

Spring Semester

Multiple Choice

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

- ___ 1. Selective breeding produces
a. more offspring. b. fewer offspring. c. desired traits in offspring. d. transgenic organisms.
- ___ 2. The crossing of buffalo and cattle to produce beefalo is an example of
a. inbreeding. b. hybridization. c. genetic engineering. d. transformation.
- ___ 3. Scientists produced oil-eating bacteria by
a. making bacteria polyploid. b. inbreeding bacteria. c. inducing mutations in bacteria. d. hybridizing bacteria.
- ___ 4. Which of the following includes all the others?
a. hybridization b. inbreeding c. selective breeding d. induced mutations
- ___ 5. Polyploidy instantly results in a new plant species because it
a. changes a species' number of chromosomes. b. produces a hardier species. c. causes mutations. d. all of the above
- ___ 6. A DNA molecule produced by combining DNA from different sources is known as
a. a mutant. b. a hybrid. c. a polyploid. d. recombinant DNA.
- ___ 7. Genetic engineering involves
a. reading a DNA sequence. b. editing a DNA sequence. c. reinserting DNA into living organisms. d. all of the above
- ___ 8. Which of the following are NOT used to read DNA sequences?
a. nucleotides b. gels c. fluorescent dyes d. double-stranded DNA molecules
- ___ 9. If two DNA samples showed an identical pattern and thickness of bands produced by gel electrophoresis, the samples contained
a. the same amount of DNA. b. fragments of the same size. c. the same DNA molecules. d. all of the above
- ___ 10. During transformation,
a. a prokaryote is changed into a eukaryote. b. a cell takes in DNA from outside the cell. c. foreign DNA is inserted into a plasmid. d. a cell is mutated.
- ___ 11. Which of the following includes all the others inside it?
a. plasmid b. transformed bacterium c. foreign gene d. recombinant DNA
- ___ 12. A gene that makes it possible to distinguish bacteria that carry a plasmid (and the foreign DNA) from those that don't is called a(an)
a. resistance gene. b. antibiotic. c. genetic marker. d. clone.
- ___ 13. Which of the following is an example of successful transformation?
a. injection of bacterial DNA into plant cells b. a defective gene in a cell being replaced with a normal gene c. bacterial cells taking in plasmids that have a genetic marker d. none of the above
- ___ 14. What kind of technique do scientists use to make transgenic organisms?
a. hybridization b. inbreeding c. inducing of mutations d. genetic engineering
- ___ 15. What has been an advantage of producing transgenic plants?