

Assessment

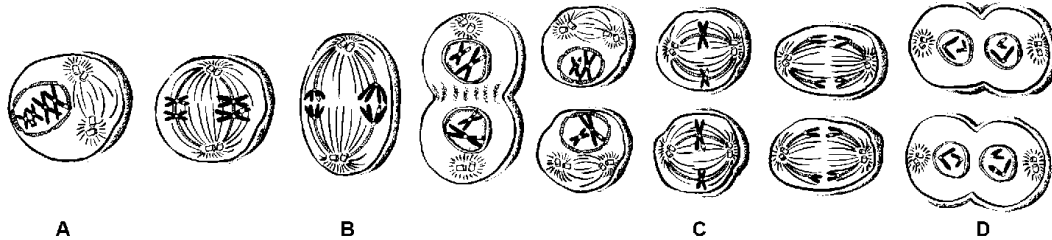
Chapter Test

Meiosis and Sexual Reproduction

In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.

- _____ 1. Meiosis occurs
- in all sexually reproducing organisms.
 - in all asexually reproducing organisms.
 - in all reproducing organisms.
 - during gametogenesis and cytokinesis.
- _____ 2. Which of the following does not lead to genetic variation?
- binary fission
 - random fertilization
 - independent assortment
 - crossing-over

Questions 3–6 refer to the figure below, which shows the stages of meiosis.



- _____ 3. Pairs of homologous chromosomes line up at the cell's equator in stage
- A.
 - B.
 - C.
 - D.
- _____ 4. Homologous chromosomes move to opposite poles of the cell during stage
- A.
 - B.
 - C.
 - D.
- _____ 5. In alternation of generations, which of the following is *not* haploid?
- spores
 - gametophytes
 - sporophytes
 - eggs and sperm
- _____ 6. During meiosis, two successive divisions
- result in the formation of two identical cells.
 - cause the formation of a zygote.
 - are responsible for the formation of four haploid cells.
 - must occur before mitosis can form gametes.

Chapter Test *continued*

- _____ 7. In asexual reproduction,
 a. DNA does not vary much between offspring.
 b. many offspring are produced in a short time.
 c. organisms may not be able to adapt to new environments.
 d. All of the above
- _____ 8. Fragmentation is a form of
 a. fission. c. crossing-over.
 b. asexual reproduction. d. sexual reproduction.
- _____ 9. In humans, each gamete receives
 a. 23 pairs of chromosomes from each parent.
 b. one chromosome from each of 23 pairs.
 c. 46 chromosomes.
 d. 23 homologous chromosome pairs

In the space provided, write the letter of the description that best matches each term.

- | | |
|----------------------------------|---|
| _____ 10. crossing-over | a. random distribution of homologous chromosomes during meiosis |
| _____ 11. life cycle | b. a cell that contains one set of chromosomes |
| _____ 12. diploid | c. all copies of the single parent's genes are passed to the offspring |
| _____ 13. independent assortment | d. portions of a chromatid on one homologous chromosome break off and trade places with the corresponding portion on one of the chromatids of the other homologous chromosome |
| _____ 14. homologous chromosomes | e. the process by which gametes are produced in male animals |
| _____ 15. spermatogenesis | f. the union of sperm and egg cells to produce a diploid zygote |
| _____ 16. haploid | g. the activities in the life of an organism from one generation to the next |
| _____ 17. oogenesis | h. chromosomes that are similar in shape and size and have similar genetic information |
| _____ 18. fertilization | i. a cell that contains two sets of chromosomes |
| _____ 19. asexual reproduction | j. female gamete, also called an egg |
| _____ 20. ovum | k. the process by which gametes are produced in female animals |