chromosomes are made of protein and _____.
5. All living things have genetic material made of _____.



The Pieces of the Puzzle

- _____ 6. What give the instructions for building and maintaining cells?
a. proteins b. carbohydrates c. genes d. traits
- _____ 7. What happens to genes when cells divide?
a. Genes are copied. b. Genes change. c. Genes grow. d. Genes disappear.
8. The _____ of DNA allows genes to give instructions and be copied.

Nucleotides: The Subunits of DNA

- _____ 9. What piece of DNA is made of a sugar, a phosphate, and a base?
a. a nucleus b. a nucleotide c. a gene d. a molecule
- _____ 10. Look at Figure 1. What are the four bases that make up the nucleotides in DNA?
a. adenine, thymine, guanine, cytosine
b. oxygen, nitrogen, helium, hydrogen
c. adenine, cytosine, helium, hydrogen
d. sugar, phosphate, chromosome, gene
11. Each base in a nucleotide has a different _____.



now, turn the page in the book and resume reading at the top of page 210

the rest of the questions are on the back of this page

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DNA's Double Structure (p.210) *[just read the first paragraph in this section]*

12. The twisted ladder shape of DNA is called a _____ .
13. The sides of the double helix are made of _____ parts and _____ parts.
14. Each rung of the double helix ladder is a pair of _____.
15. If adenine is on one side of a double helix rung, the other side is always _____.
16. If guanine is on one side of a double helix rung, the other side is always _____.

DNA Replication (p.210)

- _____ 17. When cells replicate DNA, what do they do?
- a. grow larger DNA c. make copies of DNA
b. make new DNA bases d. bond with other DNA
- _____ 18. In DNA, why does a base bond with only one other base?
- a. Bases are replicated. c. Bases are duplicated.
b. Bases are fragmentary. d. Bases are complementary.
19. Look at Figure 4. What makes the bases pair in a certain way?



20. Look at Figure 4. What does T always bond with? _____ What does C always bond with? _____

How Copies Are Made (p.211)

- _____ 21. Look at Figure 5. How is a DNA molecule split as it is copied?
- a. down the middle b. into thirds c. side to side d. at both ends
22. Look at Figure 5. As DNA splits, a _____ strand forms along each of the original strands.
23. After the two new DNA molecules are formed, half of each is _____ DNA, while the other half is new DNA.

When Copies Are Made (p.211)

- _____ 24. What happens every time that a cell divides?
- a. The nucleus gets larger. c. DNA is permanently destroyed.
b. The nucleus is permanently destroyed. d. DNA is copied.
- _____ 25. What unwinds, copies, and rewinds the DNA inside a cell?
- a. proteins b. phosphates c. cells d. strands