

Chapter 2 Genetics and Prenatal Development

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TOTAL ASSESSMENT GUIDE

Chapter 2, Section 1 Genetics and Prenatal Development

Learning Objective		Remember the Facts	Understand the Concepts	Apply What You Know	Analyze It
Learning Objective 2.1	Multiple Choice	1, 2, 3, 4, 6, 7, 8, 10, 12, 27	5, 9, 11, 13, 18, 19, 22, 25, 26, 28, 29	14, 15, 16, 20, 21, 23	17
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	Short Answer		94, 95		
	Essay				
Learning Objective 2.3	Multiple Choice	42, 43, 44, 45, 48, 49, 53, 55, 56, 59, 63	47, 50, 51, 54	46, 52, 58, 60, 64, 65	57, 61, 62
	Short Answer		96		
	Essay				
Learning Objective 2.4	Multiple Choice	68	66, 67, 71	69, 70	
	Short Answer			97	
	Essay				
Learning Objective 2.5	Multiple Choice		72, 73, 74, 75		
	Short Answer				
	Essay				
Learning Objective 2.6	Multiple Choice	77, 78, 79, 83, 84, 85	80, 82	86	81
	Short Answer				
	Essay				
Learning Objective 2.7	Multiple Choice	91, 92	87, 88, 89, 90		
	Short Answer				
	Essay				99

Section 1 Genetic Influences on Development

Multiple Choice Questions

1. Nearly all human cells have _____ chromosomes.

- a. 46
- b. 42
- c. 26
- d. 23

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 84 a= 1 b= 84 c= 14 d= 1 r= .19

2. How many pairs of chromosomes do humans have?

- a. 23
- b. 46
- c. 69
- d. 92

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 76 a= 76 b= 24 c= 0 d= 0 r= .33

3. How many chromosomes from each pair are inherited from the mother?

- a. 1
- b. 2
- c. 3
- d. 4

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

4. Chromosomes are composed of complex molecules of _____.

- a. genes
- b. nucleotide pairs
- c. DNA
- d. genomes

Answer: c

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

5. Chromosomes are organized into segments called _____, the basic units of hereditary information.

- a. DNA
- b. RNA
- c. genes
- d. nucleotides

Answer: c

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

6. Genes contain paired sequences of chemicals called _____.

- a. genes
- b. RNA
- c. DNA
- d. nucleotides

Answer: d

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

7. Approximately how many genes constitute the human genome?

- a. 10,000
- b. 19,000
- c. 23,000
- d. 76,000

Answer: b

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

8. How many nucleotide pairs constitute the human genome?

- a. 100,000
- b. 150 million
- c. 3 billion
- d. 5 trillion

Answer: c

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

9. The totality of an individual's hereditary information is referred to as his or her _____.

- a. phenotype
- b. genotype
- c. inheritance
- d. genome

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

10. An individual's unique genetic makeup is his or her _____.

- a. genotype
- b. phenotype
- c. allele
- d. reaction range

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

11. A person's _____ is/are his or her genetic inheritance, whereas a person's _____ is/are his or her expressed characteristics.

- a. phenotype; genotype
- b. genotype; phenotype
- c. nucleotides; DNA
- d. DNA; nucleotides

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 88 a= 12 b= 88 c= 0 d= 0 r = .43

12. The characteristics of an individual's genetic material are referred to as his or her _____.

- a. phenotype
- b. genotype
- c. inheritance
- d. environment

Answer: a

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

13. The difference between an individual's genotype and its expression in his or her phenotype is a consequence of the person's _____.

- a. genes
- b. DNA
- c. environment
- d. parents

Answer: c

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

14. Jill's mother was an All-American in the 1500m and qualified for the Olympic team in the marathon. Jill is a freshman in high school and does not think that she will need to train to become a member of the school's cross-country team. Jill keeps telling you that her mother was a great runner, so she will also be a great runner. What do you think?

- a. She is correct; she will be a great runner no matter what she does.
- b. It is unlikely that Jill even has the genotype for running.
- c. Jill might have the genotype for running ability, but she will need to train to become a great runner.
- d. Jill has also inherited the genes for superior intelligence.

Answer: c

Difficulty Level: Difficult

Skill Level: Apply What You Know

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

15. Alejandro was born into a family with high musical talent. Both of his parents were professional musicians who encouraged and fostered his musical development. Throughout childhood, he practiced the guitar whenever he could and eventually became a professional musician himself. Which of the following best describes Alejandro's phenotype?

- a. Alejandro's musical genes
- b. Alejandro's musical talent
- c. Alejandro's nurturing parents
- d. Alejandro's practice of the guitar

Answer: c

Difficulty Level: Difficult

Skill Level: Apply What You Know

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

16. Thomas's biological mother and father are both gifted athletes. He was adopted by a couple who had no interest in him being involved in sports. Although Thomas likely inherited athletic ability, it was never expressed in his _____.

- a. genotype
- b. phenotype
- c. genes
- d. alleles

Answer: b

Difficulty Level: Difficult

Skill Level: Apply What You Know

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 89 a= 7 b= 89 c= 3 d= 2 r= .18

17. Which statement accurately describes the concept of dominant–recessive inheritance?

- a. a pattern of inheritance in which one gene is expressed and one gene is suppressed
- b. a pattern of inheritance in which a pair of chromosomes contains one dominant and one recessive gene, but only the recessive gene is expressed in the genotype
- c. a pattern of inheritance in which one gene is dominant and one gene is recessive
- d. a pattern of inheritance in which a pair of chromosomes contains one dominant and one recessive gene, but only the dominant gene is expressed in the phenotype

Answer: d

Difficulty Level: Difficult

Skill Level: Analyze It

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.2 Develop a working knowledge of the content domains of psychology.

18. Each form of a gene that is contained in a chromosome is referred to as a(n) _____.

- a. dominant gene
- b. recessive gene
- c. allele
- d. single gene

Answer: c

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

19. What type of gene, if it is present, will be expressed in the phenotype?

- a. recessive gene
- b. dominant gene
- c. expressed gene
- d. controller gene

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

20. If the gene for curly hair is dominant and the gene for straight hair is recessive, from a dominant–recessive pairing, which of the following would be an individual’s phenotype?

- a. straight hair
- b. curly hair
- c. wavy hair
- d. their complete genetic makeup

Answer: b

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.2 Develop a working knowledge of the content domains of psychology.

21. Jill’s mother and father both have brown eyes, yet she has blue eyes. She has come to believe that she is not her parents’ actual biological daughter. What would you tell her?

- a. Her mother and father probably carry the recessive trait for blue eyes.
- b. She is correct; there is no way that she would have blue eyes if she were really her parents’ biological daughter.
- c. Blue eyes are dominant, so her parents should have blue eyes, too.
- d. Only the environment determines eye color once the fetus has been born.

Answer: a

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.2 Develop a working knowledge of the content domains of psychology.

% correct 97 a= 97 b= 2 c= 1 d= 0 r = .20

22. For a recessive gene to be expressed in the phenotype, it must be paired with a _____.
a. dominant gene
b. recessive gene
c. expressed gene
d. controller gene

Answer: b

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

23. How would you create an individual who will definitely have blue eyes?
a. Make sure they have one recessive gene for blue eyes and one dominant gene for brown eyes.
b. Make sure they have one pair of recessive genes for blue eyes.
c. Make sure they have a pair of alleles for eye color.
d. Make sure they have one recessive gene for blue eyes and one dominant gene for green eyes.

Answer: b

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.2 Develop a working knowledge of the content domains of psychology.

24. What is occurring when the phenotype is influenced primarily but not exclusively by the dominant gene?
a. expression of the dominant gene
b. expression of the recessive gene
c. incomplete dominance
d. failure of expression

Answer: c

Difficulty Level: Moderate

Skill Level: Analyze It

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

25. Which of the following is an example of an incomplete dominant inheritance?

- a. Down syndrome
- b. Fragile X
- c. sickle-cell anemia
- d. HIV

Answer: c

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

26. What recessive disorder results in non-normal-shaped blood cells that clog blood vessels and cause pain, increased susceptibility to disease, and early death, particularly among Africans and African American populations?

- a. Tay-Sachs
- b. trisomy-21
- c. sickle-cell anemia
- d. malaria

Answer: c

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

27. Sickle-cell anemia is a defense against what disease?

- a. sickle-cell trait
- b. malaria
- c. smallpox
- d. Nile fever

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 88 a= 6 b= 88 c= 0 d= 6 r = .57

28. Single gene pairs play a crucial role in development. However, it is more common that developmental outcomes occur because of the interaction of multiple genes. This is known as _____.

- a. inheritability
- b. polygenic inheritance
- c. bimodal inheritance
- d. single dominance

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

29. Which type of inheritance influences characteristics such as height, weight, skin color, intelligence, personality, and disease susceptibility?

- a. recessive–dominant inheritance
- b. incomplete dominance
- c. dominant-recessive inheritance
- d. polygenetic inheritance

Answer: d

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 47 a= 6 b= 18 c= 29 d= 47 r = .16

30. The chromosomes that determine whether a fetus will be male or female are known as the _____.

- a. sex chromosomes
- b. gender chromosomes
- c. male chromosomes
- d. female chromosomes

Answer: a

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: The Sex Chromosomes

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

31. A person with an XY pairing of chromosomes is a(n) _____, whereas a person with an XX pairing of chromosomes is a(n) _____.

- a. male; female
- b. female; male
- c. incomplete dominant gene; polygenetic inherited gene
- d. polygenetic inherited gene; incomplete dominant gene

Answer: a

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: The Sex Chromosomes

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

32. Which of the two sex chromosomes is significantly smaller and contains approximately 30% less genetic material?

- a. X
- b. Y
- c. O
- d. They are both the same.

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: The Sex Chromosomes

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

33. What happens during fertilization that determines the sex of the offspring?

- a. The egg or ovum contains the X chromosome and the sperm cells carry either the X or the Y. The sperm cell that is involved in fertilization determines the sex of the offspring.
- b. The sperm cells all carry the X chromosome. The ovum contains both the X and Y, so it is the ovum that determines the sex of the offspring.
- c. The ovum and sperm cells both carry X chromosomes. The placenta carries both the X and Y, and it determines the sex of the offspring.
- d. The ovum and the sperm cells both contain the X chromosome. During the course of fertilization, either an X or a Y will be created, which determines the sex of the offspring.

Answer: a

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: The Sex Chromosomes

APA Learning Objective: 1.2 Develop a working knowledge of the content domains of psychology.

34. Your older brother has a friend who was angry with his wife because they have two sons and he wanted to have a daughter. He thought that she was responsible for having two boys rather than a boy and a girl. What would you tell your brother?

- a. His friend was correct; she was purposefully having sons instead of a daughter.
- b. It was not anyone's "fault," but the sperm determined the sex of the offspring.
- c. It was not anyone's "fault" even though her ovum determined the sex of the offspring.
- d. Sex of the offspring is determined by day of the week. Both parents should have known what day they were trying to conceive.

Answer: b

Difficulty Level: Easy

Skill Level: Apply What You Know

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: The Sex Chromosomes

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 76 a= 6 b= 76 c= 12 d= 6 r= .17

35. While having a conversation with a friend who is pregnant, she says that because she is "carrying high" she will have a girl. Based on the textbook, which of the following statements are you thinking?

- a. There is no scientific evidence to support her belief, as "carrying high" is folklore.
- b. There are countless research studies that support her belief.
- c. Statistically speaking, she is correct.
- d. She is wrong; a pregnant woman who is "carrying high" is more likely to be carrying a boy.

Answer: a

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: The Sex Chromosomes

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

36. According to ancient Mayan folklore, how can one predict whether they are having a girl?

- a. if the mother's age and the month of conception are both even or odd
- b. if a woman is carrying her pregnancy low in her abdomen
- c. if a woman's right breast is larger than her left
- d. if a woman craves salty and sour food

Answer: a

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: The Sex Chromosomes

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

37. According to ancient Chinese folklore, how can one predict whether a pregnant woman is having a boy?

- a. if the mother's age and the month of conception are both even or odd
- b. if a woman is carrying her pregnancy low in her abdomen
- c. if a woman's right breast is larger than her left
- d. if a woman craves salty and sour food

Answer: b

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: The Sex Chromosomes

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

38. Which statement accurately reflects sex ratios of boys to girls across the world?

- a. The natural human ratio is 105 boys per 100 girls.
- b. South Korea's ratio has declined to 100 boys per 110 girls.
- c. China remains the country with the most skewed ratio of 120 boys per 100 girls.
- d. The natural human ratio favors girls over boys to ensure that enough females exist to carry offspring.

Answer: a

Difficulty Level: Moderate

Skill Level: Analyze It

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: The Sex Chromosomes

APA Learning Objective: 1.2 Develop a working knowledge of the content domains of psychology.

39. _____ are more affected by X-linked inherited disorders while _____ are generally carriers of X-linked disorders.

- a. Females; males
- b. Males; females
- c. children under one year of age; individuals who have been exposed to teratogens
- d. adults with mutations; individuals with a trisomy

Answer: b

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: The Sex Chromosomes

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

40. Why are males more likely to have X-linked inherited disorders?

- a. If the X chromosome contains the recessive gene for the disorder, a boy's Y chromosome has no dominant gene to prevent it from being expressed.
- b. Boys are generally more immature at birth.
- c. Androgen is a hormone that causes disorders to occur.
- d. If the Y chromosome does not develop properly, the genes on this chromosome cannot prevent the disorder from occurring.

Answer: a

Difficulty Level: Difficult

Skill Level: Analyze It

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: The Sex Chromosomes

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

41. Your friend has hemophilia and is worried that he will pass it to his offspring when he has children. What would you tell him?

- a. He is probably correct; he will pass on hemophilia.
- b. Hemophilia is an X-linked disorder, and it would be impossible for him to pass it to any male offspring. It would be possible for his female offspring to be carriers, though.
- c. X-linked disorders are not inherited; he has no worries.
- d. Since he has hemophilia, he is probably sterile and unable to father children.

Answer: b

Difficulty Level: Difficult

Skill Level: Apply What You Know

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: The Sex Chromosomes

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

42. Nature is to _____ as nurture is to _____.

- a. conditioning; learning
- b. learning; conditioning
- c. environment; genetics
- d. genetics; environment

Answer: d

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 82 a= 0 b= 6 c= 12 d= 82 r= .32

43. What have researchers concluded about the nature–nurture debate in terms of development?
- a. Genetic influences are more important.
 - b. Environmental influences are more important.
 - c. Both are important.
 - d. Genetic influences are more important in infancy and environmental influences are more important in childhood.

Answer: c

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

44. Which statement best describes the nature–nurture debate?
- a. Most characteristics develop solely from nature or nurture, but not both.
 - b. Most characteristics develop from a combination of nature and nurture.
 - c. Most characteristics develop from nature only.
 - d. Most characteristics develop from nurture only.

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

45. What field addresses the extent to which genes influence behavior?
- a. embryology
 - b. behavior genetics
 - c. developmental psychology
 - d. genetics

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

46. Which question would a behavior geneticist work to answer?

- a. How do genes and environmental factors interact in the development of memory processes?
- b. Which human behaviors are determined genetically and which are determined by environmental factors?
- c. At what age do environmental factors surpass genetic factors as most important in human development?
- d. Which genes are responsible for childhood behavior, and which genes are responsible for adult behavior?

Answer: a

Difficulty Level: Difficult

Skill Level: Apply What You Know

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

47. A behavioral geneticist would use which of the following research methods to study the influence of genetics?

- a. longitudinal studies
- b. cross-sectional studies
- c. quasi-experimental studies
- d. twin and adoption studies

Answer: d

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

48. Another term for identical twins is _____ twins.

- a. fraternal
- b. monozygotic (MZ)
- c. dizygotic (DZ)
- d. conjoined

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

49. Monozygotic (MZ) twins have _____ genes in common.

- a. 40%
- b. 60%
- c. 80%
- d. 100%

Answer: d

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

50. If temperament were genetically based, which of the following would have the greatest degree of similarity?

- a. monozygotic (MZ) twins
- b. dizygotic (DZ) twins
- c. parents and children
- d. cousins

Answer: a

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

51. Fraternal twins are also known as _____ twins.

- a. dizygotic (DZ)
- b. identical
- c. monozygotic (MZ)
- d. conjoined

Answer: a

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

52. You are pushing a stroller that has two babies in it, a boy, dressed in blue, and a girl, dressed in pink. Someone stops you and tells you how beautiful your baby boy and girl are. Then the person asks whether the babies are “identical twins.” You tell them they are not, but what are you thinking?

- a. It is impossible to have identical twins of different sexes.
- b. They could be identical; that was a great question.
- c. Fraternal twins are usually both girls.
- d. Fraternal twins are usually both boys.

Answer: a

Difficulty Level: Easy

Skill Level: Apply What You Know

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 85 a= 85 b= 13 c= 1 d= 1 r = .20

53. Which of the following have a 40% to 60% similarity of genetic inheritance?

- a. identical twins
- b. fraternal twins
- c. cousins
- d. adopted siblings

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

54. _____ studies allow researchers to study whether certain behaviors or traits are more closely related to genetics or environment.

- a. Genetics
- b. Temperament
- c. Chromosomal
- d. Adoption

Answer: d

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

55. _____ is an estimate of the extent to which genes are responsible for the differences among persons in a specific population.

- a. Heritability
- b. Reaction range
- c. Genetic ratio
- d. Environmental coefficient

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

56. What is the name of the statistic that ranges from 0 to 1.00 and is used to estimate the degree to which genes are responsible for differences among people from a specific population?

- a. genetic correlation
- b. heritability estimate
- c. concordance rate
- d. chromosomal correction

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

57. Professor Glossner proposes that the heritability of temperament is .80. Which of the following statements does Professor Glossner propose?

- a. A large portion of temperament is determined by genetics.
- b. A large portion of temperament is determined by environment.
- c. Eighty percent of temperament is determined by the X chromosome.
- d. Twenty percent of temperament is determined by the X chromosome.

Answer: a

Difficulty Level: Difficult

Skill Level: Analyze It

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

58. Your friend's mother is extremely intelligent. As a result, even though your friend usually does OK in school (2.8 GPA), he is convinced that he is a genius. What do you think?
- a. Heritability estimates for intelligence are .50, so he is probably overestimating his intelligence.
 - b. He is definitely correct; he is likely a genius.
 - c. Actually, children of intellectually gifted adults are usually much lower in intelligence.
 - d. With a 2.8 GPA, he must be correct.

Answer: a

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

59. Concordance rate is defined as _____.
- a. the degree of similarity in characteristics among peoples of a cultural group
 - b. the influence of genes on development by comparing people who share different amounts of their genes
 - c. the degree of similarity in phenotype among pairs of family members
 - d. the degree of difference as expressed by variations in environment

Answer: c

Difficulty Level: Difficult

Skill Level: Remember the Facts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 88 a= 6 b= 0 c= 88 d= 6 r = .29

60. If you were to design a research study that examines sociability in relation to concordance rate, which of the following would be the best groups to use for comparison?
- a. identical twins and fraternal twins
 - b. college students and the general public
 - c. brothers and sisters
 - d. parent(s) and children

Answer: a

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

61. When concordance rates are higher among monozygotic twins than dizygotic twins, this indicates which of the following?

- a. There is partially a genetic basis.
- b. There is partially an environmental basis.
- c. There is a 100% environmental cause.
- d. There is a 100% genetic cause.

Answer: a

Difficulty Level: Moderate

Skill Level: Analyze It

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

62. Which measure allows behavior geneticists to determine the percentage of similarity in phenotype among pairs of family members and is mostly used to examine mental disorders?

- a. genetic correlation
- b. heritability estimate
- c. concordance rate
- d. chromosomal correction

Answer: c

Difficulty Level: Moderate

Skill Level: Analyze It

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

63. Which of the following pairs would have a higher concordance rate for schizophrenia?

- a. monozygotic twins
- b. dizygotic twins
- c. adopted siblings
- d. cousins

Answer: a

Difficulty Level: Difficult

Skill Level: Remember the Facts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 80 a= 80 b= 18 c= 1 d= 1 r = .38

64. If Robert has schizophrenia, how likely is it that his monozygotic twin brother James will also have schizophrenia?

- a. James will also have schizophrenia.
- b. There is an 80% probability that James will have schizophrenia.
- c. There is a 50% probability that James will have schizophrenia.
- d. James will not have schizophrenia.

Answer: c

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

65. If Cecilia has schizophrenia, how likely is it that her dizygotic twin sister Deirdre will also have schizophrenia?

- a. Deirdre will also have schizophrenia.
- b. There is a 38% probability that Deirdre will have schizophrenia.
- c. There is an 18% probability that Deirdre will have schizophrenia.
- d. Deirdre will not have schizophrenia.

Answer: c

Difficulty Level: Easy

Skill Level: Apply What You Know

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

66. According to _____, development results from the bidirectional interactions between genotype and environment.

- a. genetics
- b. molecular genetics
- c. evolutionary genetics
- d. epigenetics

Answer: d

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.4 Explain how the concepts of epigenetics and reaction ranges address gene-environment interactions.

Topic: Gene–Environment Interactions: Epigenetics and Reaction Ranges

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

67. Genes establish a potential of expression, and environment determines where a person's phenotype will fall. This boundary of genetic influence is referred to as _____.

- a. environmental influence
- b. gene boundaries
- c. the inheritability estimate
- d. the reaction range

Answer: d

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.4 Explain how the concepts of epigenetics and reaction ranges address gene-environment interactions.

Topic: Gene–Environment Interactions: Epigenetics and Reaction Ranges

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

68. The concept of reaction range proposes that _____ establish(es) boundaries, whereas _____ determines where a person falls within that range.

- a. genetics; environment
- b. environment; genetics
- c. phenotype; genotype
- d. polygenetic inheritance; homogenetic inheritance

Answer: a

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.4 Explain how the concepts of epigenetics and reaction ranges address gene-environment interactions.

Topic: Gene–Environment Interactions: Epigenetics and Reaction Ranges

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 53 a= 53 b= 12 c= 0 d= 29 r = .48

69. Elizabeth was just born. Her father is 6'8" tall and her mother is 5'11" tall. It is quite likely that Elizabeth will be tall as well. However, the environment will play a role in her eventual height. The genetic potential for Elizabeth's height is known as the _____.

- a. environmental range
- b. reaction range
- c. genetic range
- d. interaction range

Answer: b

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.4 Explain how the concepts of epigenetics and reaction ranges address gene-environment interactions.

Topic: Gene–Environment Interactions: Epigenetics and Reaction Ranges

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 50 a= 9 b= 50 c= 32 d= 8 r = .40

70. Which of the following individuals is an example of a person who is closer to the peak of his or her reaction range?

- a. Samir was born with a potential IQ of 145 (gifted IQ), was raised in an educationally enriching environment, and is a highly motivated learner.
- b. Joseppi, who was born with a potential IQ of 145 (gifted IQ), was raised in an educationally deprived environment and is an unmotivated learner.
- c. Susan was born with the potential IQ of 80 (below average IQ), was raised in an educationally deprived environment, and is an unmotivated learner.
- d. Iman, who was born with the potential IQ of 80 (below average IQ), was raised in an educationally enriching environment and is an unmotivated learner who makes little progress.

Answer: a

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.4 Explain how the concepts of epigenetics and reaction ranges address gene-environment interactions.

Topic: Gene–Environment Interactions: Epigenetics and Reaction Ranges

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

71. In the past few decades, the average height of adults in Western countries has not changed much. This indicates that height for adults in these countries has reached the upper boundary of their _____.

- a. socioeconomic range
- b. health status
- c. reaction range
- d. range of genetic dominance

Answer: c

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.4 Explain how the concepts of epigenetics and reaction ranges address gene-environment interactions.

Topic: Gene–Environment Interactions: Epigenetics and Reaction Ranges

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

72. Sandra Scarr and Kathleen McCartney proposed the theory of genotype → environment effects. Which subtype occurs in biological families because parents provide both genes and environment to their children?

- a. passive genotype → environment effects
- b. evocative genotype → environment effects
- c. active genotype → environment effects
- d. inactive genotype → environment effects

Answer: a

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.5 Explain how the theory of genotype → environment effects casts new light on the old nature–nurture debate.

Topic: The Theory of Genotype → Environment Effects

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

73. Sandra Scarr and Kathleen McCartney proposed the theory of genotype → environment effects. Which subtype occurs when a person's inherited characteristics bring about responses from others in their environment?

- a. passive genotype → environment effects
- b. evocative genotype → environment effects
- c. active genotype → environment effects
- d. inactive genotype → environment effects

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.5 Explain how the theory of genotype → environment effects casts new light on the old nature–nurture debate.

Topic: The Theory of Genotype → Environment Effects

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

74. Sandra Scarr and Kathleen McCartney proposed the theory of genotype → environment effects. Which subtype occurs when people seek out environments that correspond to their genotypic characteristics?

- a. passive genotype → environment effects
- b. evocative genotype → environment effects
- c. active genotype → environment effects
- d. inactive genotype → environment effects

Answer: c

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.5 Explain how the theory of genotype → environment effects casts new light on the old nature–nurture debate.

Topic: The Theory of Genotype → Environment Effects

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 81 a= 7 b= 10 c= 81 d= 2 r = .37

75. Which of the following is the best example of active genotype → environment effects?

- a. Since Jacob is good at math, his parents encourage further learning by playing math games with him each night.
- b. Because everyone in the Martin family sunburns easily, they rarely go to the beach and have moved to a state with colder weather.
- c. Maria has a green thumb and can grow anything in her garden. When her children were small, they played in the garden next to her. As they grew up, each child decided to go into agricultural fields.
- d. Millie was a very round baby and was big for her age. Everyone in her family made comments about her large size and nicknamed her “Big Millie.”

Answer: b

Difficulty Level: Difficult

Skill Level: Understand the Concepts

Learning Objective: 2.5 Explain how the theory of genotype → environment effects casts new light on the old nature–nurture debate.

Topic: The Theory of Genotype → Environment Effects

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

76. What are the only cells in the human body that do not contain 46 chromosomes?

- a. lens cells
- b. neurons
- c. hair cells
- d. gametes

Answer: d

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Topic: Sperm and Egg Formation

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 81 a= 4 b= 8 c= 7 d= 81 r = .31

77. Human sex cells, sperm and ova, each contain _____ chromosomes.

- a. 23
- b. 46
- c. 23 pairs
- d. 46 pairs

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Topic: Sperm and Egg Formation

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

78. Sperm and ova are produced by which of the following, respectively?

- a. penis and uterus
- b. scrotum and vulva
- c. testes and ovaries
- d. kidneys and pancreas

Answer: c

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Topic: Sperm and Egg Formation

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

79. _____ is known as the normal process of cell reproduction in which chromosomes duplicate themselves and the cells divide to become two cells.

- a. Meiosis
- b. Mitosis
- c. Polar bodies
- d. Crossing over

Answer: b

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Topic: Sperm and Egg Formation

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

80. In the process of meiosis, the original cell contains _____ chromosomes, and once the gametes are formed, _____ chromosomes.

- a. 92; 46
- b. 69; 46
- c. 46; 23
- d. 23; 23

Answer: c

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Topic: Sperm and Egg Formation

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

81. At the conclusion of meiosis, _____ have been formed and _____ have been formed.

- a. 2 sperm cells; 1 ovum with 2 polar bodies
- b. 4 sperm cells; 1 ovum with 3 polar bodies
- c. 8 sperm cells; 3 ova with 1 polar body
- d. 16 sperm cells; 4 ova with no polar bodies

Answer: b

Difficulty Level: Difficult

Skill Level: Analyze It

Learning Objective: 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Topic: Sperm and Egg Formation

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

82. The ovum contains an excessive amount of cytoplasm _____.
a. so that there is ample room for the sperm's nucleus once it arrives
b. to help protect against invading cells
c. so that the ovum can be easily found by the sperm cells
d. because it will be the ovum's main source of nutrition

Answer: d

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Topic: Sperm and Egg Formation

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

83. _____ is the process that allows pieces of genetic material to be exchanged between paired chromosomes, resulting in a virtually infinite possible combination of genes.

- a. Meiosis
b. Gamete swapping
c. Crossing over
d. Mitosis

Answer: c

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Topic: Sperm and Egg Formation

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

84. Males begin producing sperm _____, whereas females produce ova _____.
a. at puberty; at puberty
b. while in the womb; at puberty
c. at puberty; while in the womb
d. while in the womb; while in the womb

Answer: c

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Topic: Sperm and Egg Formation

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

85. Although females are born with approximately 2 million ova, this number declines to about _____ by puberty, and, on average, only _____ of the ova will mature during a woman's childbearing years.

- a. 500,000; 600
- b. 400,000; 500
- c. 300,000; 400
- d. 200,000; 300

Answer: c

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Topic: Sperm and Egg Formation

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

86. Lamar and Chandra recently got married and have been discussing how long they could wait to have children. Based on the text, at what age, statistically speaking, will Chandra run out of fertile ova?

- a. 30s
- b. 40s
- c. 50s
- d. 60s

Answer: b

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Topic: Sperm and Egg Formation

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

87. About _____ days into the woman's menstrual cycle, the mature follicle bursts and ovulation occurs, resulting in the release of the ovum into the fallopian tube.

- a. 2
- b. 14
- c. 28
- d. 40

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.7 Describe the process of fertilization and conception.

Topic: Conception

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

88. Although there are between 100 and 300 million sperm in one ejaculation, how many will actually make it to the ovum during sexual intercourse?

- a. 5 million
- b. 500,000
- c. 1,000
- d. less than a few hundred

Answer: d

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.7 Describe the process of fertilization and conception.

Topic: Conception

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

89. Fertilization is most likely to occur when intercourse occurs _____ although sperm can live in the woman's body as long as _____ after ejaculation.

- a. within 2 days before and on the day of ovulation; 5 days
- b. 2 days after ovulation; 3 days
- c. 5 days after ovulation; 1 day
- d. 1 week after ovulation; 12 hours

Answer: a

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.7 Describe the process of fertilization and conception.

Topic: Conception

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

90. What is formed when the ovum and sperm cells unite and conception occurs?

- a. the fetus
- b. the embryo
- c. the blastocyst
- d. the zygote

Answer: d

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.7 Describe the process of fertilization and conception.

Topic: Conception

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

91. _____ occurs when the ovum is fertilized by the sperm.

- a. Fertility
- b. Conception
- c. Cervix
- d. Gametes

Answer: b

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.7 Describe the process of fertilization and conception.

Topic: Conception

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

92. Advancements in fertility treatments have resulted in an increase in the number of _____ twins.

- a. monozygotic
- b. dizygotic
- c. conjoined
- d. Siamese

Answer: b

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.7 Describe the process of fertilization and conception.

Topic: Conception

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

Short Answer Questions

93. Give an example that explains the difference between phenotype and genotype.

Answer: Two identical twins will have the same genotype because their genetic makeup is exactly the same, but if they are adopted into two different homes with parents who have different views about health, they may have different phenotypes. One may be overweight because eating junk food is the norm in his or her adoptive family's house, whereas the other twin may have a trim athletic build because fitness has always been a part of the family's routine and involvement in sports is encouraged.

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

94. You have likely heard people say, “The father is the one who determines the sex of the child.” Explain why this is true.

Answer: Females’ eggs have two X chromosomes and males’ sperm contains either an X or a Y. When a zygote is formed, it receives an X chromosome from the female, but it can get either an X or a Y from the male. If it receives a Y, the result is a male; if it receives an X, it becomes a female.

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: The Sex Chromosomes

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

95. Although often viewed as the stronger sex, males are the more vulnerable sex. Explain.

Answer: Because the sex chromosome of females is composed of two Xs, if one of these Xs contains a recessive gene for a disorder or disease, it will not manifest itself due to the other X overriding it and not allowing it to be expressed. Since the sex chromosome makeup of the male is XY, if there is a recessive gene for a disorder on his X chromosome, it will express itself because there is no other X chromosome that may contain a dominant gene to block its expression.

Difficulty Level: Moderate

Skill Level: Analyze It

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: The Sex Chromosomes

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

96. The concordance rate for schizophrenia among identical twins is .40; the concordance rate for schizophrenia is only .10 if a person’s parent has schizophrenia. Explain what these numbers mean. Include a discussion of nature and nurture in your response.

Answer: If one MZ twin has schizophrenia, there is a 40% chance that the other twin will also develop this disorder, whereas there is only a 10% chance of a person developing it if his or her mother or father has it. The higher rate for identical twins means that there is a genetic component to schizophrenia. However, there is still a 60% chance of not getting schizophrenia if a person’s MZ has it, so environment plays a greater role than genes to.

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Principles of Behavior Genetics

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

97. What is a reaction range? Provide an example to illustrate.

Answer: *Reaction range* refers to the range of possibilities that a person is capable of as set forth by his or her genetic makeup. It is similar to one's genetic potential. For example, if a person's parents are both short in stature with a petite frame, it is genetically possible that the child will have a body type suitable to be a jockey. However, the environment plays an important role; if the person eats a high-fat diet and does not maintain his or her health, that person may not have the trim, strong build required for this work.

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.4 Explain how the concepts of epigenetics and reaction ranges address gene-environment interactions.

Topic: Gene–Environment Interactions: Epigenetics and Reaction Ranges

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

Essay Questions

98. Explain the phenomenon of incomplete dominance in sickle-cell inheritance.

Answer: Incomplete dominance occurs when there is a dominant–recessive pair of genes and the phenotype is affected mostly by the dominant gene but the recessive gene also becomes expressed partially. In sickle-cell anemia, a person inherits two recessive genes for the sickle-cell trait and his or her blood cells are disk-shaped rather than round, causing clogging and a number of problems, such as pain. If the person inherits only one recessive gene for the sickle-cell trait, he or she will not have sickle-cell anemia, but some of his or her blood cells will be misshaped. This condition causes resistance to malaria, an often-fatal disease that is common in Africa. It would be adaptive to carry this recessive trait in Africa, so this explains the higher prevalence of sickle-cell diseases among people of African heritage.

Difficulty Level: Moderate

Skill Level: Analyze It

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genotype and Phenotype

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

99. Explain how DZ and MZ twins are formed. Include a discussion of ethnic variations and factors that increase the chances of having twins.

Answer: DZ twins result when a female releases two eggs instead of one and each is fertilized with a sperm. MZ twins result when a zygote is formed and it divides. DZ twins are more common among Africans and least common among Asians, while MZ twins show no increased prevalence in any one particular ethnic group. The chances of having DZ twins increase if DZ twins run in the family, if the mother is in good health, and if the mother is older. None of these variables predicts MZ twins.

Difficulty Level: Moderate

Skill Level: Analyze It

Learning Objective: 2.7 Describe the process of fertilization and conception.

Topic: Conception

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

TOTAL ASSESSMENT GUIDE

Chapter 2, Section 2 Genetics and Prenatal Development

Learning Objective		Remember the Facts	Understand the Concepts	Apply What You Know	Analyze It
Learning Objective 2.8	Multiple Choice	1, 2, 5, 6, 9, 10	3, 4, 7, 8		
	Short Answer				
	Essay		90		
Learning Objective 2.9	Multiple Choice	11, 18	12, 13, 14, 15, 16, 17, 19, 20		
	Short Answer				
	Essay				
Learning Objective 2.10	Multiple Choice	22, 24, 27, 32, 33	21, 26, 28, 29, 35, 36, 38, 39	23, 25, 30, 31, 34, 37, 40	
	Short Answer		82		
	Essay				91
Learning Objective 2.11	Multiple Choice	43, 54	41, 42, 46, 47, 48, 49, 51, 52, 55	44, 45, 50, 53	
	Short Answer		84, 85	83	
	Essay				
Learning Objective 2.12	Multiple Choice	58, 59, 63, 68, 69, 70, 71, 73, 78, 79, 81	56, 57, 60, 61, 62, 64, 66, 67, 72, 74, 75, 76, 77	80	65
	Short Answer	87, 89		88	86
	Essay		92		

Section 2 Prenatal Development and Prenatal Care

Multiple Choice Questions

1. The germinal period is the name for _____.

- a. conception
- b. the first 2 weeks after fertilization
- c. the 8th week after fertilization
- d. the week after the baby is born

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Topic: The Germinal Period (First 2 Weeks)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 94 a= 0 b= 94 c= 6 d= 0 r = .18

2. By the end of the first week following conception, the fertilized egg has approximately 100 cells and is known as the _____.

- a. neonate
- b. fetus
- c. embryo
- d. blastocyst

Answer: d

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Topic: The Germinal Period (First 2 Weeks)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 46 a= 15 b= 23 c= 15 d= 46 r = .47

3. Which of the following is a correct sequence of development during the germinal period?

- a. placenta, implantation, blastocyst
- b. blastocyst, implantation, placenta
- c. placenta, blastocyst, implantation
- d. implantation, placenta, blastocyst

Answer: b

Difficulty Level: Difficult

Skill Level: Understand the Concepts

Learning Objective: 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Topic: The Germinal Period (First 2 Weeks)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

4. When the blastocyst becomes firmly embedded into the lining of the uterus, what has happened?

- a. implantation
- b. fertilization
- c. conception
- d. pregnancy

Answer: a

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Topic: The Germinal Period (First 2 Weeks)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

5. Implantation of the blastocyst occurs _____.

- a. at conception
- b. during the second week after conception
- c. during the second month after conception
- d. during the second trimester after conception

Answer: b

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Topic: The Germinal Period (First 2 Weeks)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

6. The _____ forms the outer layer of cells that will form the structures that provide protection and nourishment for the newly formed organism.

- a. umbilical cord
- b. placenta
- c. embryonic disk
- d. trophoblast

Answer: d

Difficulty Level: Difficult

Skill Level: Remember the Facts

Learning Objective: 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Topic: The Germinal Period (First 2 Weeks)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

7. The inner layer of the blastocyst that will become the embryo is the _____.

- a. umbilical cord
- b. placenta
- c. embryonic disk
- d. trophoblast

Answer: c

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Topic: The Germinal Period (First 2 Weeks)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

8. What structure provides a protective environment in which the fetus's temperature is well regulated and protects the fetus from friction caused by the mother's movements?

- a. the placenta
- b. the umbilical cord
- c. the amnion
- d. the germinal structure

Answer: c

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Topic: The Germinal Period (First 2 Weeks)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 64 a= 36 b= 0 c= 64 d= 0 r = .21

9. The _____ provides nutrients from the mother to the fetus, takes waste products away from the fetus, and protects the fetus from bacteria and waste in the mother's blood.

- a. placenta
- b. umbilical cord
- c. amnion
- d. germinal structure

Answer: a

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Topic: The Germinal Period (First 2 Weeks)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology. % correct 35 a= 35 b= 41 c= 12 d= 0 r = .42

10. What percentage of blastocysts do not implant successfully?

- a. 15%
- b. 25%
- c. 50%
- d. 75%

Answer: c

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Topic: The Germinal Period (First 2 Weeks)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

11. The embryonic period occurs from the _____ week to the _____ week.

- a. 1st; 4th
- b. 3rd; 8th
- c. 6th; 16th
- d. 12th; 32nd

Answer: b

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.9 Outline the major milestones of the embryonic period and identify when they take place.

Topic: The Embryonic Period (Weeks 3–8)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 78 a= 17 b= 78 c= 2 d= 3 r = .40

12. During the embryonic period, the ectoderm is formed, which will develop into the _____.

- a. skin, hair, nails, sensory organs, and nervous system
- b. muscles, bones, reproductive system, and circulatory system
- c. digestive and respiratory systems
- d. hormonal and endocrine systems

Answer: a

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.9 Outline the major milestones of the embryonic period and identify when they take place.

Topic: The Embryonic Period (Weeks 3–8)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

13. In the third week after conception, the mesoderm is formed, which will develop into the _____.

- a. skin, hair, nails, sensory organs, and nervous system
- b. muscles, bones, reproductive system, and circulatory system
- c. digestive and respiratory systems
- d. hormonal and endocrine systems

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.9 Outline the major milestones of the embryonic period and identify when they take place.

Topic: The Embryonic Period (Weeks 3–8)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

14. During the embryonic period, the endoderm is formed, which will develop into the _____.

- a. skin, hair, nails, sensory organs, and nervous system
- b. muscles, bones, reproductive system, and circulatory system
- c. digestive and respiratory systems
- d. hormonal and endocrine systems

Answer: c

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.9 Outline the major milestones of the embryonic period and identify when they take place.

Topic: The Embryonic Period (Weeks 3–8)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

15. Formed by the end of the third week, the _____ will develop into the brain and spinal cord.

- a. brain stem
- b. neuralblast
- c. neural tube
- d. cerebral cortex

Answer: c

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.9 Outline the major milestones of the embryonic period and identify when they take place.

Topic: The Embryonic Period (Weeks 3–8)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 65 a= 12 b= 6 c= 65 d= 18 r = .50

16. If the neural tube is damaged, _____.
- a. the embryo will have problems with the formation of the digestive system
 - b. the umbilical cord will not connect the placenta to the uterus
 - c. the skin will not develop pores and hair follicles
 - d. the spinal cord and brain will not develop correctly

Answer: d

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.9 Outline the major milestones of the embryonic period and identify when they take place.

Topic: The Embryonic Period (Weeks 3–8)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

17. The production of neurons, called _____, occurs in immense quantities during the embryonic period.

- a. neurology
- b. neurogenesis
- c. neuronal transformation
- d. neural tubing

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.9 Outline the major milestones of the embryonic period and identify when they take place.

Topic: The Embryonic Period (Weeks 3–8)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

18. By the end of the fourth gestational week, the embryo is _____ long, the head is apparent, and the eyes, nose, mouth, and ears begin to form.

- a. ¼ inch long
- b. ½ inch long
- c. 4 inches long
- d. 12 inches long

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.9 Outline the major milestones of the embryonic period and identify when they take place.

Topic: The Embryonic Period (Weeks 3–8)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

19. All of the major organs are formed during the _____ period, with the exception of the sex organs.

- a. genetic
- b. embryonic
- c. fetal
- d. zygotic

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.9 Outline the major milestones of the embryonic period and identify when they take place.

Topic: The Embryonic Period (Weeks 3–8)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 63 a= 0 b= 7 c= 29 d= 63 r = .33

20. By the end of the eighth week, the embryo, which is only 1 inch long and weighs just 1 gram,

- _____.
- a. responds to touch
 - b. sucks its thumb
 - c. vocalizes
 - d. steps in place

Answer: a

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.9 Outline the major milestones of the embryonic period and identify when they take place.

Topic: The Embryonic Period (Weeks 3–8)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

21. The fetal period begins _____ and ends _____.

- a. 4 weeks after conception; 12 weeks after conception
- b. 9 weeks after conception; at birth
- c. 12 weeks after conception; 20 weeks after conception
- d. 15 weeks after conception; at birth

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

22. What period lasts from the ninth week after conception until birth?

- a. germinal
- b. embryonic
- c. fetal
- d. zygote

Answer: c

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

23. Fernando and Rebecca look forward to learning the sex of their baby by the end of the _____ month of pregnancy when the genitalia have fully formed.

- a. 2nd
- b. 3rd
- c. 4th
- d. 5th

Answer: b

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

24. How early can the fetus's heartbeat be heard with a stethoscope?

- a. during the third week
- b. during the third month
- c. during the fifth month
- d. during the seventh month

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

25. Sylvia has had her first pregnancy check-up and is just starting her second month of pregnancy. She is very upset that she has not been given the chance to hear her fetus's heartbeat. Remembering what you learned in your human development class, what should you tell Sylvia?

- a. That probably means that the fetus died.
- b. She will not be able to hear the heartbeat with a stethoscope until the third month.
- c. The fetus probably has a heart problem.
- d. The doctor did not want her to hear the fetal heartbeat.

Answer: b

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

26. The _____ form at the end of the third month and release hormones that influence prenatal development from that point onward.

- a. kidneys
- b. adrenal glands
- c. genitals
- d. spinal discs

Answer: c

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

27. By the end of the third month, the typical fetus can be described as “three times three” because _____.

- a. it has been 3 months and the fetus weighs 3 ounces and is 3 inches long
- b. it weighs 3 pounds, is 3 inches long, and has 3 senses
- c. 3 major systems have developed: brain, heart, and lungs
- d. all 3 facial features are clearly distinguishable

Answer: a

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

28. Prenatal development is divided into three segments called _____.

- a. fetalesters
- b. prenatal sections
- c. semesters
- d. trimesters

Answer: d

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

29. A pregnant woman typically begins to feel the movements of her fetus by the end of the _____ month.

- a. second
- b. fourth
- c. sixth
- d. eight

Answer: b

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

30. Anong is talking to her friend, who is at the end of her second trimester. Luciana wants to be reassured that she is not crazy, but she thinks her baby actually kicks, turns, and hiccups. Luciana even thinks that the baby becomes more active if she talks to it. If you were Anong, how would you respond to Luciana's observations?

- a. "Luciana, those activities are normal for the end of the second trimester, and fetuses can hear even in the womb."
- b. "Luciana, I think you are going crazy. A fetus really doesn't kick that early in the pregnancy and it's crazy to think it can hear."
- c. "Luciana, all those things do happen but not until the end of the third trimester."
- d. "Luciana, I think you need to go see your doctor because something is absolutely wrong."

Answer: a

Difficulty Level: Difficult

Skill Level: Apply What You Know

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

31. One of your colleagues was present at his son's birth. He was upset because his son was born with an oily, cheesy substance all over his skin and no one told him what the problem was. You should tell him _____.

- a. that it was probably cancer
- b. that his baby probably had something wrong with it. You have never heard of such a thing
- c. that the oily, cheesy substance was vernix and many babies have that at birth; it protects their skin in utero
- d. that that was a greasy substance that is used to help the baby emerge from the birth canal; it will be washed off later

Answer: c

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 82 a= 0 b= 0 c= 82 d= 12 r = .20

32. The purpose of lanugo, the downy hair that covers the fetus, is to _____.

- a. work as a lubricant during the birthing process
- b. lubricate the lungs
- c. guide neuro-migration during brain development
- d. help the vernix stick to the fetus's skin, which protects against chapping

Answer: d

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

33. The term used to describe the fetus's likelihood of surviving outside of the uterus if born preterm or prematurely is called _____.

- a. survival index
- b. gestation
- c. neurogenesis
- d. viability

Answer: d

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 53 a= 24 b= 0 c= 18 d= 53 r = .3

34. Born in India, Vihaan's mother gives birth to him before the end of week 22. Vihaan will probably _____.

- a. not survive
- b. be healthy
- c. have a 50% chance of survival
- d. have a breech birth

Answer: a

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

35. The _____ are the last major organ system to develop during fetal life.

- a. kidneys
- b. lungs
- c. intestines
- d. skeletal muscles

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 68 a= 8 b= 68 c= 7 d= 17 r= .27

36. Newborns weighing less than _____ are at risk for a wide range of developmental difficulties.

- a. 5.5 pounds
- b. 7.0 pounds
- c. 8.5 pounds
- d. 10 pounds

Answer: a

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

37. Your roommate's sister is pregnant and is trying to do all that she can to protect her fetus and make sure that her fetus develops well. She does not like to have any loud music on and even does not talk loudly for fear that her fetus will be harmed. What would you tell her?

- a. Her fetus will not be adversely affected and studies have discovered that fetuses actually prefer their mothers' voices. So, she should talk as much as she likes.
- b. She is correct; loud music is readily transmitted through the amniotic fluid and will cause damage to the fetus's cochlea.
- c. She should play Mozart really loudly. Fetuses who listen to Mozart are more intelligent than those who do not listen to Mozart.
- d. Research has shown that fetuses do not show movement in response to external sounds.

Answer: a

Difficulty Level: Difficult

Skill Level: Apply What You Know

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

38. DeCasper and Spence asked mothers to read *The Cat in the Hat* to their fetuses every day for the last six weeks of their pregnancies. After the birth, babies showed a preference for

- a. hearing their mothers read any Dr. Seuss book
- b. their mothers' voices
- c. rhythmic tapping
- d. hearing their mothers read *The Cat in the Hat*

Answer: d

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

39. What do fetuses do when their mothers are highly stressed?

- a. become very still
- b. move more and show increased heart rates
- c. suck their thumbs
- d. hold their hands to their ears

Answer: b

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

40. Your roommate is pregnant, and she gets very angry and yells quite a bit over the smallest things. What is a good piece of advice that you could give her?

- a. It is OK if she gets upset, but she should not yell. It will harm the fetus's hearing.
- b. Getting angry and yelling is good for the fetus since it will raise the fetus's heart rate.
- c. She should probably get a different boyfriend. He is not going to be a very good father.
- d. She should try relaxation therapy. Whenever she gets really upset, her fetus gets very upset, too.

Answer: d

Difficulty Level: Easy

Skill Level: Apply What You Know

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

41. Which of the following is the *best* practical advice of the Beng people of the West African nation of Ivory Coast?

- a. Do not drink palm wine during the early months of pregnancy.
- b. Rub oil on the swelling belly to relief discomfort.
- c. Avoid eating meat from a bushbuck antelope.
- d. Do not cast any curse on any enemies because your baby will become a witch.

Answer: a

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

42. A method of prenatal care that has been used by traditional cultures that is now being used by midwives, nurses, and physicians in developed countries is _____.

- a. dancing
- b. singing
- c. daily naps
- d. massage

Answer: d

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 97 a= 1 b= 2 c= 1 d= 97 r= .26

43. Prenatal massage in developed countries _____.

- a. is increasing
- b. is declining
- c. has stabilized
- d. has not been statistically tracked

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

44. Nancy is concerned she is gaining too much weight during her pregnancy. Recent scientific studies suggests Nancy should gain between _____ pounds in order to maintain a healthy pregnancy.

- a. 15–20
- b. 25–35
- c. 35–40
- d. 45–50

Answer: b

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

45. Your friend is worried that she will gain quite a bit of weight since she is now pregnant. She is planning on dieting. What would be your advice?

- a. Tell her to definitely diet, which will ensure that her children will not be obese.
- b. Tell her that dieting increases intelligence in neonates.
- c. Tell her that dieting could lead to her baby being born preterm and having a low birth weight.
- d. Tell her it would be a good idea to keep her weight gain under 20 pounds.

Answer: c

Difficulty Level: Easy

Skill Level: Apply What You Know

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

46. What are possible side effects for the baby of a woman who gains less than 20 pounds during her pregnancy?

- a. Down syndrome and Fragile X
- b. gestational diabetes
- c. high blood pressure and gastrointestinal problems
- d. being born preterm with a low birth weight

Answer: d

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

47. Women who gain too much weight while pregnant place their offspring at risk for _____.

- a. childhood obesity and diabetes
- b. childhood obesity and learning disabilities
- c. developing autism spectrum disorder
- d. developing childhood cancer

Answer: a

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

48. A recent large-scale study of pregnant women in the United States revealed that _____ gained too little weight and about _____ gained too much weight.

- a. 40%; 60%
- b. 30%; 55%
- c. 20%; 50%
- d. 10%; 45%

Answer: c

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

49. Based on the accumulated scientific knowledge on prenatal care, which of the following is the one key conclusion regarding pregnant women?

- a. avoid taking any pain medication
- b. minimize as much stress as possible
- c. receive regular evaluations from a health care professional
- d. cut all caffeine from the diet

Answer: c

Difficulty Level: Difficult

Skill Level: Understand the Concepts

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

50. Shantel is talking to her Balinese grandmother about how she is continuing her moderate exercise program while she is pregnant. Shantel's grandmother encourages her to exercise but reminds her to also _____.

- a. avoid spicy foods
- b. avoid "hot" foods such as eggplant
- c. avoid wearing a "magic charm"
- d. avoid the sweets but eat the meat left from the neighbor's wake

Answer: a

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

51. _____ can enhance the health of the pregnant woman and her fetus.

- a. Mild to moderate exercise
- b. Drinking several cups of tea each day
- c. Eating herbs
- d. Conserving energy

Answer: a

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

52. _____ is an example of an aerobic exercise that is safe to do while pregnant.

- a. Walking/jogging
- b. Weightlifting
- c. Sprinting
- d. Jumping

Answer: a

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

53. Your best friend has just learned that she is pregnant. She is a healthy person and is planning on engaging in aerobic exercise during her pregnancy. What would be your advice to her?

- a. She should be very careful in that this type of exercise during pregnancy could lower muscle mass.
- b. She should not run too quickly because it could dangerously increase fetal heart rate.
- c. She should exercise regularly since it will stop dangerous teratogens from reaching the fetus.
- d. She should exercise regularly in order to stimulate her circulatory system and muscles.

Answer: d

Difficulty Level: Easy

Skill Level: Apply What You Know

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

54. _____ strengthen the vaginal muscles and helps prepare the mother for the delivery of the fetus.

- a. Bench presses
- b. Squats
- c. Kegels
- d. Abdominal crunches

Answer: c

Difficulty Level: Easy

Skill Level: Remember the Concepts

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

55. Which of the following exercises should be avoided during pregnancy?

- a. any contact sports
- b. walking
- c. light jogging
- d. swimming

Answer: a

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

56. The guidelines for prenatal care focus mostly on three key areas: _____.

- a. rest, stress reduction, and diet
- b. diet, exercise, and avoidance of teratogens
- c. exercise, mental state, and relaxation
- d. prenatal vitamins, exercise, and avoidance of caffeine

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

57. A(n) _____ is a behavior, environment, or bodily condition that can have a damaging effect on prenatal development.

- a. immunization
- b. teratogen
- c. illness
- d. hallucinogen

Answer: b

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

58. What term refers to malnutrition, disease, alcohol, tobacco, and other drugs that are harmful to the fetus?

- a. teratogens
- b. pathogens
- c. carcinogens
- d. fetogens

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 89 a= 89 b= 8 c= 2 d= 1 r= .38

59. _____ are examples of teratogens.

- a. Calcium, iron, and iodine
- b. Prenatal vitamins and micronutrients
- c. Meats, grains, and legumes
- d. Alcohol, tobacco, and other drugs

Answer: d

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

60. Which period of prenatal development is considered the critical period and also a time in which teratogens can have a profound effect that endure into adulthood?

- a. conception
- b. germinal period
- c. embryonic period
- d. fetal period

Answer: c

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 53 a= 0 b= 6 c= 53 d= 41 r= .52

61. Which term describes the importance of the embryonic period of prenatal development, when teratogens can have a profound and enduring effect on later development?

- a. critical period
- b. sensitive period
- c. teratogenic period
- d. medical period

Answer: a

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

62. What is the most common teratogen worldwide?

- a. tobacco
- b. alcohol
- c. malnutrition
- d. pollution

Answer: c

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

63. From a global perspective, which of the following women is at greatest risk of giving birth to a child with compromised fetal development due to malnutrition?

- a. Kelly, living in a suburb of New York City
- b. Charlotte, living in a town outside Sydney, Australia
- c. Nikita, living in a village outside New Delhi, India
- d. Valentia, living in downtown Buenos Aires, Argentina

Answer: c

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

64. Prenatal health depends on proper prenatal nutrition. Because approximately 50% of the world's population is rural, pregnant women _____.

- a. have access to fruits and vegetables year round
- b. are malnourished year round
- c. cannot afford the required vitamins recommended by their physicians
- d. may only eat well only during the summer and fall

Answer: d

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

65. Which statement is true regarding the incidence of serious prenatal disorders?

- a. The addition of folic acid appears to sharply reduce the incidence of anencephaly and spina bifida.
- b. The addition of iron supplements significantly reduces the rate of premature births.
- c. Pregnant women who are provided vitamin D during pregnancy show significant declines in the rate of serious birth disorders.
- d. Ingestion of iodized salt increases the risk of miscarriage and birth defects.

Answer: a

Difficulty Level: Moderate

Skill Level: Analyze It

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

66. Iron-rich foods such as beef, duck, potatoes, spinach, and dried fruits are important for the pregnant mother and fetus because they help to _____.

- a. build the blood supply of the mother and fetus
- b. increase the muscle mass of the fetus
- c. assist in visual development of the fetus
- d. provide nutrients for proper brain development

Answer: a

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

67. Low iodine intake during pregnancy increase the risks of miscarriage, stillbirth, and abnormalities in fetal brain development. As a result, what has been done since the 1920s in developed countries?

- a. women receive iodine injections
- b. salt has been iodized
- c. babies are given iodine baths after birth
- d. fetuses are examined with ultrasound

Answer: b

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

68. As compared with developing nations, in developed countries the rates of miscarriage, stillbirth, and abnormalities in fetal brain development have been lowered because iodine has been added to _____.

- a. salt
- b. school lunches
- c. bread
- d. the water supply

Answer: a

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

69. If a pregnant woman contracts German measles during the embryonic period of pregnancy, what is the greatest risk for the baby?

- a. abnormal heart development
- b. neural tube defect
- c. shortened extremities
- d. lack of iron in the blood supply

Answer: a

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

70. Infants born with the effects of rubella (German measles) in the United States have greatly decreased since the 1960s because _____.

- a. the use of vaccinations for infectious diseases have increased
- b. funding for Medicaid and Medicare has increased
- c. fluoride has been added to the water
- d. folic acid has been added to grain products

Answer: a

Difficulty Level: Difficult

Skill Level: Remember the Facts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

71. Which sexually transmitted infection is caused by the human immunodeficiency virus and results in damage to the immune system?

- a. syphilis
- b. herpes
- c. gonorrhea
- d. AIDS

Answer: d

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

72. HIV/AIDS can be transmitted from the mother to the child _____.

- a. during prenatal development, birth, or through breast milk
- b. through casual skin-to-skin contact such as hugs and kisses
- c. via bacterial infections during times of illness while pregnant
- d. through HIV bacteria being transmitted via contaminated environmental objects

Answer: a

Difficulty Level: Difficult

Skill Level: Understand the Concepts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 94 a= 94 b= 0 c= 6 d= 0 r = .18

73. Africa reports _____ of all HIV infections worldwide.

- a. North America
- b. Africa
- c. Haiti
- d. Mexico

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

74. What teratogen causes the most widespread damage to prenatal development in developed countries?

- a. tobacco
- b. infectious diseases
- c. cocaine
- d. alcohol

Answer: d

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

75. According to the text, what is a safe amount of alcohol an individual can consume during pregnancy?

- a. 1 glass of wine per week
- b. 1 glass of wine per week only after the second trimester
- c. 1 glass of wine per week only after the third trimester
- d. none at all

Answer: d

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

76. What condition might occur in the fetus, and later in the child, if the pregnant mother consumes alcohol during her pregnancy?

- a. fibromyalgia
- b. alcoholism
- c. neuromuscular disorder
- d. fetal alcohol spectrum disorder

Answer: d

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

77. An infant born with facial deformities, heart problems, misshapen limbs, and a variety of cognitive problems, such as intellectual disabilities, has characteristics of which of the following?

- a. fetal alcohol spectrum disorder
- b. autism spectrum disorder
- c. folic-acid deficiency
- d. rubella

Answer: a

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

78. What is the leading cause of low birth weight in developed countries?

- a. smoking
- b. cocaine use
- c. drinking alcohol
- d. mega-dosing of vitamins

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

79. Prenatal exposure to _____ predicts poorer language skills, problems with attention and memory, and behavior problems?

- a. mega-dosing of vitamins
- b. drinking alcohol
- c. cocaine use
- d. smoking

Answer: d

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

80. You notice that your pregnant friend just lit a cigarette, and you ask her, “What the heck are you doing?” Your friend replies that her doctor said that it was okay to smoke during pregnancy. Which statement should be your reply?

- a. “There are known side effects to smoking, and no responsible physician would tell you that you can smoke if you are pregnant.”
- b. “Okay, research has shown that smoking is harmless.”
- c. “Most physicians would recommend that you wait until the third trimester to begin smoking again.”
- d. “That makes sense; smoking is harmful only if it is secondhand smoke.”

Answer: a

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

81. What behavior from fathers and others during pregnancy leads to higher risks of low birth weight and childhood cancer?

- a. mega-dosing of vitamins
- b. drinking alcohol
- c. smoking
- d. cocaine use

Answer: c

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

Short Answer Questions

82. In what prenatal period are the lanugo and vernix formed? Explain the purpose of each.

Answer: Both are formed during the fetal period. The vernix is the oily coating that protects the skin while floating in the amniotic fluid; the lanugo is the fine hair that helps the vernix stick to the skin.

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

83. Give an example of pregnancy advice that reflects cultural wisdom in traditional cultures.

What is a plausible explanation that this advice is passed down from generation to generation?

Answer: Among the Beng people of West Africa, women are warned against drinking palm wine during pregnancy and also to avoid eating the meat of the bushback antelope (or the baby may be born with stripes). These warnings reflect the fact that people in these cultures know that many things can go wrong during pregnancy and these tips may offer a sense of control.

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

84. Who usually performs prenatal massages in traditional cultures? Are there benefits to prenatal massage besides making the mother feel good and more relaxed? Explain.

Answer: It is usually performed by a midwife. Benefits to the mother include less back pain, less swelling of joints, better sleep, and a better chance that the fetus will come out head first.

Neonates score better on physical and social measures.

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

85. How much weight should a woman gain during pregnancy (provide an approximate range)? Provide one diet or exercise recommendation.

Answer: Women should gain between 25–35 pounds. They should drink more fluids and they should eat plenty of fruits and vegetables, especially iron-rich foods, such as leafy greens.

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Variations in Prenatal Care

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

86. Recall the World Health Organization's guidelines for prenatal care. Name one nutrient that is of critical importance during pregnancy, where women would get it, and what the consequences would be of not having it.

Answer: Iodine is of critical importance during pregnancy. In developed countries, iodine is added to salt. Without it, there is increased risk of miscarriage, stillbirth, or abnormal brain development. Iodine is more readily available in developed countries.

Difficulty Level: Moderate

Skill Level: Analyze It

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

87. Which prenatal period is considered a critical period when teratogens are most likely to have severe and enduring effects? Why?

Answer: The embryonic period is considered the critical period of prenatal development, because that is when all the major organs and systems are forming.

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

88. Briefly describe the amount of alcohol doctors have determined is safe to consume during pregnancy.

Answer: No safe amount of alcohol has been determined during pregnancy. Even a few drinks can put a developing fetus at risk for lower height, weight, and head size, and heavy drinking causes fetal alcohol spectrum disorder.

Difficulty Level: Difficult

Skill Level: Apply What You Know

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

89. What are the long-term effects of fetal alcohol spectrum disorder (in addition to characteristic physiological features)?

Answer: In childhood, there are cognitive deficits that put children with fetal alcohol spectrum disorder behind academically and socially. In addition, in adolescence, they are at risk for delinquency, substance abuse, and depression.

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

Essay Questions

90. Choose one prenatal period and provide a detailed overview of what happens. Include when it occurs.

Answer: The germinal period (0–2 weeks after conception) includes the formation of the zygote, rapid cell division forming a 100-celled blastocyst, and implantation. The outer layer of the blastocyst, the trophoblast, develops into the structures that will house and nourish the embryo (amnion, placental, umbilical cord). The inner layer becomes the embryonic disk, which eventually forms the embryo.

Difficulty Level: Moderate

Skill Level: Understanding the Concepts

Learning Objective: 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Topic: The Germinal Period (First 2 Weeks)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

91. What does viability mean, and how likely is a fetus to be viable at 22 weeks? At 26 weeks?

Why would this vary depending on whether a person lives in a developed or a developing country? What is the main obstacle to viability even by the beginning of the third trimester?

Answer: *Viability* refers to whether or not a fetus will be able to survive outside the womb.

Survival is unlikely before 22 weeks, even with medical intervention. Even if babies do survive when they are premature, they are at greater risk for birth defects and disabilities compared to full-term babies. In developing countries, there is less access to medical supplies and facilities, so the age of viability is later than in developed countries (sometime in the third trimester, depending on the country and its technology). The reason babies are so vulnerable even in the third trimester is their immature lungs.

Difficulty Level: Difficult

Skill Level: Analyze It

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: The Fetal Period (Week 9–Birth)

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

92. Explain how prenatal health can depend on whether the child was conceived in places where diet varies greatly, depending on which foods are available at different times of the year.

Answer: If there are few or no fruits or vegetables available, as in China in the 1980s, babies can be born with folic acid deficiencies. This causes anencephaly and spina bifida.

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Teratogens

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

TOTAL ASSESSMENT GUIDE

Chapter 2, Section 3 Genetics and Prenatal Development

Learning Objective		Remember the Facts	Understand the Concepts	Apply What You Know	Analyze It
Learning Objective 2.13	Multiple Choice	1, 2, 3, 5, 12, 13, 14	6, 7, 8, 10, 11, 15, 17	4, 9, 16	
	Short Answer	51, 52			
	Essay				55
Learning Objective 2.14	Multiple Choice	20, 22, 23, 24	18, 21, 25	19, 26, 27	
	Short Answer		53, 54		
	Essay				
Learning Objective 2.15	Multiple Choice	29, 30	28, 31		
	Short Answer				
	Essay				
Learning Objective 2.16	Multiple Choice	32, 33, 37, 39, 42, 43, 44, 45, 46, 48, 49, 50	34, 35, 36, 40, 41	38, 47	
	Short Answer				
	Essay				

Section 3 Pregnancy Problems

Multiple Choice Questions

1. _____ occurs during meiosis, in which chromosomes sometimes fail to divide properly; as a result, the person may have 45 or 47 chromosomes.

- a. Chromosomal disorders
- b. Genetic misprinting
- c. Mitosis error
- d. Gene displacement

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

2. It is estimated that half of all conceptions have too many or too few chromosomes. What happens to most of the zygotes that are formed in these situations?

- a. They are spontaneously aborted.
- b. They result in neonates with birth defects.
- c. They result in twins.
- d. They have no problems.

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 41 a= 41 b= 53 c= 0 d= 6 r= .43

3. Approximately _____ neonates have a chromosomal disorder.

- a. 1 in 10
- b. 1 in 200
- c. 1 in 500
- d. 1 in 1,000

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

4. Your friend Dominique just found out that she is pregnant after trying for the last 2 years. She is concerned that she is going to have a baby with a chromosomal disorder. You try to reassure her by telling her that the rate of babies born with chromosomal disorders is _____.

- a. 1 in 10
- b. 1 in 200
- c. 1 in 500
- d. 1 in 1,000

Answer: b

Difficulty Level: Easy

Skill Level: Apply What You Know

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

5. Sex chromosome disorders in neonates occur at rates of approximately _____.

- a. 1 in 10
- b. 1 in 200
- c. 1 in 500
- d. 1 in 1,000

Answer: c

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

6. What are two common consequences of sex chromosome disorders?

- a. shortened stature and the likelihood of developing nonorganic failure to thrive
- b. an increased likelihood of having a pregnancy that is preterm and an infant with low birth weight
- c. an infant that is more likely to have a difficult temperament and an insecure attachment
- d. cognitive deficits such as learning disabilities and abnormal development of the reproductive system at puberty

Answer: d

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 94 a= 0 b= 6 c= 0 d= 94 r= .70

7. One of the consequences of having a sex chromosomal disorder is that it might disrupt development of the reproductive system at puberty, resulting in underdeveloped testes and penis in boys or lack of ovulation in girls. What can be done about the difficulty at puberty?

- a. role-playing therapy
- b. hormone replacement treatment
- c. group therapy
- d. reconstructive surgery

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

8. Down syndrome is also known as trisomy-21 because individuals with Down syndrome _____.

- a. have three distinct facial features by the 21st week of pregnancy
- b. show three distinct temperament patterns by the 21st week of infancy
- c. have an extra chromosome on the 21st pair
- d. have 21 genes on the 3rd pair of chromosomes

Answer: c

Difficulty Level: Difficult

Skill Level: Understand the Concepts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

9. One of your brother's friends, Dylan, is unusually short with a stocky build; has a flat face, a large tongue, and an extra fold of skin on his eyelids; and suffers from cognitive deficits, hearing impairments, and a heart defect. Dylan likely has _____.

- a. non-sex-linked-21
- b. Down syndrome
- c. Edward's syndrome
- d. an intellectual disability

Answer: b

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

10. What helps children with trisomy-21 develop more favorably?

- a. hormone replacement therapy
- b. weekly motor treatments
- c. a heart transplant
- d. supportive and encouraging parents

Answer: d

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

11. Adult individuals with trisomy-21 are _____.

- a. often able to hold a highly structured job, if they have adequate support
- b. most likely institutionalized
- c. not likely to make it to age 30
- d. as likely as individuals who do not have trisomy-21 to enter college

Answer: a

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

12. Individuals with _____ are more likely to develop leukemia, cancer, Alzheimer's disease, or heart disease at earlier ages than usual (in their 30s and 40s).

- a. non-sex-linked-21
- b. Down syndrome
- c. Edward's syndrome
- d. an intellectual disability

Answer: b

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

13. Children born with chromosomal problems are almost always born to parents with _____.

- a. the very same chromosomal problem
- b. similar genetic disorders
- c. above average intelligence
- d. no genetic or chromosomal disorders

Answer: d

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

14. _____ increases the risk of having a child with Down syndrome.

- a. Smoking while pregnant
- b. Alcohol consumption
- c. Maternal age over age 40
- d. Paternal stress

Answer: c

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 76 a= 0 b= 24 c= 76 d= 0 r= .49

15. The ova of a 42-year-old woman trying to conceive are _____ old.

- a. 2 weeks
- b. 2 months
- c. 2 years
- d. 42 years

Answer: d

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

16. Fifty-five-year-old Hansen wants to have a child with his new bride. You express your concerns and explain to your friend that biological fathers who are 45 years or older have increased rates of offspring born with _____.

- a. multifactorial disorders
- b. depression
- c. dyslexia
- d. physical abnormalities

Answer: a

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

17. Multifactorial disorders such as _____ involve a combination of genetic and environmental factors.

- a. autism spectrum disorder
- b. Down syndrome
- c. Edward's syndrome
- d. spina bifida

Answer: a

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

18. Which of the following are three techniques used to monitor pregnancy?

- a. fetal heart rate, blood pressure, and CT scans
- b. ultrasound, amniocentesis, and chorionic villus sampling
- c. genetic counseling, amniocentesis, and epidurals
- d. fMRI, CT, and PET scans

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Prenatal Diagnosis

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

19. Pam is going to her obstetrician to have a procedure in which high-frequency waves will be used to examine the characteristics of her unborn fetus. Pam will be undergoing a(n) _____.

- a. amniocentesis
- b. chorionic villus sampling
- c. alphafetal protein
- d. ultrasound

Answer: d

Difficulty Level: Easy

Skill Level: Apply What You Know

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Prenatal Diagnosis

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

20. What technique of prenatal monitoring uses high-frequency sound waves that are directed toward the uterus and, as they bounce off the fetus, are converted by a computer to an image that can be viewed on a screen?

- a. genetic counseling
- b. ultrasound
- c. chorionic villus sampling
- d. amniocentesis

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Prenatal Diagnosis

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

21. _____ is the cheapest, easiest, and safest way for physicians to monitor fetal development.

- a. Genetic counseling
- b. Amniocentesis
- c. Ultrasound
- d. Chorionic villus sampling

Answer: c

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Prenatal Diagnosis

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

22. What prenatal technique uses a long, hollow needle to extract amniotic fluid at 15 to 20 weeks of pregnancy to examine the fetus's genotype?

- a. amniocentesis
- b. chorionic villus sampling
- c. alphafetal protein
- d. ultrasound

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Prenatal Diagnosis

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

23. What prenatal technique can be used to examine the status of the fetus by taking samples of the cells that are beginning to form the umbilical cord?

- a. amniocentesis
- b. chorionic villus sampling
- c. alphafetal protein
- d. ultrasound

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Prenatal Diagnosis

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

24. Which of the following techniques is used sparingly because there is a slight but genuine risk of miscarriage or damage to the fetus while having a 99% accuracy in diagnosing genetic problems?

- a. CT scan
- b. ultrasound
- c. amniocentesis
- d. chorionic villus sampling

Answer: d

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Prenatal Diagnosis

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

25. Some couples seek genetic counseling before attempting a pregnancy because they

- a. believe that they might be carriers for a genetic disorder
- b. live in a high-risk area
- c. want to have a high-IQ baby
- d. want a particular characteristic in their offspring

Answer: a

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Prenatal Diagnosis

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

26. Latasha and Brett are having their first child and are concerned that their child may have Down syndrome because Latasha is more than 40 years old. Which of the following would most likely be used to help Latasha and Brett through this process?

- a. an amniocentesis and PET scan
- b. an ultrasound and genetic counseling
- c. an amniocentesis and ultrasound
- d. a chorionic villus sampling and fMRI

Answer: b

Difficulty Level: Difficult

Skill Level: Apply What You Know

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Prenatal Diagnosis

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

27. Genetic counseling would be appropriate for which of the following couples?

- a. JJ and Jennifer, who are in their early 30s and have just completed an unsuccessful round of artificial insemination
- b. Stephen and Kerry, who are in their early 20s and have been trying to become pregnant but have been unsuccessful for the last 2 months
- c. Merriam and Samir, who are in their early 40s and have a history of miscarriages and infertility
- d. Ngyuen and Pham, who are in their early 30s and both have a history of diabetes

Answer: c

Difficulty Level: Difficult

Skill Level: Apply What You Know

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Prenatal Diagnosis

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

28. Infertility is defined as _____.

- a. the presence of endometriosis
- b. when the male has a low sperm count
- c. the inability to conceive after at least 1 year of regular unprotected intercourse
- d. no desire to have children

Answer: c

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.15 Describe psychological and social implications of infertility.

Topic: Psychological and Social Implications

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

29. Over the past century, infertility rates in _____ have remained constant at 10% to 15% of couples.

- a. China
- b. the United States
- c. Africa
- d. Canada

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.15 Describe psychological and social implications of infertility.

Topic: Psychological and Social Implications

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

30. Between 1990 and 2010, worldwide infertility rates _____.

- a. remained consistent at 9%–13%
- b. declined to 5%
- c. remained the same at 10%–15%
- d. declined to 105–25%

Answer: a

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.15 Describe psychological and social implications of infertility.

Topic: Psychological and Social Implications

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

31. What statement is true regarding the presence of infertility among cultures across the globe?
- a. Women from Brazil seek consult from a shaman who focuses on the wrath of the gods believed to be inflicting infertility as punishment.
 - b. In many cultures, infertility is grounds for divorce.
 - c. Vietnamese husbands will seek adoption as a solution to infertility.
 - d. Couples unable to conceive in Cameroon, seek the blessing of the local priest.

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.15 Describe psychological and social implications of infertility.

Topic: Psychological and Social Implications

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

32. Historically speaking, _____ it was believed that for conception to occur, both the man and the woman had to emit a “seed” and that the “seed” was only released through orgasm.

- a. from the 2nd century BCE to the 1400s
- b. from the 3rd century BCE to the 1500s
- c. from the 4th century BCE to the 1800s
- d. from the 5th century BCE to the 1900s

Answer: c

Difficulty Level: Difficult

Skill Level: Remember the Facts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

33. It is a misconception that females are primarily responsible for infertility, because _____ % of the time it is the male who is the source of a couple’s infertility.

- a. 40
- b. 50
- c. 60
- d. 70

Answer: b

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

34. The three main sources for male infertility are _____.

- a. erectile difficulties, decreased libido, and low sperm count
- b. sperm death, poor sperm mobility, and low seminal fluid
- c. low sperm production, poor sperm quality, and poor sperm movement
- d. low sperm production, increased libido, and poor sperm movement

Answer: c

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

35. It takes approximately three times longer for men over the age of 40 to impregnate a partner than it does for men under age 25 due to _____.

- a. the lack of libido
- b. endometriosis
- c. a decrease in the quantity and quality of their sperm
- d. erectile dysfunction

Answer: c

Difficulty Level: Easy

Skill Level: Understand the Concepts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

36. Rashid and Varsha are seeking fertility treatment and were informed by their physician that Rashid's sperm count is low and the quality is poor. Which of the following suggestions were made to help increase his sperm production and quality?

- a. Quit smoking, decrease alcohol consumption, and do not abuse drugs.
- b. Start a calcium regimen, consume more iron, and take a multivitamin.
- c. Exercise daily, increase caffeine consumption, and reduce stress.
- d. Avoid wearing boxer shorts and switch to tighter underwear.

Answer: a

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

37. _____ is the most common cause of infertility in women due to ovulation problems.
- a. Alcohol
 - b. Stress
 - c. Maternal age
 - d. Smoking

Answer: c

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

38. Yasmine and Omar have just been informed of their infertility challenges by their respective specialists. Which modern technique might they try as a fertility treatment?

- a. intrauterine insemination
- b. an infertility belt
- c. a chastity belt
- d. colonoscopy

Answer: a

Difficulty Level: Moderate

Skill Level: Apply What You Know

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

39. What is the oldest effective treatment for infertility?

- a. in vitro fertilization
- b. nutritional supplements
- c. surrogate motherhood
- d. intrauterine insemination

Answer: d

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

40. _____ is the process in which sperm is injected directly into the uterus, and is the simplest and most effective reproductive treatment.

- a. In vitro fertilization
- b. Intrauterine insemination
- c. Amniocentesis
- d. Infertility injections

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

41. Which statement is true regarding the use of donor insemination?

- a. It is often used in situations in which the female wants to select the traits of her offspring.
- b. It is often used by lesbian couples or single women wishing to have a child.
- c. It results in higher rates of male babies.
- d. It increases the chance of multiple births.

Answer: b

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

42. What is the success rate of intrauterine insemination?

- a. 10%–20% per trial
- b. 40%–50% per trial
- c. 60%–70% per trial
- d. 90%–100% per trial

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

43. What is the most common approach to female infertility if the woman cannot ovulate properly?

- a. eliminating nutritional deficiencies
- b. fertility drugs
- c. increasing the frequency of intercourse
- d. herbal therapy

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

44. Women undergoing fertility drug use realize a successful pregnancy rate of _____, depending on the drug used.

- a. 10%–15%
- b. 18%–23%
- c. 22%–35%
- d. 32%–47%

Answer: c

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

45. Which of the following are known risks associated with fertility drugs?

- a. hypertension, cardiac arrhythmias, and gastrointestinal problems
- b. depression, anxiety, and suicidal thoughts
- c. blood clots, kidney damage, and damage to the ovaries
- d. diabetes, endometriosis, and eczema

Answer: c

Difficulty Level: Difficult

Skill Level: Remember the Facts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

46. Depending on the drug, what percentage of multiple births results from using fertility drugs?
- a. 1%–2%
 - b. 10%–25%
 - c. 40%–55%
 - d. 60%–75%

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

47. A friend tells you that she is on a fertility drug to increase the number of follicles during ovulation and is excited about the possibility of having twins. Based on the reading, would you agree that she has an increased possibility of conceiving twins?
- a. Yes, fertility drugs increase the rate of multiple births by increasing the probability of releasing more than one ovum, which might lead to fraternal twins.
 - b. No, the use of fertility drugs is in no way related to giving birth to twins.
 - c. No, having twins is unpredictable and modern medicine has not been able to alter the process in any way.
 - d. Yes, infertility drugs have been shown to increase the rate of identical twins; however, these pregnancies have a much higher rate of miscarriage than non-multiple pregnancies.

Answer: a

Difficulty Level: Difficult

Skill Level: Apply What You Know

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

% correct 41 a= 41 b= 6 c= 24 d= 29 r = .48

48. What fertility technique extracts ova, combines them with sperm, and after a few days, implants two or three zygotes into the woman's uterus?
- a. in vitro fertilization (IVF)
 - b. nutritional supplements
 - c. surrogate motherhood
 - d. intrauterine insemination

Answer: a

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

49. In vitro fertilization, or IVF, has improved in recent years. What is the current rate of success of IVF in women under 35?

- a. 15%
- b. 50%
- c. 65%
- d. 70%

Answer: b

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

50. What is the current rate of success of IVF in women ages 38–40?

- a. 4%
- b. 10%
- c. 24%
- d. 40%

Answer: c

Difficulty Level: Easy

Skill Level: Remember the Facts

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Causes and Treatments

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

Short Answer Questions

51. In addition to characteristic facial features, what other types of medical/physical complications might a person caring for an individual with Down syndrome expect?

Answer: Persons with Down syndrome are more at risk for heart problems, leukemia, and cancer, and their life expectancy is lower than average.

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

52. What is a genetic mutation?

Answer: A genetic mutation is a permanent alteration of a DNA sequence that makes up a gene. These mutations contribute to developmental problems in offspring.

Difficulty Level: Moderate

Skill Level: Remember the Facts

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

53. Which test can be performed earlier in a pregnancy, an amniocentesis or chorionic villus sampling (CVS)? Describe each test.

Answer: CVS can be done earlier, at about 5–10 weeks gestation versus 15–20 weeks for amniocentesis. CVS entails inserting a tube through the vagina and into the uterus to remove cells from what will eventually be the umbilical cord. Amniocentesis involves inserting a needle into the abdomen to remove amniotic fluid, which contains cells that have been sloughed off from the developing organism. Both tests are used to detect genetic problems.

Difficulty Level: Difficult

Skill Level: Understand the Concepts

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Prenatal Diagnosis

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

54. Briefly describe the risks and effectiveness of amniocentesis.

Answer: Although amniocentesis carries a small risk of miscarriage, it has the potential to identify 40 different defects in fetal development with 100% accuracy.

Difficulty Level: Moderate

Skill Level: Understand the Concepts

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Prenatal Diagnosis

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

Essay Question

55. Recent research suggests paternal age is linked to genetic and environmental factors. Explain how genetic mutations affect a man's sperm as he ages and how these mutations may affect the health of his offspring.

Answer: Men in their mid-40s and older who father offspring run the risk of passing on genetic mutations to their prospective children. These mutations, which result in genetic mistakes during sperm production, include disorders that result in bipolar disorder, attention-deficit/hyperactivity disorder, autism spectrum disorder, and substance use problems.

Difficulty Level: Moderate

Skill Level: Analyze It

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Chromosomal Disorders

APA Learning Objective: 1.1 Describe key concepts, principles, and overarching themes in psychology.

Revel Multiple Choice Assessment Questions

The following questions appear at the end of each module and at the end of the chapter in Revel for *Human Development*, 3e.

End of Module Quiz 2.1: Genetic Influences on Development: Genetic Basics

EOM Q2.1.1

Enrico's biological parents were both musicians, so he was born with a(n) _____ that included exceptional musical ability, but because he was never exposed to musical instruments or instruction when he was adopted, he never developed his musical ability.

a) allele

Consider This: This refers to an organism's genetic inheritance. LO 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

b) genotype

c) phenotype

Consider This: This refers to an organism's genetic inheritance. LO 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

d) heritability

Consider This: This refers to an organism's genetic inheritance. LO 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Answer: b

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genetic Basics

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOM Q2.1.2

Errol's father carries two recessive genes for sickle-cell anemia, and Errol's mother carries two normal dominant genes. Therefore, Errol has inherited _____ from his parents.

a) anemia

Consider This: Inheriting only one recessive gene for the sickle-cell trait, along with a normal dominant gene, is not enough to make all of the offspring's blood cells sickle-shaped. LO 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

b) a resistance to malaria

c) sickle-cell anemia

Consider This: Inheriting only one recessive gene for the sickle-cell trait, along with a normal dominant gene, is not enough to make all of the offspring's blood cells sickle-shaped. LO 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

d) Huntington's chorea

Consider This: Inheriting only one recessive gene for the sickle-cell trait, along with a normal dominant gene, is not enough to make all of the offspring's blood cells sickle-shaped. LO 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Answer: b

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genetic Basics

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOM Q2.1.3

Individuals of _____ descent are most likely to have sickle-cell anemia.

a) Asian

Consider This: About 1 in 500 people of this descent have this disorder. LO 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

b) Hispanic

Consider This: About 1 in 500 people of this descent have this disorder. LO 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

c) African

d) Native American

Consider This: About 1 in 500 people of this descent have this disorder. LO 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Answer: c

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genetic Basics

Difficulty Level: Moderate

Skill Level: Understand the Concepts

EOM Q2.1.4

Which of the following statements about sex ratios is true?

a) Humans naturally give birth to more girls than boys.

Consider This: The sex ratios in many countries remain skewed. LO 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

b) Humans naturally give birth to an equal number of boys and girls.

Consider This: The sex ratios in many countries remain skewed. LO 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

c) Humans naturally give birth to more boys than girls.

d) The sex ratio of boys to girls at birth has been increasing in places like China and South Korea.

Consider This: The sex ratios in many countries remain skewed. LO 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Answer: c

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: Genetic Basics

Difficulty Level: Difficult

Skill Level: Analyze It

EOM Q2.1.5

Which of the following statements regarding chromosomes is true?

a) All ova in the mother contain an X chromosome.

b) All sperm carry a Y chromosome.

Consider This: The father's sperm determines the sex of the child. LO 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

c) The Y chromosome is larger than the X chromosome.

Consider This: The father's sperm determines the sex of the child. LO 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

d) The X chromosome and Y chromosome carry the same amount of genetic material.

Consider This: The father's sperm determines the sex of the child. LO 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Answer: a

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: Genetic Basics

Difficulty Level: Difficult

Skill Level: Apply What You Know

End of Module Quiz 2.2: Genetic Influences on Development: Genes and the Environment

EOM Q2.2.1

The heritability of intelligence _____ from childhood to adulthood.

a) decreases

Consider This: Heritability estimates are a measure not just of genetic influence, but of how much the environment allows the genes to be expressed. In essence, they measure phenotype rather than genotype. LO 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

b) increases

c) stays the same

Consider This: Heritability estimates are a measure not just of genetic influence, but of how much the environment allows the genes to be expressed. In essence, they measure phenotype rather than genotype. LO 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

d) has not been calculated in this area of research

Consider This: Heritability estimates are a measure not just of genetic influence, but of how much the environment allows the genes to be expressed. In essence, they measure phenotype rather than genotype. LO 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Answer: b

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Genes and the Environment

Difficulty Level: Moderate

Skill Level: Understand the Concepts

EOM Q2.2.2

The higher the concordance rate, _____.

a) the more similar two persons are

b) the more different two persons are

Consider This: Concordance rate is a percentage that indicates degree of similarity in phenotype among pairs of family members. LO 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

c) the higher a person's chances of having twins

Consider This: Concordance rate is a percentage that indicates degree of similarity in phenotype among pairs of family members. LO 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

d) the higher a person's quality of life is likely to be

Consider This: Concordance rate is a percentage that indicates degree of similarity in phenotype among pairs of family members. LO 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Answer: a

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Genes and the Environment

Difficulty Level: Moderate

Skill Level: Understand the Concepts

EOM Q2.2.3

Girls normally begin menstruating between the ages of 11 and 16, toward the lower end of this range under healthy conditions and toward the higher end when nutrition is insufficient. This is an example of _____.

a) a high concordance rate

Consider This: This refers to the continuous bidirectional interactions between genotype and environment. LO 2.4 Explain how the concepts of epigenetics and reaction ranges address gene–environment interactions.

b) a low concordance rate

Consider This: This refers to the continuous bidirectional interactions between genotype and environment. LO 2.4 Explain how the concepts of epigenetics and reaction ranges address gene–environment interactions.

c) epigenetics

d) heritability

Consider This: This refers to the continuous bidirectional interactions between genotype and environment. LO 2.4 Explain how the concepts of epigenetics and reaction ranges address gene–environment interactions.

Answer: c

Learning Objective: 2.4 Explain how the concepts of epigenetics and reaction ranges address gene–environment interactions.

Topic: Genes and the Environment

Difficulty Level: Moderate

Skill Level: Understand the Concepts

EOM Q2.2.4

Genes establish a _____ of potential expression, and environment determines where a person's phenotype will fall within this.

a) concordance rate

Consider This: Often when genes influence human development it is by establishing boundaries for environmental influences rather than specifying a precise characteristic. LO 2.4 Explain how the concepts of epigenetics and reaction ranges address gene–environment interactions.

b) heritability

Consider This: Often when genes influence human development it is by establishing boundaries for environmental influences rather than specifying a precise characteristic. LO 2.4 Explain how the concepts of epigenetics and reaction ranges address gene–environment interactions.

c) reaction range

d) polygenic inheritance

Consider This: Often when genes influence human development it is by establishing boundaries for environmental influences rather than specifying a precise characteristic. LO 2.4 Explain how the concepts of epigenetics and reaction ranges address gene–environment interactions.

Answer: c

Learning Objective: 2.4 Explain how the concepts of epigenetics and reaction ranges address gene–environment interactions.

Topic: Genes and the Environment

Difficulty Level: Easy

Skill Level: Remember the Facts

EOM Q2.2.5

A toddler from the Hamar tribe in Ethiopia was adopted by an American couple who described themselves as “non-athletes.” This tribe is known for having members who are exceptionally tall. Once she started school, she asked to play in the after-school basketball program, tried out for the team in middle school and high school, and eventually went on to earn a scholarship to play in college. This is an example of _____.

a) polygenic inheritance

Consider This: This occurs when people seek out environments that correspond to their genotypic characteristics. LO 2.5 Explain how the theory of genotype → environment effects casts new light on the old nature–nurture debate.

b) incomplete dominance

Consider This: This occurs when people seek out environments that correspond to their genotypic characteristics. LO 2.5 Explain how the theory of genotype → environment effects casts new light on the old nature–nurture debate.

c) a self-fulfilling prophecy

Consider This: This occurs when people seek out environments that correspond to their genotypic characteristics. LO 2.5 Explain how the theory of genotype → environment effects casts new light on the old nature–nurture debate.

d) niche picking

Answer: d

Learning Objective: 2.5 Explain how the theory of genotype → environment effects casts new light on the old nature–nurture debate.

Topic: Genes and the Environment

Difficulty Level: Difficult

Skill Level: Apply What You Know

End of Module Quiz 2.3: Genetic Influences on Development: Genes and Individual Development

EOM Q2.3.1

At what age do most women run out of ova?

a) in their late 20s

Consider This: About 400 ova will mature during the childbearing years. LO 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

b) some time in their 30s

Consider This: About 400 ova will mature during the childbearing years. LO 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

c) in their late 30s

Consider This: About 400 ova will mature during the childbearing years. LO 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

d) some time in their 40s

Answer: d

Learning Objective: 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Topic: Genes and Individual Development

Difficulty Level: Easy

Skill Level: Remember the Facts

EOM Q2.3.2

As a result of the process of crossing over, _____.

a) the risk of sickle-cell anemia decreases

Consider This: This process explains the diversity among siblings. LO 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

b) boys are more likely to be born with a learning disability

Consider This: This process explains the diversity among siblings. LO 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

c) the genetic material that originated from the mother and father is rearranged

d) women are at increased risk for infertility

Consider This: This process explains the diversity among siblings. LO 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Answer: c

Learning Objective: 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Topic: Genes and Individual Development

Difficulty Level: Moderate

Skill Level: Understand the Concepts

EOM Q2.3.3

The _____ is formed when the ovum and sperm unite and fertilization takes place.

a) blastula

Consider This: At this point the organism's genotype is set. LO 2.7 Describe the process of fertilization and conception.

b) blastocyst

Consider This: At this point the organism's genotype is set. LO 2.7 Describe the process of fertilization and conception.

c) zygote

d) embryo

Consider This: At this point the organism's genotype is set. LO 2.7 Describe the process of fertilization and conception.

Answer: c

Learning Objective: 2.7 Describe the process of fertilization and conception.

Topic: Genes and Individual Development

Difficulty Level: Easy

Skill Level: Remember the Facts

EOM Q2.3.4

Fertilization can take place only _____.

a) within 3 days after the ovum enters the fallopian tube

Consider This: It takes sperm from a few hours to a whole day to travel up the fallopian tubes. LO 2.7 Describe the process of fertilization and conception.

b) in the first 24 hours after the ovum enters the fallopian tube

c) in the first 2 hours after the ovum enters the fallopian tube

Consider This: It takes sperm from a few hours to a whole day to travel up the fallopian tubes. LO 2.7 Describe the process of fertilization and conception.

d) if intercourse occurs on the day of ovulation

Consider This: It takes sperm from a few hours to a whole day to travel up the fallopian tubes. LO 2.7 Describe the process of fertilization and conception.

Answer: b

Learning Objective: 2.7 Describe the process of fertilization and conception.

Topic: Genes and Individual Development

Difficulty Level: Moderate

Skill Level: Understand the Concepts

EOM Q2.3.5

Which of the following statements about DZ twins is true?

- a) There are substantial ethnic variations in the number of DZ twins born.
- b) DZ twins are the result of one ovum being fertilized by two sperm.

Consider This: DZ stands for dizygotic—two zygotes. LO 2.7 Describe the process of fertilization and conception.

- c) The overall rate of DZ twins is 1 in every 20 births.

Consider This: DZ stands for dizygotic—two zygotes. LO 2.7 Describe the process of fertilization and conception.

- d) Japan has the highest rate of DZ twin births.

Consider This: DZ stands for dizygotic—two zygotes. LO 2.7 Describe the process of fertilization and conception.

Answer: a

Learning Objective: 2.7 Describe the process of fertilization and conception.

Topic: Genes and Individual Development

Difficulty Level: Moderate

Skill Level: Understand the Concepts

End of Module Quiz 2.4: Prenatal Development and Prenatal Care: Prenatal Development

EOM Q2.4.1

The first 2 weeks of pregnancy after fertilization is called the _____.

- a) germinal period
- b) embryonic period

Consider This: During this period the zygote implants in the uterine wall. LO 2.8

Describe the structures that form during the germinal period, and identify when implantation takes place.

- c) fetal period

Consider This: During this period the zygote implants in the uterine wall. LO 2.8

Describe the structures that form during the germinal period, and identify when implantation takes place.

- d) first trimester

Consider This: During this period the zygote implants in the uterine wall. LO 2.8

Describe the structures that form during the germinal period, and identify when implantation takes place.

Answer: a

Learning Objective: 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Topic: Prenatal Development

Difficulty Level: Easy

Skill Level: Remember the Facts

EOM Q2.4.2

The blastocyst forms by _____ following conception.

- a) 1 week
- b) 2 weeks

Consider This: The blastocyst begins forming the amnion, placenta, and umbilical cord.

LO 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

- c) 3 weeks

Consider This: The blastocyst begins forming the amnion, placenta, and umbilical cord.

LO 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

- d) 1 month

Consider This: The blastocyst begins forming the amnion, placenta, and umbilical cord.

LO 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Answer: a

Learning Objective: 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Topic: Prenatal Development

Difficulty Level: Easy

Skill Level: Remember the Facts

EOM Q2.4.3

The _____ form from the outer layer of the embryonic disk.

a) digestive and respiratory systems

Consider This: The outer layer is called the ectoderm. LO 2.9 Outline the major milestones of the embryonic period and identify when they take place.

b) brain and spinal cord

Consider This: The outer layer is called the ectoderm. LO 2.9 Outline the major milestones of the embryonic period and identify when they take place.

c) skin, hair, nails, sensory organs, and nervous system

d) lungs and heart

Consider This: The outer layer is called the ectoderm. LO 2.9 Outline the major milestones of the embryonic period and identify when they take place.

Answer: c

Learning Objective: 2.9 Outline the major milestones of the embryonic period and identify when they take place.

Topic: Prenatal Development

Difficulty Level: Moderate

Skill Level: Understand the Concepts

EOM Q2.4.4

Maddox, a baby born at 25 weeks, is more at risk of not surviving than babies born full term because Maddox's _____ is/are still immature.

a) heart

Consider This: This is the main obstacle to viability at the beginning of the third trimester. LO 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

b) intestines

Consider This: This is the main obstacle to viability at the beginning of the third trimester. LO 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

c) lungs

d) pancreas

Consider This: This is the main obstacle to viability at the beginning of the third trimester. LO 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Answer: c

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: Prenatal Development

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOM Q2.4.5

What did the newborn babies who were read Dr. Seuss's *The Cat in the Hat* every day during the last 6 weeks of pregnancy do?

a) They showed no awareness of having heard *The Cat in the Hat* before.

Consider This: As the third trimester progresses, the fetus is increasingly aware of the external environment. LO 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

b) They sucked just as hard on plastic nipples to hear *The Cat in the Hat* as they did for recordings of other stories.

Consider This: As the third trimester progresses, the fetus is increasingly aware of the external environment. LO 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

c) They sucked harder on plastic nipples to hear *The Cat in the Hat* than they did for recordings of other stories.

d) They waved their hands faster to hear *The Cat in the Hat* than they did for recordings of other stories.

Consider This: As the third trimester progresses, the fetus is increasingly aware of the external environment. LO 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Answer: c

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: Prenatal Development

Difficulty Level: Difficult

Skill Level: Apply What You Know

End of Module Quiz 2.5: Prenatal Development and Prenatal Care: Prenatal Care

EOM Q2.5.1

Melinda is a healthy woman who just found out she was pregnant and went for her first prenatal visit. Which of the following pieces of advice is she most likely to receive from her physician?

a) Avoid even mild exercise.

Consider This: Prenatal guidelines focus on diet, exercise, and avoidance of teratogens.

LO 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

b) Avoid Kegel exercises.

Consider This: Prenatal guidelines focus on diet, exercise, and avoidance of teratogens.

LO 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

c) Drink slightly less fluids than usual.

Consider This: Prenatal guidelines focus on diet, exercise, and avoidance of teratogens.

LO 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

d) Eat foods with sufficient iodine.

Answer: d

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Prenatal Care

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOM Q2.5.2

Cecille is pregnant. She has always been health-conscious and exercises regularly. She is planning on engaging in aerobic exercise by continuing to go to her exercise classes. According to most physicians, she should _____.

a) be very careful as this type of exercise during pregnancy could lower muscle mass

Consider This: Pregnant women should avoid high-risk sports, but walking and swimming are often recommended. LO 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

b) exercise regularly as she will stimulate the circulatory and muscle systems

c) exercise regularly because this lowers the chances of teratogens reaching the fetus

Consider This: Pregnant women should avoid high-risk sports, but walking and swimming are often recommended. LO 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

d) avoid aerobic exercise as it has been shown to dangerously increase fetal heart rate

Consider This: Pregnant women should avoid high-risk sports, but walking and swimming are often recommended. LO 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Answer: b

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Prenatal Care

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOM Q2.5.3

The most common teratogen worldwide is _____.

- a) malnutrition
- b) rubella

Consider This: A deficiency of folic acid can lead to serious disorders. LO 2.12 Identify the major teratogens in developing countries and developed countries.

- c) alcohol

Consider This: A deficiency of folic acid can lead to serious disorders. LO 2.12 Identify the major teratogens in developing countries and developed countries.

- d) tobacco

Consider This: A deficiency of folic acid can lead to serious disorders. LO 2.12 Identify the major teratogens in developing countries and developed countries.

Answer: a

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Prenatal Care

Difficulty Level: Easy

Skill Level: Remember the Facts

EOM Q2.5.4

Marie is a heavy drinker and managed to stop drinking for most of her pregnancy. If she drank alcohol during the _____ period, her baby would be most at risk of structural damage.

- a) prenatal

Consider This: Vulnerability to teratogens is greatest during this critical period. LO 2.12 Identify the major teratogens in developing countries and developed countries.

- b) embryonic

- c) germinal

Consider This: Vulnerability to teratogens is greatest during this critical period. LO 2.12 Identify the major teratogens in developing countries and developed countries.

- d) blastula

Consider This: Vulnerability to teratogens is greatest during this critical period. LO 2.12 Identify the major teratogens in developing countries and developed countries.

Answer: b

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Prenatal Care

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOM Q2.5.5

It is January 1989 in Beijing, China, and Huang and Jiao have just married. They want to conceive a child as soon as possible, as most newly married Chinese couples do. Considering it is the middle of winter, and fruits and vegetables are not readily available, what important nutrient in Huang's prenatal diet is likely to be missing, potentially causing her child to be born with spina bifida?

a) folic acid

b) potassium

Consider This: This deficiency is also the main cause of anencephaly. LO 2.12 Identify the major teratogens in developing countries and developed countries.

c) calcium

Consider This: This deficiency is also the main cause of anencephaly. LO 2.12 Identify the major teratogens in developing countries and developed countries.

d) Vitamin D

Consider This: This deficiency is also the main cause of anencephaly. LO 2.12 Identify the major teratogens in developing countries and developed countries.

Answer: a

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Prenatal Care

Difficulty Level: Difficult

Skill Level: Apply What You Know

End of Module Quiz 2.6: Pregnancy Problems: Prenatal Problems**EOM Q2.6.1**

The risk of _____ increases dramatically for children born to women over the age of 45.

a) anencephaly

Consider This: The risk of this disorder rises with maternal age; the chances are 1 in 30 after age 45, but only 1 in 1,900 births at age 20. LO 2.13 Explain how chromosomal disorders occur.

b) spina bifida

Consider This: The risk of this disorder rises with maternal age; the chances are 1 in 30 after age 45, but only 1 in 1,900 births at age 20. LO 2.13 Explain how chromosomal disorders occur.

c) cystic fibrosis

Consider This: The risk of this disorder rises with maternal age; the chances are 1 in 30 after age 45, but only 1 in 1,900 births at age 20. LO 2.13 Explain how chromosomal disorders occur.

d) Down syndrome

Answer: d

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Prenatal Problems

Difficulty Level: Moderate

Skill Level: Understand the Concepts

EOM Q2.6.2

There are two main types of chromosomal disorders, those that take place on the 21st pair of chromosomes and those that _____.

a) take place on the 20th pair

Consider This: About 1 in every 500 infants has some type of this disorder. LO 2.13 Explain how chromosomal disorders occur.

b) take place on the 22nd pair

Consider This: About 1 in every 500 infants has some type of this disorder. LO 2.13 Explain how chromosomal disorders occur.

c) involve the sex chromosomes

d) involve rapidly developing chromosomes

Consider This: About 1 in every 500 infants has some type of this disorder. LO 2.13 Explain how chromosomal disorders occur.

Answer: c

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Prenatal Problems

Difficulty Level: Moderate

Skill Level: Understand the Concepts

EOM Q2.6.3

Which of the following statements regarding people with Down syndrome is true?

- a) They are at increased risk for an abnormality in the development of the reproductive system.

Consider This: Ailments such as cancer and heart disease may arise in their 30s. LO 2.13

Explain how chromosomal disorders occur.

- b) Their total brain volume tends to increase in their 20s.

Consider This: Ailments such as cancer and heart disease may arise in their 30s. LO 2.13

Explain how chromosomal disorders occur.

- c) They age faster than other people.

- d) With advances in medical treatment, their life expectancy is now about the same as in the general population.

Consider This: Ailments such as cancer and heart disease may arise in their 30s. LO 2.13

Explain how chromosomal disorders occur.

Answer: c

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Prenatal Problems

Difficulty Level: Moderate

Skill Level: Understand the Concepts

EOM Q2.6.4

Which of the following tests is considered to be the safest in terms of risk of miscarriage?

- a) chorionic villus sampling

Consider This: In this technique high-frequency sound waves are directed toward the uterus. LO 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

- b) amniocentesis

Consider This: In this technique high-frequency sound waves are directed toward the uterus. LO 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

- c) ultrasound

- d) X-ray

Consider This: In this technique high-frequency sound waves are directed toward the uterus. LO 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Answer: c

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Prenatal Problems

Difficulty Level: Moderate

Skill Level: Understand the Concepts

EOM Q2.6.5

Which of the following statements about maternal blood screening is true?

- a) The tests examine different substances, such as proteins and hormones.
- b) The tests typically occur only in the last trimester.

Consider This: These tests screen for spina bifida and Down syndrome. LO 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

- c) The tests provide information only on the mother and not the fetus.

Consider This: These tests screen for spina bifida and Down syndrome. LO 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

- d) The tests are invasive and often inaccurate.

Consider This: These tests screen for spina bifida and Down syndrome. LO 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Answer: a

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Prenatal Problems

Difficulty Level: Moderate

Skill Level: Understand the Concepts

End of Module Quiz 2.7: Pregnancy Problems: Infertility

EOM Q2.7.1

In collectivistic cultures infertility is often _____.

a) accepted

Consider This: Motherhood is often essential to a woman's identity. LO 2.15 Describe psychological and social implications of infertility.

b) less common

Consider This: Motherhood is often essential to a woman's identity. LO 2.15 Describe psychological and social implications of infertility.

c) stigmatized

d) blamed on both parents

Consider This: Motherhood is often essential to a woman's identity. LO 2.15 Describe psychological and social implications of infertility.

Answer: c

Learning Objective: 2.15 Describe psychological and social implications of infertility.

Topic: Infertility

Difficulty Level: Moderate

Skill Level: Understand the Concepts

EOM Q2.7.2

_____ is the most common cause of inability to ovulate.

a) Age

b) Cigarette smoking

Consider This: The quality of ova deteriorates after puberty. LO 2.16 Review major causes of and treatments for infertility.

c) Alcohol abuse

Consider This: The quality of ova deteriorates after puberty. LO 2.16 Review major causes of and treatments for infertility.

d) Obesity

Consider This: The quality of ova deteriorates after puberty. LO 2.16 Review major causes of and treatments for infertility.

Answer: a

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Infertility

Difficulty Level: Easy

Skill Level: Remember the Facts

EOM Q2.7.3

Shonda and Trinity have been a couple for eight years, and they are now excited to take the leap into parenthood together. Because they are both women, they have decided to use _____, which involves injecting a donor's sperm into Shonda's uterus while she is ovulating.

a) epidurals

Consider This: This is the simplest and most effective reproductive technology. LO 2.16

Review major causes of and treatments for infertility.

b) intrauterine insemination

c) in vitro fertilization

Consider This: This is the simplest and most effective reproductive technology. LO 2.16

Review major causes of and treatments for infertility.

d) chorionic villus sampling

Consider This: This is the simplest and most effective reproductive technology. LO 2.16

Review major causes of and treatments for infertility.

Answer: b

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Infertility

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOM Q2.7.4

The most common fertility treatment for a woman who cannot ovulate properly is _____.

a) chorionic villus treatment

Consider This: The purpose of this fertility treatment is to stimulate the development of follicles in the ovaries. LO 2.16 Review major causes of and treatments for infertility.

b) intrauterine insemination

Consider This: The purpose of this fertility treatment is to stimulate the development of follicles in the ovaries. LO 2.16 Review major causes of and treatments for infertility.

c) fertility drugs

d) in vitro fertilization

Consider This: The purpose of this fertility treatment is to stimulate the development of follicles in the ovaries. LO 2.16 Review major causes of and treatments for infertility.

Answer: c

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Infertility

Difficulty Level: Moderate

Skill Level: Understand the Concepts

End of Chapter Quiz: Genetics and Prenatal Development

EOC Q2.1

Keisha has inherited one recessive gene for the sickle-cell trait along with one normal dominant gene. As a result of this _____, she does not have sickle-cell anemia.

a) dominant–recessive inheritance

Consider This: Most blood cells are shaped like a disk, but when a person inherits two recessive genes for the sickle-cell trait the blood cells become hook-shaped, like the blade of a sickle. LO 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

b) incomplete dominance

c) polygenic inheritance

Consider This: Most blood cells are shaped like a disk, but when a person inherits two recessive genes for the sickle-cell trait the blood cells become hook-shaped, like the blade of a sickle. LO 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

d) reaction range

Consider This: Most blood cells are shaped like a disk, but when a person inherits two recessive genes for the sickle-cell trait the blood cells become hook-shaped, like the blade of a sickle. LO 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Answer: b

Learning Objective: 2.1 Distinguish between genotype and phenotype and identify the different forms of genetic inheritance.

Topic: Genetics and Prenatal Development

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOC Q2.2

Who has the greatest risk of developing hemophilia, which is an X-linked recessive disorder?

a) a female who has one X chromosome that contains the gene for this disorder

Consider This: Because of X-linked inheritance, males are at greater risk for a wide variety of genetically-based problems. LO 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

b) a male who has one X chromosome that contains the gene for this disorder

c) both males and females with one X chromosome that contains the gene for the disorder have equal risk

Consider This: Because of X-linked inheritance, males are at greater risk for a wide variety of genetically-based problems. LO 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

d) Asian Americans

Consider This: Because of X-linked inheritance, males are at greater risk for a wide variety of genetically-based problems. LO 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Answer: b

Learning Objective: 2.2 Describe the sex chromosomes and identify what makes them different from other chromosomes.

Topic: Genetics and Prenatal Development

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOC Q2.3

Which of the following questions would a behavior geneticist be most likely to ask?

- a) “Why are children in the same family so different from one another?”
- b) “Are preterm babies more likely to have learning difficulties during the school years?”

Consider This: Behavior geneticists work primarily through twin and adoption studies.

LO 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

- c) “How can prenatal tests be used to detect Down syndrome?”

Consider This: Behavior geneticists work primarily through twin and adoption studies.

LO 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

- d) “What effects does alcohol have on the developing organism?”

Consider This: Behavior geneticists work primarily through twin and adoption studies.

LO 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Answer: a

Learning Objective: 2.3 Explain how behavior geneticists use heritability estimates and concordance rates in their research.

Topic: Genetics and Prenatal Development

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOC Q2.4

Why has there been little change in the average height in Western countries over the last few decades?

- a) The population has become overweight or obese, which negatively affects height.

Consider This: People are unlikely to ever grow to be 10 or 20 feet tall. LO 2.4 Explain how the concepts of epigenetics and reaction ranges address gene–environment interactions.

- b) People in Western countries have been exposed to more diseases.

Consider This: People are unlikely to ever grow to be 10 or 20 feet tall. LO 2.4 Explain how the concepts of epigenetics and reaction ranges address gene–environment interactions.

- c) People have reached the upper boundary for height.

- d) Evolutionary influences are causing all populations to decrease in height.

Consider This: People are unlikely to ever grow to be 10 or 20 feet tall. LO 2.4 Explain how the concepts of epigenetics and reaction ranges address gene–environment interactions.

Answer: c

Learning Objective: 2.4 Explain how the concepts of epigenetics and reaction ranges address gene–environment interactions.

Topic: Genetics and Prenatal Development

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOC Q2.5

John is short for his age and is very coordinated. Although exposed to a variety of activities, none has particularly interested him. His father, who used to wrestle when he was younger, signs John up for wrestling thinking this could be the perfect sport. He convinces John to give it a try and John goes on to become a champion wrestler. This is an example of _____.

a) passive genotype → environment effects

b) evocative genotype → environment effects

Consider This: It is hard to separate genetic influences from environmental influences in a biological family, because parents provide both. LO 2.5 Explain how the theory of genotype → environment effects casts new light on the old nature–nurture debate.

c) active genotype → environment effects

Consider This: It is hard to separate genetic influences from environmental influences in a biological family, because parents provide both. LO 2.5 Explain how the theory of genotype → environment effects casts new light on the old nature–nurture debate.

d) heritability

Consider This: It is hard to separate genetic influences from environmental influences in a biological family, because parents provide both. LO 2.5 Explain how the theory of genotype → environment effects casts new light on the old nature–nurture debate.

Answer: a

Learning Objective: 2.5 Explain how the theory of genotype → environment effects casts new light on the old nature–nurture debate.

Topic: Genetics and Prenatal Development

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOC Q2.6

Ova and sperm are known as _____.

a) mitosis

Consider This: This term means “to marry” in Greek. LO 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

b) phenotypes

Consider This: This term means “to marry” in Greek. LO 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

c) meiosis

Consider This: This term means “to marry” in Greek. LO 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

d) gametes

Answer: d

Learning Objective: 2.6 Outline the process of meiosis in the formation of reproductive cells and specify how the process differs for males and females.

Topic: Genetics and Prenatal Development

Difficulty Level: Easy

Skill Level: Remember the Facts

EOC Q2.7

About how many days into a woman's cycle does it typically take for a mature follicle to burst?

a) 7

Consider This: This is when ovulation occurs. LO 2.7 Describe the process of fertilization and conception.

b) 14

c) 21

Consider This: This is when ovulation occurs. LO 2.7 Describe the process of fertilization and conception.

d) 28

Consider This: This is when ovulation occurs. LO 2.7 Describe the process of fertilization and conception.

Answer: b

Learning Objective: 2.7 Describe the process of fertilization and conception.

Topic: Genetics and Prenatal Development

Difficulty Level: Easy

Skill Level: Remember the Facts

EOC Q2.8

If Susan learns that her infertility problem is due to a problem with the _____ successfully implanting, something went wrong during the germinal period.

a) zygote

Consider This: Over half of these never implant successfully. LO 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

b) blastocyst

c) fetus

Consider This: Over half of these never implant successfully. LO 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

d) trophoblast

Consider This: Over half of these never implant successfully. LO 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Answer: b

Learning Objective: 2.8 Describe the structures that form during the germinal period, and identify when implantation takes place.

Topic: Genetics and Prenatal Development

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOC Q2.9

During the embryonic period _____.

- a) the blastocyst forms

Consider This: This period occurs from Weeks 3–8. LO 2.9 Outline the major milestones of the embryonic period and identify when they take place.

- b) the zygote is created

Consider This: This period occurs from Weeks 3–8. LO 2.9 Outline the major milestones of the embryonic period and identify when they take place.

- c) the zygote attaches to the uterine wall

Consider This: This period occurs from Weeks 3–8. LO 2.9 Outline the major milestones of the embryonic period and identify when they take place.

- d) the major organs develop

Answer: d

Learning Objective: 2.9 Outline the major milestones of the embryonic period and identify when they take place.

Topic: Genetics and Prenatal Development

Difficulty Level: Moderate

Skill Level: Understand the Concepts

EOC Q2.10

By the end of the _____ month, the genitals of the fetus have formed.

- a) second

Consider This: From this time forward, the genitals release hormones that influence the rest of prenatal development, including brain organization, body size, and activity level, with boys becoming on average somewhat larger and more active. LO 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

- b) third

- c) fourth

Consider This: From this time forward, the genitals release hormones that influence the rest of prenatal development, including brain organization, body size, and activity level, with boys becoming on average somewhat larger and more active. LO 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

- d) fifth

Consider This: From this time forward, the genitals release hormones that influence the rest of prenatal development, including brain organization, body size, and activity level, with boys becoming on average somewhat larger and more active. LO 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Answer: b

Learning Objective: 2.10 Describe the major milestones of the fetal period and identify when viability occurs.

Topic: Genetics and Prenatal Development

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOC Q2.11

In traditional cultures, prenatal massage _____.

a) is usually done only when there is reason to believe that the fetus is not developing properly

Consider This: Prenatal massage can result in the mother experiencing less back pain, less joint swelling, and better sleep. LO 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

b) is usually considered dangerous

Consider This: Prenatal massage can result in the mother experiencing less back pain, less joint swelling, and better sleep. LO 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

c) has beneficial effects for both mother and fetus

d) is almost exclusively performed by the pregnant mother herself in complete isolation

Consider This: Prenatal massage can result in the mother experiencing less back pain, less joint swelling, and better sleep. LO 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Answer: c

Learning Objective: 2.11 Compare and contrast prenatal care in traditional cultures and developed countries.

Topic: Genetics and Prenatal Development

Difficulty Level: Moderate

Skill Level: Understand the Concepts

EOC Q2.12

K.L.'s baby was born blind, deaf, and with an intellectual disability. It is most likely that during her pregnancy she _____.

a) contracted AIDS

Consider This: This disease is also known as German measles. LO 2.12 Identify the major teratogens in developing countries and developed countries.

b) had rubella

c) had a severe nutritional deficiency

Consider This: This disease is also known as German measles. LO 2.12 Identify the major teratogens in developing countries and developed countries.

d) ate foods that were too high in folic acid

Consider This: This disease is also known as German measles. LO 2.12 Identify the major teratogens in developing countries and developed countries.

Answer: b

Learning Objective: 2.12 Identify the major teratogens in developing countries and developed countries.

Topic: Genetics and Prenatal Development

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOC Q2.13

A child who has an XXX chromosomal disorder will most likely _____.

a) be a male with Down syndrome

Consider This: This child has an extra X chromosome. LO 2.13 Explain how chromosomal disorders occur.

b) be a female who will later experience problems in the development of the reproductive system

c) be a typical female who will not experience cognitive or physical problems

Consider This: This child has an extra X chromosome. LO 2.13 Explain how chromosomal disorders occur.

d) not survive past the age of 3

Consider This: This child has an extra X chromosome. LO 2.13 Explain how chromosomal disorders occur.

Answer: b

Learning Objective: 2.13 Explain how chromosomal disorders occur.

Topic: Genetics and Prenatal Development

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOC Q2.14

Carissa is 45 years old and is in her fifth week of pregnancy. She decides that she would like to find out as early as possible whether her unborn child has Down syndrome or any genetic abnormality. What test is she most likely to get?

a) fetal monitoring

Consider This: This test carries a risk of triggering miscarriage. LO 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

b) ultrasound

Consider This: This test carries a risk of triggering miscarriage. LO 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

c) amniocentesis

Consider This: This test carries a risk of triggering miscarriage. LO 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

d) chorionic villus sampling

Answer: d

Learning Objective: 2.14 Describe the four main techniques of prenatal testing and diagnosis, and explain why some prospective parents seek genetic counseling.

Topic: Genetics and Prenatal Development

Difficulty Level: Difficult

Skill Level: Apply What You Know

EOC Q2.15

In the United States, about _____ of couples are infertile.

a) 1%–2%

Consider This: Infertility rates have remained about the same for over a century in the United States. LO 2.15 Describe psychological and social implications of infertility.

b) 4%–5%

Consider This: Infertility rates have remained about the same for over a century in the United States. LO 2.15 Describe psychological and social implications of infertility.

c) 10%–15%

d) 14%–27%

Consider This: Infertility rates have remained about the same for over a century in the United States. LO 2.15 Describe psychological and social implications of infertility.

Answer: c

Learning Objective: 2.15 Describe psychological and social implications of infertility.

Topic: Genetics and Prenatal Development

Difficulty Level: Easy

Skill Level: Remember the Facts

EOC Q2.16

A married woman from a non-Western, collectivistic culture has been unable to have a child for over 3 years. Which of the following is most likely?

a) She will have a higher status relative to her husband.

Consider This: Outside the West, social consequences of infertility are often more profound. LO 2.16 Review major causes of and treatments for infertility.

b) She will receive a lot of social support from her mother-in-law and father-in-law.

Consider This: Outside the West, social consequences of infertility are often more profound. LO 2.16 Review major causes of and treatments for infertility.

c) She will try IVF.

Consider This: Outside the West, social consequences of infertility are often more profound. LO 2.16 Review major causes of and treatments for infertility.

d) She will be blamed for this “problem.”

Answer: d

Learning Objective: 2.16 Review major causes of and treatments for infertility.

Topic: Genetics and Prenatal Development

Difficulty Level: Difficult

Skill Level: Apply What You Know