

PLAYER TIPS

UNIT 2: NEW DIRECTIONS IN LEARNING

How Do Children Learn? P 37

1. _____ is any permanent change in knowledge or behavior.

Both _____ and _____ refer to changes in all domains. These changes result from experience

- Examples: learns motor skills, learns how to interact with others

Knowing Brain Biology pg 38

2. The newborn brain is about _____ percent of the size of an adult brain. It develops rapidly in stages.

Brain growth occurs when _____ are released in waves.

3. When your child is between 3 and 10 months of age, _____ (turning on) and control of motor actions are maturing.

4. When your child is between 2 and 4 years of age, _____ of the senses is the brain area maturing.

5. When your child is between 6 and 8 years of age, _____ (beginning) of logical thinking about actual experiences is the brain area maturing.

6. When your child is between 10 and 12 years of age for _____ or 12 to 14 for males, the beginning of _____ thinking beyond actual experiences is the brain area maturing.

7. The brain is made up of 2 types of cells---- _____ and _____ cells.

8. _____ send and receive electrical impulses. _____ direct various tasks within the brain

9. There are 3 types of brain neurons that include sensory, _____, and interneurons

10. Each neuron has a cell body with _____ and axons.

3 Parts of the Neuron pg 38

11. Cell Body--- contains _____ information and proteins for cell maintenance.

12. Dendrites ---which means _____, are short, bushy cables that allow each neuron to receive signals sent by other neurons.

Types and Functions of Neurons pg 39

13. Axons-- which means axis, are long, thick cables with _____ buttons that transmit all signals from a neuron to other neurons

14. Sensory Neurons --- transfer information from the external _____ to the central nervous system which is called the CNS.

15. Motor Neurons -- transfer _____ from the CNS to the external environment

16. Interneurons (_____ neurons)--- process information in the CNS and transfer information from one neuron to another within the central nervous system (CNS)

17. _____ cells are brain cells that support neurons and _____ means "glue"

18. What percentage of brain cells are glial? _____

19. Glial cells vary in _____ throughout the brain.

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4 Types of Glial Cells pg 40

- 20 Astrocytes -- 1)help the neurons receive _____.
2)control chemical _____ of the brain.
(3)restrict certain _____ from entering the brain.
21. Microglia---remove cellular _____
22. Ependymal---form a protective covering around _____ cord and central brain cavities.
23. Oligodendrocytes--help insulate the axons with _____.

Areas and Functions of the Brain pg 41

24. _____ lobe---hearing, smell, memory,speech
25. Frontal lobe--memory,intelligence,behavior, _____, motor functions, smell
26. _____ lobe-- pain,touch, speech, sensations of hot and cold
27. Occipital lobe--vision, _____
28. _____ --body movements and balance
29. Brain Stem--breathing, heart rate, _____, reflexes, blood pressure

Making and Sorting Connections pg 39

30. _____ is the network of fibers that carry brain signals between neurons.
31. _____ create the structure for wiring.
32. Life-sustaining _____ is present at birth. Tentative _____ is due to experiences.
- 33.. The sorting process is called _____.
34. During the firing process, signals cross the _____ via neurotransmitters.
35. The _____ area is used for combining two or more sensory association areas. For example, the brain can process motor movements used in talking and emotional overtones in what is said at the same time.
36. _____ connections are not forgotten. Riding a bicycle, playing a musical instrument or playing a sport are skills that become _____ once you learn them.
37. _____ is the removal of seldom-used connections, allowing other connections to become stronger.
38. Pruning begins in a child's first years and is almost completed by _____ years of age.
39. At birth, each neuron has _____ synapses
40. By 3 years of age, each neuron has pruned _____ connections
- 41.. _____ is a fatty substance that increases speed of electrical signals.

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Reshaping Connections: Brain Plasticity pg 42

42. _____ is the ability of the brain to adapt to the environment.
43. _____ is lifelong, but lessens with age.
44. _____ can have both positive and negative effects depending on a person's experiences.
45. _____ that aid making connections are far more active in the earlier years.
46. _____ are more flexible in the early years and become more stabilized as people age

Timing of Experiences pg 43

47. _____ are times when some part of the body is very vulnerable to lack of stimulation or to negative experiences.
- 48 A good example of the vision critical period is a baby with _____ when born needs them removed during the first few months of life or they can be blind for life.
- 49 _____ - period are times when the brain is best able to wire specific areas.
50. _____ are the prime periods to develop specific skills A child reaches a peak capacity to learn the skill if given the opportunity.

Types of Knowledge pg 49

51. _____ knowledge refers to knowledge about facts. It is sometimes called _____ knowledge because it is written.
 52. _____ Knowledge refers to skills-based knowledge and is also called _____-based knowledge..
- Young children begin acquiring implicit knowledge when they learn to ride a bike, _____ or balance blocks.
53. _____ knowledge refers to the ability to create knowledge. This type of knowledge underlies new technological development, _____ discoveries and process advances.
 54. Knowledge about _____ which is also called the knowledge _____ involves knowing who has new forms of knowledge.

Linking Child Development Knowledge to Education pg 50

55. Until the _____, schools were focused on preparing children to be productive workers.
56. Children learned through _____ memorization.
57. _____ was used to reward mastery of facts and skills.
58. A _____ *moment* is the best time to teach a specific skill.
59. Readiness stems from 3 things which include A) physical maturation B) _____ pressures C) inner pressures

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60. The U.S. is now a _____-based economy. Knowledge, information, and technology drive production.
61. _____ must be adaptable and creative.
62. Theories of _____ and Vygotsky are used to inform “best practices.”
63. Theories give _____ developers guidelines for knowing the best time for learning certain knowledge and skills.

Executive Functions pg 53

64. _____ **Functions (EFs)** are intellectual functions people use to manage themselves and their resources.
65. _____ **memory** is the storing, organizing, and manipulating information while working
66. _____ **flexibility**—being able to adjust to changing demands
67. _____ is being able to filter thoughts and feelings
68. Galinsky has 7 Life Skills A)Focus and self-control B)Perspective taking C)_____ D) Making connections E) Critical thinking F)Taking on _____ G) Self-directed and engaged Learning.