

Chapter 2: Nature with Nurture

Student: _____

1. The idea that intelligence, personality, and other characteristics are inborn is called
 - A. nativism.
 - B. dynamism.
 - C. genetic expression.
 - D. behaviorism.
2. "Preformationism" refers to the idea that
 - A. parents had to plan carefully before having children.
 - B. the embryo was a preformed miniature adult.
 - C. the mind of a child is like a blank slate.
 - D. children behave in ways for which they are rewarded.
3. The popular 17th century idea that an individual was fully formed (though obviously very small) at conception is called
 - A. heritability.
 - B. familism.
 - C. mutation.
 - D. preformationism.
4. The Puritans believed that human nature was
 - A. basically pure and should be free to express itself.
 - B. like a blank slate.
 - C. evil and vulnerable to temptation.
 - D. formed by its environment.
5. The idea that children are born innocent and may either be nurtured into kindness or corrupted by the environment was suggested by
 - A. John Locke.
 - B. the Puritans.
 - C. John Watson.
 - D. Jean Jacques Rousseau.

6. Fred and Ethel are arguing about children's development. Fred says it's all due to genetics, while Ethel says it's all about environmental influences and that genes just don't matter since our genetic make-ups are basically all the same. Fred's viewpoint is most like that of _____, whereas Ethel seems to follow the teachings of _____.
- A. John Watson; Jean Jacques Rousseau
 - B. Jean Jacques Rousseau; John Locke
 - C. John Locke; John Watson
 - D. Jean Jacques Rousseau; the Puritans
7. Zinobiya believes that all children are born in innocence and may blossom into beautiful people if left to themselves. Her ideas are most like those of
- A. Jean Jacques Rousseau.
 - B. John Locke.
 - C. John Watson.
 - D. Jean Shepherd.
8. The idea that we ought to control who has children in order to eliminate stupidity and other undesirable traits is called
- A. genetic determinism.
 - B. preformationism.
 - C. eugenics.
 - D. natural selection.
9. John Locke believed that
- A. children were born sinful and had to be taught to be moral.
 - B. children were essentially good, naturally beautiful beings.
 - C. children's lives were predetermined by their genes.
 - D. children's minds were essentially blank slates, completely products of their environments.
10. Which of the following quotes best exemplifies the idea that development is entirely genetic:
- A. "To each his own."
 - B. "He's a chip off the old block."
 - C. "No matter how tall his grandfather is, everyone must do his own growing."
 - D. "Where there's a will, there's a way."
11. Open schools, such as those that use the Montessori method, are based in philosophies that resemble those of
- A. John Locke.
 - B. John Watson.
 - C. Jean Jacques Rousseau.
 - D. Jean Dixon.

12. The idea that all human qualities are pre-set by our genes is called
- A. heritability.
 - B. familism.
 - C. phylogeny.
 - D. genetic determinism.
13. John Watson's idea of behaviorism most resembled the philosophical stance of
- A. John Locke.
 - B. Jean Jacques Rousseau.
 - C. the Puritans.
 - D. Socrates.
14. The 20th century mental hygiene movement, in which people began to treat insanity as an illness, grew out of the philosophy of
- A. Jean Jacques Rousseau.
 - B. Francis Galton.
 - C. Mary Ainsworth.
 - D. John Locke.
15. John Locke's 17th century idea that children's minds were like blank slates most closely corresponds to the more modern views of
- A. John B. Watson.
 - B. John Dewey.
 - C. Jean Piaget.
 - D. Stephen Hawking.
16. According to John B. Watson, children develop intelligence as a result of the
- A. unfolding of their natural tendencies.
 - B. reinforcement of appropriate behaviors.
 - C. effects of environmental factors on their genotypes.
 - D. effects of their phenotypes on the environments.
17. Studies that attempt to measure the degree to which nature determines human development are called
- A. correlation coefficients.
 - B. heritability studies.
 - C. experimental studies.
 - D. self-report inventories.

18. Twin studies are generally used to evaluate
- A. genetic determinism.
 - B. reciprocal determinism.
 - C. the heritability of traits.
 - D. the success of adoption policies.
19. The fact that correlations of intelligence are much higher between identical twins than between fraternal twins lends support to the idea that
- A. intelligence is entirely inherited.
 - B. intelligence is entirely environmental.
 - C. intelligence is at least partly inherited.
 - D. more studies need to be done because nothing can be confirmed from this information.
20. Tomas is studying children who have been adopted by families that are very different from their biological families. If Tomas finds that these children have similar levels of intelligence to their birth parents, his findings will support the idea that
- A. nature is the primary determinant of intelligence.
 - B. nurture is the primary determinant of intelligence.
 - C. nature and nurture both determine intelligence equally.
 - D. there is not enough evidence to support anything.
21. Adoption studies have shown that
- A. the quality of an adoptive home has no effect on intelligence.
 - B. genetic inheritance has no effect on intelligence.
 - C. adopted children mostly resemble their biological parents' levels of intelligence, but the environment also makes a difference.
 - D. some children seem to inherit their intelligence while others seem only to be influenced by their environments.
22. Twin studies, adoption studies, and studies of blended families seem most strongly to support the idea that
- A. nature is responsible for development in regular families, nurture in blended families.
 - B. nature and nurture are both contributors to development.
 - C. only nature is responsible for development.
 - D. only nurture is responsible for development.
23. Damien and Ricardo are 3- and 4-year-old brothers. They both spend a lot of time at home and have many interests in common. Much of what drives their developmental similarities is likely due to their
- A. shared environment.
 - B. non-shared environment.
 - C. both shared environment and non-shared environment.
 - D. individual diets.

24. Which of the following is most likely part of the non-shared environment of twins?
- A. Their bunk bed and shared bedroom
 - B. Their dinners at home
 - C. The clubs they join at school
 - D. Their family's back-to-school shopping trips
25. Which of the following is *not* a criticism of heritability studies?
- A. Genetic and environmental influences are intertwined.
 - B. Genes don't have the same effect in all environments.
 - C. Inherited traits may still be modified to some extent.
 - D. The fact that genes have a role in intelligence has never been established.
26. Today, most developmental scientists believe that development
- A. of some traits is environmental, and others, genetic.
 - B. is due to the interplay of both biological and environmental factors.
 - C. is due mostly to genetics.
 - D. is due mostly to environmental factors.
27. Studies that seek to find out the relative influences of genetics and the environment on development are called
- A. nature studies.
 - B. nurture studies.
 - C. heritability studies.
 - D. genetic expression studies.
28. Darwin's idea of the survival of the fittest means that the organisms most likely to survive and breed are those that are
- A. biggest and strongest.
 - B. smallest and most agile.
 - C. best adapted to their environments.
 - D. most intelligent.
29. Natural selection is a key component of
- A. Thorndike's laws of learning.
 - B. Locke's tabula rasa.
 - C. Mendel's theory of meiosis.
 - D. Darwin's theory of evolution.

30. Natural selection refers to the idea that
- A. adaptive traits are passed on to the next generation.
 - B. we can eliminate bad traits by selecting good marriage partners.
 - C. genetics determine our choices.
 - D. the environment controls our development completely.
31. Adaptability is important to a species' ability to survive because
- A. it selects for intelligence above all else.
 - B. environments change and thus bring new pressures for survival.
 - C. adaptability makes it harder to survive, so you'll have more offspring.
 - D. of genetic determinism.
32. The theory of natural selection is most closely associated with
- A. Virginia Apgar.
 - B. Francis Galton.
 - C. Eleanor Maccoby.
 - D. Charles Darwin.
33. The idea that development is a gradual process of increasing complexity due to the interaction of genes and the environment is called
- A. heritability.
 - B. meiosis.
 - C. epigenesis.
 - D. genetic determinism.
34. The most common view of modern developmental researchers is that development is due to
- A. nature.
 - B. nurture.
 - C. phenotyping.
 - D. epigenesis.
35. The study of human development before birth is called
- A. fetology.
 - B. histology.
 - C. anthropology.
 - D. embryology.
36. Primitive, undifferentiated cells that can become any sort of cell in the body are called
- A. stem cells
 - B. sperm cells
 - C. egg cells
 - D. lymphocytes

37. You have just gotten a job at the Developmental Institute. Your task is to monitor the growth of undifferentiated cells that can later develop into any type of cell in the human body. You will be working with
- A. gametes.
 - B. stem cells.
 - C. lymphocytes.
 - D. platelets.
38. Bipedalism is
- A. walking upright on two feet.
 - B. bicycle riding.
 - C. liking people of both sexes.
 - D. a neurological disorder.
39. The degree to which an aspect of development is dictated by our genetic programming is a measure of its
- A. mitosis.
 - B. preformation.
 - C. canalization.
 - D. familism.
40. Which of the following human traits is *least* likely to be canalized?
- A. Bipedal walking
 - B. Reflexes
 - C. Curiosity
 - D. Philosophy
41. The degree to which a particular trait is predetermined by our genes is called
- A. heritability.
 - B. canalization.
 - C. phenotyping.
 - D. somatotyping.
42. Our prolonged immaturity is considered an evolutionary advantage for all of the following reasons *except* that
- A. it attracts predators, which challenges our abilities and makes us stronger.
 - B. it promotes social bonding with adults.
 - C. it makes us more receptive to environmental influence.
 - D. it gets us more attention early in life.

43. According to the findings of the Human Genome Project, our DNA is _____ percent identical to that of a chimp.
- A. 1-2
 - B. 24-25
 - C. 50-51
 - D. 98-99
44. The idea that humans are still essentially embryos after birth was suggested by
- A. Stephen Jay Gould.
 - B. Virginia Apgar.
 - C. Sir Francis Galton.
 - D. Mary Ainsworth.
45. Genes are arranged on long strands called
- A. platelets.
 - B. base pairs.
 - C. chromosomes.
 - D. regulators.
46. Human cells contain how many chromosomes?
- A. 23
 - B. 36
 - C. 40
 - D. 46
47. The function of RNA in cells most resembles that of a
- A. gardener.
 - B. messenger.
 - C. teacher.
 - D. thief.
48. Genes function by
- A. directing specific growth in organs.
 - B. controlling a particular aspect of the production of a specific protein.
 - C. controlling particular traits, such as intelligence.
 - D. chemically altering our environment.
49. Most genes contain about how many base pairs?
- A. 500
 - B. 1,500
 - C. 3,000
 - D. 4,500

50. The biological traits you inherit from your parents constitute your
- A. phenotype.
 - B. tintype.
 - C. karyotype.
 - D. genotype.
51. Identical twins always share the same
- A. genotype.
 - B. phenotype.
 - C. likes and dislikes.
 - D. intelligence.
52. The way in which your genes are expressed through interaction with the environment constitutes your
- A. genotype.
 - B. karyotype.
 - C. phenotype.
 - D. tintype.
53. The only cells in the body that do *not* contain 23 pairs of chromosomes are
- A. stem cells.
 - B. bone cells.
 - C. neurons.
 - D. gametes.
54. Kannitha is a cell that has just reproduced by splitting in half to form two identical new cells. She and her sister have just gone through the process of
- A. mitosis.
 - B. meiosis.
 - C. long division.
 - D. differentiation.
55. During meiosis each new cell
- A. only has 23 pairs of chromosomes.
 - B. only has 23 chromosomes.
 - C. has 46 pairs of chromosomes.
 - D. is capable of developing directly into a new individual.
56. Sperm cells and ova are produced through the process of
- A. differentiation.
 - B. mutation.
 - C. meiosis.
 - D. mitosis.

57. The phenomenon of "crossing over" in meiosis ensures
- A. identical twins.
 - B. higher intelligence.
 - C. genetic determinism.
 - D. genetic diversity.
58. A single member of a specific pair of genes is called
- A. an allele.
 - B. a stem cell.
 - C. a chromatid.
 - D. a chromosome.
59. Reproductive cells are called
- A. stem cells.
 - B. gametes.
 - C. mitotic cells.
 - D. hormones.
60. A person who inherits one X chromosome and one Y chromosome will be
- A. female.
 - B. male.
 - C. sexually ambiguous.
 - D. nothing because this never happens.
61. Mark has soft, fine hair. Mary's hair is coarse and thick. It is likely that their baby's hair will be
- A. soft and fine.
 - B. coarse and thick.
 - C. somewhere in between thick and fine, and between coarse and soft.
 - D. soft and thick.
62. Robert is a dark-skinned Kenyan, and his wife Lorna is a light-skinned Swede. It is likely their baby Lucy will be born with _____ skin.
- A. dark
 - B. pale
 - C. albino
 - D. tan

63. Robert is a dark-skinned Kenyan, and his wife Lorna is a light-skinned Swede. It is likely their baby Lucy will be born with tan skin. This is an example of
- A. additive heredity.
 - B. dominant genes.
 - C. recessive genes.
 - D. preformationism.
64. Alphonse has brown eyes, and his wife Marielle has blue eyes. If brown eyes are dominant, and Ron has two genes for brown eyes, their children will all have
- A. blue eyes.
 - B. brown eyes.
 - C. one blue eye and one brown eye.
 - D. hazel eyes.
65. If a child inherits one gene for brown eyes and one gene for blue eyes, she will have brown eyes. The gene for blue eyes is said to be
- A. dominant.
 - B. regulatory.
 - C. recessive.
 - D. mutated.
66. If a child inherits one gene for brown eyes and one gene for blue eyes, she will have brown eyes. The gene for brown eyes is said to be
- A. recessive.
 - B. regulator.
 - C. mutated.
 - D. dominant.
67. A dominant gene, such as the gene for brown eyes, will
- A. always be dominant.
 - B. sometimes be recessive.
 - C. sometimes be additive.
 - D. sometimes be regulatory.
68. Genes that turn other genes on or off at different points in the life cycle are called
- A. regulator genes.
 - B. dominant genes.
 - C. recessive genes.
 - D. mitotic genes.

69. Gary is a gene. His job is to turn off the genes that control growth in height at the end of puberty. That means Gary is a
- A. dominant gene.
 - B. recessive gene.
 - C. deterministic gene.
 - D. regulator gene.
70. An error in copying a particular protein in a gene is called
- A. meiotic.
 - B. a mutation.
 - C. mitotic.
 - D. unregulated.
71. Which of the following is true about mutations?
- A. They are generally adaptive.
 - B. They are generally maladaptive.
 - C. They may be either adaptive or maladaptive.
 - D. They do not affect gene expression.
72. The ecological perspective in developmental psychology was pioneered by
- A. Urie Bronfenbrenner.
 - B. John B. Watson.
 - C. Charles Darwin.
 - D. Sir Francis Galton.
73. Urie Bronfenbrenner visualized the ecological perspective as
- A. a series of linked behaviors.
 - B. a set of nested dolls.
 - C. genetically driven.
 - D. a pyramid of needs.
74. Which of the following is *not* one of the elements of the ecological perspective?
- A. Microsystem
 - B. Mesosystem
 - C. Macrosystem
 - D. Megasystem

75. Three-year-old Lambros spends much of his time at the daycare center. According to Urie Bronfenbrenner, the people at the center would be part of his
- A. microsystem.
 - B. macrosystem.
 - C. mesosystem.
 - D. exosystem.
76. A child's microsystem generally includes
- A. her mother's job as a CEO.
 - B. her family, school, and playmates.
 - C. the fact that there is an economic recession.
 - D. her father's parent-teacher conferences.
77. Your friends are a part of your
- A. macrosystem.
 - B. exosystem.
 - C. microsystem.
 - D. mesosystem.
78. Lenny's parents are very strict, and he feels oppressed at home. As a result, he often acts out at school, causing a ruckus in the classroom. Urie Bronfenbrenner would say that Lenny's acting-out behavior originates in his
- A. exosystem.
 - B. macrosystem.
 - C. microsystem.
 - D. mesosystem.
79. In Urie Bronfenbrenner's ecological perspective, the bidirectional connections between microsystems are referred to as the
- A. mesosystem.
 - B. chronosystem.
 - C. exosystem.
 - D. macrosystem.
80. Jing-Wei comes from a collectivist culture that values harmony and frowns on people who try to stand out. Her school is very competitive, though, and her teacher likes to single out individuals for particularly good work. Urie Bronfenbrenner would say that the conflicts Jing-Wei feels from this situation originate in her
- A. microsystem.
 - B. mesosystem.
 - C. exosystem.
 - D. macrosystem.

81. When Max's father loses his job, a lot of stress is put on the family's finances. When he finds work at an even higher salary, things get better, and he takes the family to Walt Disney World. In this example, the changes in Max's life were driven by events in his
- A. microsystem.
 - B. mesosystem.
 - C. exosystem.
 - D. macrosystem.
82. The people in your neighborhood who are your role models would be considered a part of your
- A. microsystem.
 - B. mesosystem.
 - C. macrosystem.
 - D. exosystem.
83. Which of the following are components of a child's macrosystem?
- A. Her school
 - B. The neighborhood
 - C. The media
 - D. All of these
84. Ron lives in a rural, developing country. Dmitri lives in an urban, highly technological country. Urie Bronfenbrenner would say that their living situations reflect differences in their
- A. macrosystems.
 - B. mesosystems.
 - C. microsystems.
 - D. exosystems.
85. Hurricane Katrina was a part of the _____ for children living in New Orleans.
- A. mesosystem
 - B. macrosystem
 - C. microsystem
 - D. exosystem
86. Psychologists and anthropologists who study cross-cultural differences in child development are investigating the differences in children's
- A. mesosystems.
 - B. chronosystems.
 - C. microsystems.
 - D. macrosystems.

87. Developmental psychologists often find which perspective to be the most comprehensive and helpful theory in trying to determine the possible causes and remedies for developmental problems?
- A. John Watson's behavioral perspective
 - B. Mamie Clark's psychosocial perspective
 - C. Urie Bronfenbrenner's ecological perspective
 - D. Mary Ainsworth's object-relations perspective
88. Familism is a
- A. cultural emphasis on the importance of family.
 - B. hereditary neurological condition.
 - C. form of genetic determinism.
 - D. form of insecure attachment.
89. Cultural values are a part of the
- A. macrosystem.
 - B. exosystem.
 - C. microsystem.
 - D. chronosystem.
90. The actual proteins that are produced because of the action of a particular gene constitute its
- A. genetic determinism.
 - B. expression.
 - C. differentiation.
 - D. microsystem.
91. Gene expression
- A. is always the same for a given gene.
 - B. is never the same for a given gene.
 - C. may change depending on the action of other genes.
 - D. is only dependent on the action of other genes for change.
92. Children in intellectually and socially enriched environments tend to show much greater differences in intelligence than those in disadvantaged environments. This illustrates the
- A. influence of genetics on the environment.
 - B. effects of measurement errors in the research.
 - C. failure of the No Child Left Behind Act.
 - D. effect of the environment on heritability.

93. Individuals do not inherit a specific height, but a span of possible heights. The height they achieve is also determined by their level of nutrition. This is explained by the concept of
- A. genetic determinism.
 - B. the exosystem.
 - C. reaction range.
 - D. heritability.
94. According to the idea of _____, people's tallest and shortest possible heights are determined by their genotypes, but their actual phenotypes are also dependent on environmental factors, such as nutrition.
- A. heritability
 - B. the microsystem
 - C. the mesosystem
 - D. the reaction range
95. The concept of a reaction range applies
- A. to many different traits, such as intellect, height, and coordination.
 - B. only to physical traits, such as height.
 - C. only to intelligence and psychological traits.
 - D. only to physical coordination and other physical traits.
96. The fact that a child's parents provide both her genetic inheritance and her living environment is an example of a(n)
- A. active gene-environment correlation.
 - B. passive gene-environment correlation.
 - C. evocative gene-environment correlation.
 - D. recessive gene-environment correlation.
97. An example of a passive gene-environment correlation is that
- A. Fran decides to go to baseball camp because she is good at baseball, and camp makes her an even better player.
 - B. Adam's parents become overly protective because he is predisposed to fear many things.
 - C. Darnell's parents are both highly intelligent and enjoy reading, and he does well in school.
 - D. Leisha has inherited musical ability and chooses to join the school band.
98. An example of an active gene-environment correlation is that
- A. Adam's parents become overly protective because he is predisposed to fear many things.
 - B. Darnell's parents are both highly intelligent and enjoy reading, and he does well in school.
 - C. Leisha's parents both have IQs of about 85, and spend most of their time sitting around doing nothing.
 - D. Fran decides to go to baseball camp because she is good at baseball, and camp makes her an even better player.

99. An example of an evocative gene-environment correlation is
- A. Adam's parents become overly protective because he is predisposed to fear many things.
 - B. Darnell's parents are both highly intelligent and enjoy reading, and he does well in school.
 - C. Leisha's parents both have IQs of about 85, and spend most of their time sitting around doing nothing.
 - D. Fran decides to go to baseball camp because she is good at baseball, and camp makes her an even better player.
100. According to your textbook, "niche-picking" is a process that leads to a(n)
- A. passive gene-environment correlation.
 - B. active gene-environment correlation.
 - C. evocative gene-environment correlation.
 - D. dominant gene-environment correlation.
101. One explanation for why some intelligent children in well-to-do families whose parents read a lot and involve their children in many enriching activities excel at school, while similarly bright children from disadvantaged homes do not, is a
- A. passive gene-environment correlation.
 - B. active gene-environment correlation.
 - C. evocative gene-environment correlation.
 - D. dominant gene-environment correlation.
102. Sam has inherited a sociable, outgoing personality. His sunny disposition makes other people more likely to enjoy his company and reinforce his sociability. This is an example of a(n)
- A. passive gene-environment correlation.
 - B. active gene-environment correlation.
 - C. evocative gene-environment correlation.
 - D. dominant gene-environment correlation.
103. Explain how a person's genotype may make her or him more or less susceptible to environmental stressors.

104. Natan and Uri are identical twins. Describe the shared and non-shared elements of their environments, and show how these are likely to affect the twins' level of similarity.
105. Show how developmental theories have evolved from the ideas of the early philosophers to our current views. Be sure to draw parallels between the earlier views and our more modern ones.
106. Use Urie Bronfenbrenner's ecological perspective to analyze the problem of alcohol abuse among children. Be sure to list some possible factors in each of Bronfenbrenner's contexts, and suggest ways in which we might address their problems based on your analysis.

107. Use the epigenetic perspective to explain the development of intelligence in children.

108. Explain how dominant genes, recessive genes, and regulator genes function.

Chapter 2: Nature with Nurture **Key**

1. A
2. B
3. D
4. C
5. D
6. B
7. A
8. C
9. D
10. B
11. C
12. D
13. A
14. D
15. A
16. B
17. B
18. C
19. C
20. A
21. C
22. B
23. A
24. C
25. D
26. B
27. C
28. C
29. D
30. A

- 31. B
- 32. D
- 33. C
- 34. D
- 35. D
- 36. A
- 37. B
- 38. A
- 39. C
- 40. D
- 41. B
- 42. A
- 43. D
- 44. A
- 45. C
- 46. D
- 47. B
- 48. B
- 49. C
- 50. D
- 51. A
- 52. C
- 53. D
- 54. A
- 55. B
- 56. C
- 57. D
- 58. A
- 59. B
- 60. B
- 61. C
- 62. D
- 63. A
- 64. B

65. C
66. D
67. C
68. A
69. D
70. B
71. C
72. A
73. B
74. D
75. A
76. B
77. C
78. D
79. A
80. B
81. C
82. D
83. C
84. A
85. B
86. D
87. C
88. A
89. A
90. B
91. C
92. D
93. C
94. D
95. A
96. B
97. C
98. D

99. A

100. B

101. A

102. C

103. Student responses should illustrate the idea that a person's genes may make her or him more likely to be influenced by particular environmental factors. Examples might include genetic tendencies toward addiction or obesity, or temperamental tendencies toward Type A or Type B behavior. Excellent answers should include some reference to the Diathesis-Stress Model.

104. Shared elements should include anything the twins have in common. These would likely include their parents and anything having to do with living at home, going to the same classes together in school, wearing the same clothing, etc. Non-shared elements would include any things that differ in the environments of the twins. These might include being in different classes at school, one of the twins being more favored by one or both parents (Mom always liked you best!), or each of them having different hobbies or groups of friends.

105. The four major perspectives discussed in the chapter are that development is (a) driven by nature, (b) driven by nurture, (c) driven in part by nature and in part by nurture, and (d) driven by a complex interaction of nature and nurture. Examples of each of these should include (a) driven by nature: the idea of nativism, including the Puritans and their idea that children are born sinful and must be kept on the proper path; Jean Jacques Rousseau and his idea that children are born in a state of innocence and develop according to Nature's plan; ideas about genetic determinism, which led to Sir Francis Galton's idea of eugenics; and perhaps G. Stanley Hall's restatement of the idea that ontogeny recapitulates phylogeny.

(b) driven by nurture: John Locke's idea that children's minds were blank slates (the tabula rasa) on which the environment could write anything, and John B. Watson's later ideas on behaviorism (and later that of B.F. Skinner). Students may discuss the ideas of the mental hygiene movement and more behaviorally-oriented schooling or therapies in relation to this group of ideas.

(c) driven in part by nature and in part by nurture: this section should include information on heritability studies, with examples of traits that are highly heritable (such as handedness) and others that are not (such as learning to speak a foreign language), as well as others that seem to be affected by both nature and nurture (such as intelligence).

(d) driven by a complex interaction of nature and nurture: this section should include some mention of Darwin's work on natural selection, the survival of the fittest, and the necessity of adaptability; it should segue into the idea of epigenesis.

106. Students' answers should include entries for each part of the ecosystem, and how those things might affect children's abuse of alcohol. Items in each of these areas might include

(a) The microsystem: face-to-face situations, including those with parents, teachers, and peers. Students may also talk about observational learning or peer pressure.

(b) The mesosystem: looking at the links between elements of the microsystem. These might include the different messages children get about alcohol at school, home, and among friends, and how they weigh those different ideas.

(c) The exosystem: this would include influences from settings where the children don't directly participate. Examples might include a parent's stress at work, which drives them to drink in front of the children, or the parents' needs to work several jobs to earn enough money to get by, which prevents them from spending enough time with their children.

(d) The macrosystem: this would include the influences of cultural and historical movements. Children today might be influenced by the heightened security and lessened freedoms that resulted from the 9/11 bombings, or children in New Orleans might be influenced by events stemming from Hurricane Katrina.

In any case, all of the answers students provide for each of these contexts should tie directly to the question of childhood abuse of alcohol.

107. Students' answers should discuss the idea that children's genotypes set up general tendencies, which then interact with the environment in their expression. Thus, there may be a tendency toward greater intelligence, but it may be expressed to different degrees depending on the gene-environment interactions that ensue. Students should discuss the idea of reaction range and the three types of gene-environment correlations: passive, evocative, and active.

108. Dominant genes provide specific traits, which will be expressed in the phenotype, even in the event that there are different, recessive genes present for the same trait. An example is that the gene for brown eyes is dominant over the gene for blue eyes, so that a child who inherits both a brown-eye and a blue-eye gene will have brown eyes. Recessive genes provide specific traits, which will be expressed in the phenotype only if both of the genes in a given pair are identical for the same trait. An example is that the gene for brown eyes is dominant over the gene for blue eyes, so that a child would only have blue eyes if she inherits two blue-eye genes. Regulator genes control the activity of other genes, so that they can turn on or off particular genetic expressions. For example, regulator genes help determine when particular body parts (such as the jaw) begin and end their development, by turning on and off the genes for jaw growth at particular times.