

## 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. What 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. 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)

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

- \_\_\_\_\_ 17. When cells replicate DNA, what do they do?
- a. grow larger DNA
  - b. make new DNA bases
  - c. make copies of DNA
  - d. bond with other DNA
- \_\_\_\_\_ 18. In DNA, why does a base bond with only one other base?
- a. Bases are replicated.
  - b. Bases are fragmentary.
  - c. Bases are duplicated.
  - d. Bases are complementary.



19. Look at Figure 4. What does T always bond with? \_\_\_\_\_ What does C always bond with? \_\_\_\_\_

#### How Copies Are Made

- \_\_\_\_\_ 20. 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
21. As DNA splits, a \_\_\_\_\_ strand forms along each of the original strands.
22. After the two new DNA molecules are formed, half of each is \_\_\_\_\_ DNA, while the other half is new DNA.

#### When Copies Are Made

- \_\_\_\_\_ 23. What happens every time that a cell divides?
- a. The nucleus gets larger.
  - b. The nucleus is permanently destroyed.
  - c. DNA is permanently destroyed.
  - d. DNA is copied.
- \_\_\_\_\_ 24. What unwinds, copies, and rewinds the DNA inside a cell?
- a. proteins
  - b. phosphates
  - c. cells
  - d. strands