

Directed Reading A 16-1

**Section: What Does DNA Look Like?**

- \_\_\_\_\_ 1. What are chromosomes made of?
  - a. inherited characteristics
  - b. generations
  - c. cells and structures
  - d. protein and DNA
  
- \_\_\_\_\_ 2. What is the name of the material that determines inherited characteristics?
  - a. deoxyribonucleic acid
  - b. ribosome
  - c. RNA
  - d. amino acid

**THE PIECES OF THE PUZZLE**

- 3. The subunits that make up DNA are called
  - a. phosphates.
  - b. nucleotides.
  - c. amino acids.
  - d. bases.
- 4. What two things must DNA be able to do?

\_\_\_\_\_

\_\_\_\_\_

- 5. Why must DNA be able to be copied?

\_\_\_\_\_

\_\_\_\_\_

- 6. Scientists were surprised about how much the DNA molecule could do, because they thought only \_\_\_\_\_ molecules could give instructions and be copied during cell division.

- 7. What three things is a nucleotide made of?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- 8. What are the four bases of a nucleotide?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

*Directed Reading A continued*

9. What four letters stand for the four types of bases?

\_\_\_\_\_

10. According to Chargaff's rules, the amount of \_\_\_\_\_ always equals the amount of thymine.

11. According to Chargaff's rules, the amount of guanine always equals the amount of \_\_\_\_\_.

12. Rosalind Franklin used a process known as \_\_\_\_\_ to make images of DNA molecules.

13. What shape did Franklin's images show?

\_\_\_\_\_

14. What did James Watson and Francis Crick's model of DNA look like?

\_\_\_\_\_

\_\_\_\_\_

15. What two things did this model eventually help explain?

\_\_\_\_\_

\_\_\_\_\_

**DNA'S DOUBLE STRUCTURE**

16. The twisted ladder shape of DNA is called a(n) \_\_\_\_\_.

17. What molecules form the sides of the ladder?

\_\_\_\_\_

\_\_\_\_\_

18. What are the rungs of the DNA ladder made of?

\_\_\_\_\_