

CP BIO CH 12 PRACTICE TEST

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- _____ 1. Avery's experiments showed that bacteria are transformed by
- a. RNA.
 - b. DNA.
 - c. proteins.
 - d. carbohydrates.

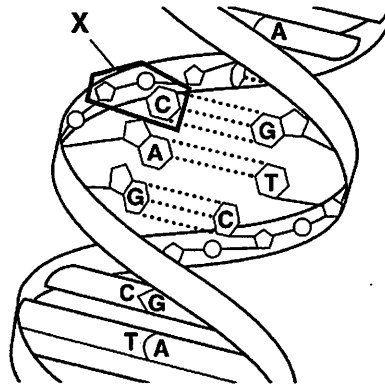


Figure 12-1

- _____ 2. Figure 12-1 shows the structure of a(an)
- a. DNA molecule.
 - b. amino acid.
 - c. RNA molecule.
 - d. protein.
- _____ 3. Which of the following is a nucleotide found in DNA?
- a. ribose + phosphate group + thymine
 - b. ribose + phosphate group + uracil
 - c. deoxyribose + phosphate group + uracil
 - d. deoxyribose + phosphate group + cytosine
- _____ 4. In eukaryotes, DNA
- a. is located in the nucleus.
 - b. floats freely in the cytoplasm.
 - c. is located in the ribosomes.
 - d. is circular.
- _____ 5. During mitosis, the
- a. DNA molecules unwind.
 - b. histones and DNA molecules separate.
 - c. DNA polymerase makes copies of DNA strands.
 - d. nucleosomes become more tightly packed.
- _____ 6. DNA is copied during a process called
- a. replication.
 - b. translation.
 - c. transcription.
 - d. transformation.

Name: _____

- _____ 7. DNA replication results in two DNA molecules,
 a. each with two new strands.
 b. one with two new strands and the other with two original strands.
 c. each with one new strand and one original strand.
 d. each with two original strands.
- _____ 8. During DNA replication, a DNA strand that has the bases CTAGGT produces a strand with the bases
 a. TCGAAC. c. AGCTTG.
 b. GATCCA. d. GAUCCA.
- _____ 9. RNA contains the sugar
 a. ribose. c. glucose.
 b. deoxyribose. d. lactose.
- _____ 10. Unlike DNA, RNA contains
 a. adenine. c. phosphate groups.
 b. uracil. d. thymine.
- _____ 11. Which of the following are found in both DNA and RNA?
 a. ribose, phosphate groups, and adenine
 b. deoxyribose, phosphate groups, and guanine
 c. phosphate groups, guanine, and cytosine
 d. phosphate groups, guanine, and thymine
- _____ 12. How many main types of RNA are there?
 a. 1 c. hundreds
 b. 3 d. thousands
- _____ 13. Which type(s) of RNA is(are) involved in protein synthesis?
 a. transfer RNA only
 b. messenger RNA only
 c. ribosomal RNA and transfer RNA only
 d. messenger RNA, ribosomal RNA, and transfer RNA
- _____ 14. What is produced during transcription?
 a. RNA molecules c. RNA polymerase
 b. DNA molecules d. proteins
- _____ 15. How many bases are needed to specify three amino acids?
 a. 3 c. 9
 b. 6 d. 12
- _____ 16. Why is it possible for an amino acid to be specified by more than one kind of codon?
 a. Some codons have the same sequence of nucleotides.
 b. There are 64 different kinds of codons but only 20 amino acids.
 c. Some codons do not specify an amino acid.
 d. The codon AUG codes for the amino acid methionine and serves as the “start” codon for protein synthesis.

Name: _____

ID: A

- _____ 17. What happens during the process of translation?
- a. Messenger RNA is made from DNA.
 - b. The cell uses information from messenger RNA to produce proteins.
 - c. Transfer RNA is made from messenger RNA.
 - d. Copies of DNA molecules are made.
- _____ 18. Genes contain instructions for assembling
- a. purines.
 - b. nucleosomes.
 - c. proteins.
 - d. pyrimidines.
- _____ 19. Which type of RNA functions as a blueprint of the genetic code?
- a. rRNA
 - b. tRNA
 - c. mRNA
 - d. RNA polymerase
- _____ 20. A mutation that involves one or a few nucleotides is called a(an)
- a. chromosomal mutation.
 - b. inversion.
 - c. point mutation.
 - d. translocation.
- _____ 21. If a specific kind of protein is not continually used by a cell, the gene for that protein is
- a. always transcribed.
 - b. never expressed.
 - c. turned on and off at different times.
 - d. not regulated.
- _____ 22. Specialized cells regulate the expression of genes because they
- a. do not want the genes to become worn out.
 - b. cannot control translation.
 - c. do not carry the complete genetic code in their nuclei.
 - d. do not need the proteins that are specified by certain genes.
- _____ 23. Hox genes determine an animal's
- a. basic body plan.
 - b. size.
 - c. skin color.
 - d. eye color.