Grow, Baby, Grow!

Lesson 5

The First Two Years: Biosocial Development

Preview

This is the first of a three-lesson unit that describes the developing person from birth to age 2 in terms of biosocial, cognitive, and psychosocial development. The biosocial domain is the part of human development that includes all the growth and changes that occur in a person's body and the genetic, nutritional, and health factors that affect that growth and change. It also includes the social, cultural, and environmental factors that affect biological development.

The lesson begins with observations on the overall growth and health of infants, including their size and shape and the importance of immunizations during the first two years. A discussion of brain growth and development follows, including how a child's experiences can affect his or her brain development. At birth, the brain contains more than 100 billion nerve cells, or **neurons**, but the networks of nerve fibers that interconnect them are incomplete. During the first few years of a child's life, extensive growth occurs in these neural pathways, enabling the emergence of new capabilities in each domain of development.

The lesson then turns to a discussion of how babies move and control their bodies and the ages at which the average infant advances in ability. Vision and hearing are discussed next, along with research on infant **perception**. The final section discusses the importance of nutrition during the first two years and the consequences of severe **malnutrition**. During the video lesson, pediatricians and developmental psychologists provide expert commentary.

Prior Telecourse Knowledge that Will Be Used in this Lesson

This is the first telecourse lesson to focus on the biosocial domain of development. Remember, although the division of human development into three domains makes it easier to study, development is holistic rather than piecemeal: Every aspect of human behavior reflects all three domains. You may also wish to review epigenetic theory from Lesson 2.

Learning Objectives

Use this information to guide your reading, viewing, thinking, and studying. After successfully completing this lesson, you should be able to:

1. Describe the size and proportions of an infant's body, and discuss how babies change during the first two years and how their bodies compare with those of adults.
2. Identify risk factors and possible explanations for sudden infant death syndrome (SIDS), and list the methods that experts recommend for prevention.

3. Describe the ways in which the brain changes or matures during infancy.
4. Discuss the role of experience in brain development.
5. Describe the basic reflexes of the newborn and distinguish between gross motor skills and fine motor skills.
6. Describe the basic pattern of motor-skill development, and discuss variations in the timing of motor-skill acquisition.
7. Distinguish between sensation and perception, and describe the extent and development of an infant's perceptual abilities using the sense of vision as an example.
8. Describe the nutritional needs of infants and toddlers.
9. Distinguish between protein-calorie malnutrition and undernutrition, identify the potential effects of these conditions on babies, and discuss methods of prevention.

Read Chapter 5, "The First Two Years: Biosocial Development," pages 119–145.

View the video for Lesson 5, "Grow, Baby, Grow!"

Segment 1: *Physical Growth and Health*

Segment 2: *Brain Growth and Development*

Segment 3: *Basic Reflexes and Motor Skills*

Segment 4: *Infant Nutrition*

Summary

Biosocial development during the first two years is so rapid that infants often seem to change before their parents' very eyes. The newborn seems top-heavy in body proportions, with its head being one-fourth of total body length (in comparison to one-eighth of body length in an adult). By age two, the average toddler's body weight is about one-fifth adult weight and body length has increased to about one-half adult height.

Brain development is also rapid during infancy. By age two, the brain has attained about 75 percent of its adult weight, and there has been a fivefold increase in the density of **dendrite** networks in the **cortex**. As the brain develops, brain waves and physiological states become more cyclical and distinct.

The newborn's motor ability is limited to **reflexes**, including those that maintain adequate oxygen, body temperature, and nourishment. By 6 months, most babies can reach, grab, and hold onto dangling objects. The average child can walk with assistance at 9 months, stand momentarily at 10 months, and take steps unassisted at 12 months. Although all healthy infants develop the same **motor skills** in the same sequence, the age at which these skills are acquired varies greatly from infant to infant. Variations in the acquisition of motor skills can be attributed in part to inherited factors, such as activity level, rate of physical maturation, and body type. Environmental factors, such as medical care, nutrition, and patterns of infant care, are also influential. Note that the video for Lesson 5 draws a distinction between reflexes, which are involuntary responses to stimuli, and motor skills, which require voluntary participation. The textbook includes **reflexes**, along with **gross motor skills** and **fine motor skills**, as three types of motor skills.

At birth, both **sensation** and **perception** are apparent. Vision is the least well developed of the senses. Newborns can focus better on objects that are between 4 and 30 inches away. By 6 months, visual acuity approaches 20/20, and infants can use both eyes to track moving objects well. In contrast, hearing is comparatively acute in the newborn.

Newborns can differentiate their mother's voice from those of other women; by 1 month, they can perceive differences between very similar sounds.

For its nutritional benefits, breast milk is the ideal food for most babies. It is always sterile and at body temperature, contains more essential vitamins and iron than cow's milk, is more digestible, and provides the infant with the mother's immunity to disease. The primary cause of **protein-calorie malnutrition** in developing countries is early cessation of breast-feeding. Severe deficiency can cause **marasmus** in infants and **kwashiorkor** in toddlers. In developed countries, severe infant **malnutrition** is unusual; more prevalent is **undernutrition**. Social and/or family problems are often responsible for undernutrition in developed countries.

 **Review all reading assignments for this lesson.**

 **As assigned by your instructor, complete the optional online component for this lesson.**

Key Terms

Using your own words, write a brief definition or explanation of each of the following terms on a separate piece of paper.

1. head-sparing
2. neuron
3. axon
4. dendrites
5. synapses
6. cortex
7. transient exuberance
8. experience-expectant
9. experience-dependent
10. sensation
11. perception
12. binocular vision
13. reflexes
14. breathing reflex
15. sucking reflex
16. rooting reflex
17. gross motor skills
18. toddler
19. motor skills
20. fine motor skills
21. pincer grasp
22 norms
23. sudden infant death syndrome (SIDS)
24. malnutrition
25. protein-calorie malnutrition
26. marasmus
27. kwashiorkor
28. undernutrition
29. failure-to-thrive
30. metabolism
31. enriched environment

Practice Questions I

Multiple-Choice Questions

1. The average North American newborn
   a. weighs approximately 6 pounds.
   b. weighs approximately 7 pounds.
   c. is "overweight" because of the diet of the mother.
   d. weighs 10 percent less than what is desirable.

2. Compared to the first year, growth during the second year
   a. proceeds at a slower rate.
   b. continues at about the same rate.
   c. includes proportionately more insulating fat.
   d. usually demonstrates drop-offs in percentile ranking.

3. Norms among nations suggest that the earliest walkers in the world are infants from
   a. Western Europe.
   b. the United States.
   c. Uganda.
   d. Eastern Europe.

4. The interaction between inherited and environmental factors is responsible for
   a. variation in the age at which infants master specific motor skills.
   b. physical growth, but not the development of motor skills.
   c. the fact that babies in the United States walk earlier than do Ugandan babies.
   d. the fact that infants master motor skills more slowly today than they did fifty years ago.

5. The development of binocular vision at about 14 weeks results in
   a. a sudden improvement in the ability to focus the two years in a coordinated manner to see one image.
   b. the rapid development of distance vision.
   c. the refinement of the ability to discriminate colors.
   d. both a and b.

6. Proportionally, the head of the infant is about _____ of total body length; the head of an adult is about _____ of total body length.
   a. one-fourth; one-third
   b. one-eighth; one-fourth
   c. one-fourth; one-eighth
   d. one-third; one-fourth

7. Compared with formula-fed infants, breast-fed infants tend to have
   a. greater weight gain.
   b. fewer allergies and digestive upsets.
   c. less frequent feedings during the first few months.
   d. more social approval.

8. Marasmus and kwashiorkor are caused by
    a. bloating.
    b. protein-calorie deficiency.
    c. living in a developing country.
    d. poor family food habits.
9. The infant's first motor skills are not skills at all. They are
    a. fine motor skills.
    b. gross motor skills.
    c. reflexes.
    d. unpredictable.
10. Babies are referred to as toddlers when
    a. their newborn reflexes have disappeared.
    b. they can walk well unassisted.
    c. they begin to creep or crawl.
    d. they speak their first word.
11. Which of the following is true of motor-skill development in healthy infants?
    a. It follows the same basic sequence the world over.
    b. It occurs at different rates from individual to individual.
    c. It follows norms that vary from one ethnic group to another.
    d. All of the above are true.
12. Most of the nerve cells that a human brain will ever possess are present
    a. at conception.
    b. about 1 month following conception.
    c. at birth.
    d. at age 5 or 6.

Matching Items

Match each definition or description with its corresponding term.

Terms

13. _____ neurons
14. _____ dendrites
15. _____ kwashiorkor
16. _____ marasmus
17. _____ gross motor skill
18. _____ fine motor skill
19. _____ reflex
20. _____ sucking reflex
21. _____ protein-calorie malnutrition
22. _____ transient exuberance

Definitions or Descriptions

a. protein deficiency during the first year in which growth stops and body tissues waste away
b. picking up an object
c. the most common serious nutrition problem of infancy
d. protein deficiency during toddlerhood
e. newborns suck anything that touches their lips
f. nerve fibers that allow communication among neurons
g. running or jumping
h. an involuntary response
i. the phenomenal increase in neural connections over the first 2 years
j. nerve cells

Practice Questions II

Multiple-Choice Questions

1. Dendrite is to axon as neural _____ is to neural _____.
   a. input; output
   b. output; input
   c. myelin; synapse
   d. synapse; myelin
2. A reflex is best defined as a
   a. fine motor skill.
   b. motor ability mastered at a specific age.
   c. responsive movement that seems automatic.
   d. none of the above.

3. Most babies can reach for, grasp, and hold onto an object by about the _____ month.
   a. second
   b. sixth
   c. ninth
   d. fourteenth

4. Activity level, rate of physical maturation, and how fat the infant is affect the age at which an infant walks and acquires other motor skills. They are examples of
   a. norms.
   b. environmental factors.
   c. inherited factors.
   d. the interaction of environment and heredity.

5. During the first weeks of life, babies seem to focus reasonably well on
   a. little in their environment.
   b. objects at a distance of 4 to 30 inches.
   c. objects at a distance of 1 to 3 inches.
   d. objects several feet away.

6. An advantage of breast milk over formula is that it
   a. is always sterile and at body temperature.
   b. contains traces of medications ingested by the mother.
   c. can be given without involving the father.
   d. contains more protein and vitamin D than does formula.

7. The primary cause of malnutrition in developing countries is
   a. formula feeding.
   b. inadequate food supply.
   c. disease.
   d. early cessation of breast-feeding.

8. The cause of sudden infant death syndrome (SIDS) is
   a. an inborn heart defect.
   b. a neurological disorder.
   c. inadequate infant care.
   d. a combination of factors.

9. Climbing is to using a crayon as _____ is to _____.
   a. fine motor skill; gross motor skill
   b. gross motor skill; fine motor skill
   c. reflex; fine motor skill
   d. reflex; gross motor skill

10. Some infant reflexes
    a. are essential to life.
    b. disappear in the months after birth.
    c. provide the foundation for later motor skills.
    d. do all of the above.
11. A common cause of undernutrition in young children is
    a. ignorance of the infant's nutritional needs.
    b. the absence of socioeconomic policies that reflect the importance of infant nutrition.
    c. problems in the family, such as maternal depression.
    d. all of the above.
12. Neurotransmitters are chemical messengers that diffuse across the
    a. axon.
    b. myelin sheath.
    c. dendrite.
    d. synaptic gap.
13. Reflexes are _____ responses, whereas gross motor skills and fine motor skills _____.
    a. involuntary; require active participation
    b. voluntary; are involuntary
    c. slow-to-develop; require extensive practice
    d. permanent; are temporary

True or False Items

Write T (for true) or F (for false) on the line in front of each statement.

14. _____ Reflexive hiccups, sneezes, and thrashing are signs that the infant's reflexes are not functioning properly.
15. _____ Infants of all ethnic backgrounds develop the same motor skills at approximately the same age.
16. _____ The typical two-year-old is almost one-fifth its adult weight and one-half its adult height.
17. _____ Vision is better developed than hearing in most newborns.
18. _____ Severe malnutrition is not widespread among young children in the United States.
19. ____ Infants typically grow about one inch per month during the first year.
20. ____ Over the first two years, the infant's metabolic activity decreases steadily.

Applying Your Knowledge

1. Newborns cry, shiver, and tuck their legs close to their bodies. This set of reflexes helps them
   a. ensure proper muscle tone.
   b. learn how to signal distress.
   c. maintain constant body temperature.
   d. communicate serious hunger pangs.
2. The brain development that permits seeing and hearing in human infants appears to be
   a. totally dependent upon genetic programming, present at birth.
   b. totally dependent upon visual and auditory experiences in the first few months.
   c. "fine-tuned" by visual and auditory experiences in the first few months.
   d. independent of both genetic and environmental influences.
3. Dan has 20/400 vision and is able to discriminate subtle sound differences. Dan most likely
   a. is a preterm infant.
   b. has brain damage in the visual processing areas of the cortex.
   c. is a newborn.
   d. is slow-to-mature.
4. A baby turns her head and starts to suck when her receiving blanket is brushed against her cheek. The baby is displaying the
   a. sucking reflex.
   b. rooting reflex.
   c. Babinski reflex.
   d. Moro reflex.
5. Sensation is to perception as _____ is to _____.
   a. hearing; seeing
   b. detecting a stimulus; making sense of a stimulus
   c. making sense of a stimulus; detecting a stimulus
   d. tasting; smelling
6. Three-week-old Nathan should have the least difficulty focusing on the sight of
   a. stuffed animals on a bookshelf across the room from his crib.
   b. his mother's face as she holds him in her arms.
   c. the checkerboard pattern in the wallpaper covering the ceiling of his room.
   d. the family dog as it dashes into the nursery.
7. Geneva has been undernourished throughout childhood. It is likely that she will be
   a. smaller and shorter than her genetic potential would dictate.
   b. slow in intellectual development.
   c. less resistant to disease.
   d. all of the above.

Answer Key

Key Terms

1. Head-sparing is a phenomenon in which the brain is biologically protected when malnutrition temporarily affects body growth. (p. 122; objectives 1 & 9)
2. A neuron, or nerve cell, is the main component of the central nervous system. (p. 125; video lesson, segment 2; objective 3)
3. An axon is the nerve fiber extension that sends impulses from one neuron to the dendrites of other neurons. (p. 126; video lesson, segment 2; objective 3)
4. Dendrites are nerve fiber extensions that receive the impulses transmitted from other neurons via their axons. (p. 126; video lesson, segment 2; objective 3)
5. A synapse is the point at which the axon of a sending neuron meets the dendrites of a receiving neuron. At that point, brain chemicals called neurotransmitters carry the impulse from axon to dendrites. (p. 126; objective 3)
6. The cortex is the thin outer layer of the brain that is involved in the voluntary, cognitive aspects of the mind. (p. 125; objective 3)

   Memory aid: Cortex in Latin means "bark." As bark covers a tree, the cortex is the "bark of the brain."
7. Transient exuberance is the dramatic increase in neural connections that occurs in an infant's brain over the first two years of life. (p. 127; video lesson, segment 2; objective 3)
8. The term experience-expectant refers to brain functions that require basic common experiences in order to develop. (p. 128; objective 4)
9. The term experience-dependent refers to brain functions that depend on particular, variable experiences that occur in some families but not in others. (p. 128; objective 4)
10. Sensation is the process by which a sensory system detects a particular stimulus. (p. 130; objective 7)
11. Perception is the mental processing of sensory information, when the brain interprets a sensation (p. 130; objective 7)
12. Binocular vision is the ability to use both eyes together to focus on a single object. (p. 131; objective 7)

    Memory aid: Bi- indicates "two"; ocular means something pertaining to the eye. Binocular vision is vision for "two eyes."
13. Reflexes are involuntary physical responses to specific stimuli. (p. 132; video lesson, segment 3; objective 5)
14. The breathing reflex is an involuntary physical response that ensures that the infant has an adequate supply of oxygen and discharges carbon dioxide. (p. 132; video lesson, segment 3; objective 5)
15. The sucking reflex is the involuntary tendency of newborns to suck anything that touches their lips. This reflex fosters feeding. (p. 132; video lesson, segment 3; objective 5)
16. The rooting reflex, which helps babies find a nipple, causes them to turn their heads and start to suck when something brushes against their cheek. (pp. 132–133; video lesson, segment 3; objective 5)
17. Gross motor skills are physical abilities that demand large body movements, such as climbing, jumping, or running. (p. 133; video lesson, segment 3; objective 5)
18. When babies can walk well without assistance (usually at about 12 months), they are given the name toddler because of the characteristic way they move their bodies from side to side. (p. 133; objective 6)

19. Motor skills are physical skills that involve large body movements, such as waving the arms, walking, and jumping (gross motor skills), and small body movements, such as picking up a coin or drawing (fine motor skills). (pp. 132–134; video lesson, segment 3; objective 5)
20. Fine motor skills are physical abilities that require precise, small movements, such as picking up a coin. (p. 134; video lesson, segment 3; objective 5)
21. The pincer grasp is when the thumb and forefinger are used together to hold an object. (video lesson, segment 3; objective 5)
22. Norms are age averages for the acquisition of a particular behavior, developed for a specific group population. (p. 122; objective 6)
23. The third leading cause of infant death in the United States, sudden infant death syndrome (SIDS) is diagnosed when autopsy suggests that the infant simply stopped breathing during sleep, with other possible causes ruled out. (p. 139; objective 2)
24. Malnutrition (referred to as protein-calorie malnutrition in the textbook) occurs when a child does not consume the appropriate nutrients (of any kind) that it needs to grow and develop. (p. 142; video lesson, segment 4; objective 9)
25. Protein-calorie malnutrition results when a person does not consume enough nourishment to thrive. (p. 142; objective 9)
26. Marasmus is a disease caused by severe protein-calorie deficiency during the first year of life. Growth stops, body tissues waste away, and the infant dies. (pp. 142-143; objective 9)
27. Kwashiorkor is a disease caused by protein-calorie deficiency during toddlerhood. The child's face, legs, and abdomen swell with water, sometimes making the child appear well fed. Other body parts are degraded, including the hair, which becomes thin, brittle, and colorless. (p. 143; objective 9)
28. Undernutrition is a nutritional problem in which a child is noticeably underweight or short in stature compared to the norms. (video lesson, segment 4; objective 9)
29. Failure-to-thrive is undernutrition that involves a child who lives in an adequately nourished community but is not exhibiting normal childhood weight gain. (video lesson, segment 4; objective 9)
30. Metabolism refers to the physical and chemical processes in the body that promote growth and sustain life. (video lesson, segment 2; objective 3)
31. An enriched environment is one that provides the developing child with a highly nurturing and stimulating atmosphere in which to grow and learn. (video lesson, segment 2; objective 4)

Practice Questions I

Multiple-Choice Questions

1. b. is the correct answer. (p. 121; objective 1)
2. a. is the correct answer. (p. 122; objective 1)
3. c. is the correct answer. (p. 135; objective 6)
4. a. is the correct answer. (pp. 134–136; objective 6)

   b. is incorrect. Inherited and environmental factors are important for both physical growth and the development of motor skills.

   c. is incorrect. On average, Ugandan babies walk earlier than do babies in the United States.

   d. is incorrect. In fact, just the opposite is true.
5. a. is the correct answer. (p. 131; objective 7)
6. c. is the correct answer. (video lesson, segment 1; objective 1)

7. b. is the correct answer, because breast milk is more digestible than cow's milk or formula. (p. 141; video lesson, segment 4; objective 8)

   a., c., & d. are incorrect. Breast- and bottle-fed babies do not differ in these attributes.
8. b. is the correct answer. (pp. 142–143; objective 9)
9. c. is the correct answer. (p. 132; video lesson, segment 3; objective 6)

   a. & b. are incorrect. These motor skills do not emerge until somewhat later; reflexes are present at birth.

   d. is incorrect. On the contrary, reflexes are quite predictable.
10. b. is the correct answer. (p. 133; objective 6)
11. d. is the correct answer. (pp. 132–135; objective 6)
12. c. is the correct answer. (p. 125; objective 3)

Matching Items

13. j (p. 125; video lesson, segment 2; objective 3)
14. f (p. 126; video lesson, segment 2; objective 3)
15. d (p. 143; objective 9)
16. a (pp. 142-143; objective 9)
17. g (p. 133; video lesson, segment 3; objective 5)
18. b (p. 134; video lesson, segment 3; objective 5)
19 h (p. 132; video lesson, segment 3; objective 5)
20. e (p. 132; video lesson, segment 3; objective 5)
21. c (p. 142; objective 9)
22. i (p. 127; video lesson, segment 2; objective 3)

Practice Questions II

Multiple-Choice Questions

1. a. is the correct answer. (p. 126; video lesson, segment 2; objective 3)
2. c. is the correct answer. (p. 132; video lesson, segment 3; objective 5)

   a., b., & d. are incorrect.
3. b. is the correct answer. (p. 134; objective 6)
4. c. is the correct answer. (p. 135; objective 6)
5. b. is the correct answer. (p. 131; objective 7)
6. a. is the correct answer. (p. 141; video lesson, segment 4; objective 8)

   b. is incorrect. If anything, this is a potential disadvantage of breast milk over formula.

   c. is incorrect. So can formula.

   d. is incorrect. Breast milk contains more iron, vitamin C, and vitamin A than cow's milk; it does not contain more protein and vitamin D, however.
7. d. is the correct answer. (p. 142; objective 9)
8. d. is the correct answer. (pp. 139–141; objective 2)
9. b. is the correct answer. (pp. 133–134; video lesson, segment 3; objective 5)

   c. & d. are incorrect. Reflexes are involuntary responses; climbing and using a crayon are both voluntary responses.
10. d. is the correct answer. (pp. 132-133; video lesson, segment 3; objective 5)
11. d. is the correct answer. (pp. 142–143; objective 9)

12. d. is the correct answer. (p. 127; objective 3)
13. a. is the correct answer. (pp. 132–134; video lesson, segment 3; objective 5)

    b. & c. are incorrect. Reflexes are involuntary responses (therefore not b) that are present at birth (therefore not c).

    d. is incorrect. Some reflexes disappear with age.

True or False Items

14. F Hiccups, sneezes, and thrashing are common during the first few days, and they are entirely normal reflexes. (p. 132; objective 5)
15. F Although all healthy infants develop the same motor skills in the same sequence, the age at which these skills are acquired can vary greatly from infant to infant. (pp. 134–135; objective 6)
16. T (p. 122; objective 1)
17. F Vision is relatively poorly developed at birth, whereas hearing is well developed. (p. 131; objective 7)
18. T (p. 142; objective 9)
19. T (video lesson, segment 1; objective 1)
20. F Metabolic activity increases, partly as a result of the dramatic growth occurring in the brain. (video lesson, segment 2; objective 3)

Applying Your Knowledge

1. c. is the correct answer. (p. 132; objective 5)
2. c. is the correct answer. (p. 128; objective 4)

    a. is incorrect. If this were true, research would show that restriction had no effect on sensory abilities.

    b. is incorrect. If this were true, sensory restriction would cause much more serious impairment than it does.

    d. is incorrect. Sensory restriction research demonstrates that both genetic and environmental factors are important in the development of sensory abilities.
3. c. is the correct answer. (p. 131; objective 7)
4. b. is the correct answer. (pp. 132-133; video lesson, segment 3; objective 5)

    a. is incorrect. This is the reflexive sucking of newborns in response to anything that touches their lips.

    c. is incorrect. This is the response that infants make when their feet are stroked.

    d. is incorrect. In this response to startling noises, newborns fling their arms outward and then bring them together on their chests as if to hold on to something.
5. b. is the correct answer. (p. 130; objective 7)

    a. & d. are incorrect. Sensation and perception operate in all of these sensory modalities.
6. b. is the correct answer. This is true because, at birth, focusing is best for objects between 4 and 30 inches away. (p. 131; objective 7)

    a., c., & d. are incorrect. Newborns have very poor distance vision; each of these situations involves a distance greater than the optimal focus range.
7. d. is the correct answer. (video lesson, segment 4; objective 9)

Lesson Review

Lesson 5

The First Two Years
Biosocial Development

Please Note: Use this matrix to guide your study and achieve the learning objectives of this lesson. It will also help you to view the video, which defines and demonstrates important concepts and skills as they relate to everyday life.

Learning Objective	Textbook	Telecourse Student Guide	Video Lesson
1. Describe the size and proportions of an infant's body, and discuss how babies change during the first two years and how their bodies compare with those of adults.	pp. 121–122	Key Terms: 1; Practice Questions I: 1, 2, 6; Practice Questions II: 16, 19.	Segment 1: *Physical Growth and Health*; Segment 2: *Brain Growth and Development*
2. Identify risk factors and possible explanations for sudden infant death syndrome (SIDS), and list the methods that experts recommend for prevention.	pp. 139–141	Key Terms: 23; Practice Questions II: 8.	
3. Describe the ways in which the brain changes or matures during infancy.	pp. 125–129	Key Terms: 2, 3, 4, 5, 6, 7, 30; Practice Questions I: 12, 13, 14, 22; Practice Questions II: 1, 12, 20.	Segment 2: *Brain Growth and Development*
4. Discuss the role of experience in brain development.	pp. 127–129	Key Terms: 8, 9, 31; Applying Your Knowledge: 2.	Segment 2: *Brain Growth and Development;* Segment 3*: Basic Reflexes and Motor Skills*
5. Describe the basic reflexes of the newborn and distinguish between gross motor skills and fine motor skills.	pp. 132–134	Key Terms: 13, 14, 15, 16, 17, 19, 20, 21; Practice Questions I: 17, 18, 19, 20; Practice Questions II: 2, 9, 10, 13, 14; Applying Your Knowledge: 1, 4.	Segment 3*: Basic Reflexes and Motor Skills*

Learning Objective	Textbook	Telecourse Student Guide	Video Lesson
6. Describe the basic pattern of motor-skill development, and discuss variations in the timing of motor-skill acquisition.	pp. 133–136	Key Terms: 18, 22; Practice Questions I: 3, 4, 9, 10, 11; Practice Questions II: 3, 4, 15.	
7. Distinguish between sensation and perception, and describe the extent and development of an infant's perceptual abilities using the sense of vision as an example.	pp. 130-132	Key Terms: 10, 11, 12; Practice Questions I: 5; Practice Questions II: 5, 17; Applying Your Knowledge: 3, 5, 6.	
8. Describe the nutritional needs of infants and toddlers.	pp. 141–142	Practice Questions I: 7; Practice Questions II: 6.	Segment 4: *Infant Nutrition*
9. Distinguish between protein-calorie malnutrition and undernutrition, identify the potential effects of these conditions on babies, and discuss methods of prevention.	pp. 142–143	Key Terms: 1, 24, 25, 26, 27, 28, 29; Practice Questions I: 8, 15, 16, 21; Practice Questions II: 7, 11, 18; Applying Your Knowledge: 7.	Segment 4: *Infant Nutrition*