25. half the number of chromosomes that were present in the original cell
26. meiosis
27. genotype
28. sex chromosomes
29. two X chromosomes
30. one X and one Y chromosome
31. the X chromosome
32. the Y chromosome
33. They are more likely to have a sex-linked disorder.
34. Answers may vary. Sample answer: color blindness and hemophilia
35. pedigree
36. carrier
37. recessive
38. selective breeding

Directed Reading B

SECTION: MENDEL AND HIS PEAS

1. B
2. B
3. D
4. C
5. A
6. C
7. B
8. B
9. C
10. A
11. dominant
12. recessive
13. D
14. B
15. A

SECTION: TRAITS AND INHERITANCE

1. C
2. D
3. A
4. D
5. B
6. B
7. C
8. B
9. D
10. C
11. D
12. B
13. A
14. C
15. B
16. A
17. D
18. meiosis
19. X chromosomes
20. Y chromosome
21. hemophilia
22. pedigree
23. carriers
24. recessive
25. selective breeding

Vocabulary and Section Summary

SECTION: MENDEL AND HIS PEAS

1. heredity: the passing of genetic traits from parent to offspring
2. dominant trait: the trait observed in the first generation when parents that have different traits are bred
3. recessive trait: a trait that reappears in the second generation after disappearing in the first generation when parents with different traits are bred

SECTION: TRAITS AND INHERITANCE

1. gene: one set of instructions for an inherited trait
2. allele: one of the alternative forms of a gene that governs a characteristic, such as hair color
3. phenotype: an organism's appearance or other detectable characteristic
4. genotype: the entire genetic makeup of an organism; also, the combination of genes for one or more specific traits
5. probability: the likelihood that a possible future event will occur in any given instance of the event

SECTION: MEIOSIS

1. homologous chromosomes: chromosomes that have the same sequence of genes and the same structure
2. meiosis: a process in cell division during which the number of chromosomes decreases to half the original number by two divisions of the nucleus, which results in the production of sex cells

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