

Education and Training

Instructional Practices in Education and Training

Multiple Choice Science Assessment Questions



All science problems address TEKS 130.144 and TEKS 130.143.
Instructional Practices in Education and Training.

Instructional Practices in Education and Training. (2) The student understands the importance of prenatal care in the development of a child. The student is expected to:

- (A) describe nutritional needs prior to and during pregnancy
- (B) analyze reasons for medical care and good health practices prior to and during pregnancy
- (C) outline stages of prenatal development
- (D) discuss the role of genetics in prenatal development
- (E) determine environmental factors affecting development of the fetus

Biology. (6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:

- (A) identify components of DNA, and describe how information for specifying the traits of an organism is carried in the DNA
- (B) recognize that components that make up the genetic code are common to all organisms
- (D) recognize that gene expression is a regulated process
- (E) identify and illustrate changes in DNA and evaluate the significance of these changes
- (F) predict possible outcomes of various genetic combinations such as monohybrid crosses, dihybrid crosses and non-Mendelian inheritance
- (G) recognize the significance of meiosis to sexual reproduction
- (H) describe how techniques such as DNA fingerprinting, genetic modifications, and chromosomal analysis are used to study the genomes of organisms

Biology. (10) Science concepts. The student knows that biological systems are composed of multiple levels. The student is expected to:

(A) describe the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals

(C) analyze the levels of organization in biological systems and relate the levels to each other and to the whole system

1. Which structure is the location for sperm maturation?
 - a. Testes
 - b. Vas deferens
 - c. Epididymis
 - d. Urethra

2. How many chromosome pairs do humans have?
 - a. 24
 - b. 25
 - c. 23
 - d. 22

3. DNA contains all of the following except:
 - a. Deoxyribose sugar
 - b. Thymine
 - c. Phosphate
 - d. Uracil

4. Which is not a characteristic of the nucleic acid molecule DNA?
 - a. It can leave the nucleus
 - b. It contains thymine
 - c. It is double stranded
 - d. It contains the pentose sugar deoxyribose


5. Deoxyribonucleic acid can be found in the:
 - a. Ribosome
 - b. Endoplasmic reticulum
 - c. Lysosome
 - d. Nucleus

6. What actually determines the traits and characteristics of an individual?
 - a. The phosphorus and sugar sequence
 - b. The amino acid sequence in the cell membrane
 - c. The nucleotide sequence in deoxyribonucleic acid
 - d. The ribosomes processing the deoxyribonucleic acid

7. Substances that can cause a change in the composition of deoxyribonucleic acid are known as:
 - a. Enzymes
 - b. Catalysts
 - c. Mutagens
 - d. Promoters

 8. Before meiosis can occur, what needs to take place?
 - a. Transcription
 - b. Translation
 - c. Replication
 - d. Mutation

 9. Overexposure to radiation is most likely to cause an increase in:
 - a. the rate of growth in a child
 - b. the production of ATP
 - c. the mutation rate
 - d. the water consumption of the individual

 10. A female and male mate. What is the likelihood of a male child being produced?
 - a. 0%
 - b. 25%
 - c. 50%
 - d. 75%
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Answer Key

- 1) C
- 2) C
- 3) D
- 4) A
- 5) D
- 6) C
- 7) C
- 8) C
- 9) C
- 10) C