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| **Multiple Choice** |

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| 1. Brain abnormalities can be related to:   |  |  |  | | --- | --- | --- | |  | a. | 500 disorders. | |  | b. | 1000 disorders. | |  | c. | 1500 disorders. | |  | d. | more than 2000 disorders. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 2. All the nerve processes radiating out beyond the brain and spinal cord as well as all the neurons outside the brain and spinal cord constitute the:   |  |  |  | | --- | --- | --- | |  | a. | nervous system. | |  | b. | central nervous system. | |  | c. | peripheral nervous system. | |  | d. | external nervous system. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 3. Which is NOT part of the peripheral nervous system?   |  |  |  | | --- | --- | --- | |  | a. | sensory receptors in the skin | |  | b. | connections to motor neurons | |  | c. | sensory and motor connections to internal organs (e.g., the stomach) | |  | d. | the spinal cord |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 4. The set of brain structures responsible for most of our unconscious behaviors is called the:   |  |  |  | | --- | --- | --- | |  | a. | cerebral hemisphere. | |  | b. | brainstem. | |  | c. | cerebrum. | |  | d. | cerebellum. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 5. The postulation that we make subliminal movements of our larynx and muscles when we imagine was expounded by:   |  |  |  | | --- | --- | --- | |  | a. | D. O. Hebb. | |  | b. | Edmond Jacobson. | |  | c. | Irenäus Eibl-Eibesfeldt. | |  | d. | Fred Linge. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 6. "Behavior consists of patterns in time" is a definition of behavior expounded by:   |  |  |  | | --- | --- | --- | |  | a. | D. O. Hebb. | |  | b. | Edmond Jacobson. | |  | c. | Irenäus Eibl-Eibesfeldt. | |  | d. | Fred Linge. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 7. Patterns in time can be made up of:   |  |  |  | | --- | --- | --- | |  | a. | movements. | |  | b. | thinking. | |  | c. | both movements and thinking. | |  | d. | neither movements nor thinking. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 8. Animals with smaller brains and simpler nervous systems have mostly \_\_\_\_\_ behaviors, whereas animals with larger brains and more complex nervous systems have mostly \_\_\_\_\_ behaviors.   |  |  |  | | --- | --- | --- | |  | a. | learned; inherited | |  | b. | inherited; learned | |  | c. | innate; inherited | |  | d. | learned; innate |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 9. Crossbill birds have a beak that is designed to eat pine cones. If we trim the beak, the bird is unable to eat pine cones. This example illustrates:   |  |  |  | | --- | --- | --- | |  | a. | fixed behavior. | |  | b. | flexible behavior. | |  | c. | learned behavior. | |  | d. | adaptive behavior. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 10. The sucking response observed in newborn human infants is an example of a(n):   |  |  |  | | --- | --- | --- | |  | a. | learned response. | |  | b. | inherited response. | |  | c. | flexible response. | |  | d. | adaptive response |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 11. Which statement is the MOST accurate?   |  |  |  | | --- | --- | --- | |  | a. | Nonhuman animals have mostly inherited behavior and are little influenced by learning. | |  | b. | Humans share many inherited behaviors but are mostly influenced by learning. | |  | c. | Unlike nonhuman animals, humans share very few inherited behaviors and are mostly influenced by learning. | |  | d. | Unlike nonhuman animals, humans' behavior is totally learned. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 12. Neurons and glial cells are which of the following types of cells?   |  |  |  | | --- | --- | --- | |  | a. | brain | |  | b. | skin | |  | c. | blood | |  | d. | muscular |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 13. In which condition is the patient the least aware and conscious?   |  |  |  | | --- | --- | --- | |  | a. | minimally conscious state | |  | b. | persistent vegetative state | |  | c. | locked-in syndrome | |  | d. | deep brain state |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 14. Which of the following statements describes clinical trials?   |  |  |  | | --- | --- | --- | |  | a. | Clinical trials are experiments done on animals. | |  | b. | Clinical trials do not directly treat patients' conditions. | |  | c. | Clinical trials are consensual experiments. | |  | d. | Clinical trials are undertaken without the patient's knowledge. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 15. In a study with a patient in a minimally conscious state, Schiff and colleagues found that \_\_\_\_\_ led to dramatic improvements in the patient's behavior.   |  |  |  | | --- | --- | --- | |  | a. | deep brain stimulation | |  | b. | reading to the patient | |  | c. | music therapy | |  | d. | gene therapy |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 16. A person who can display some rudimentary behaviors, such as smiling or blinking, but is otherwise not conscious is described as being:   |  |  |  | | --- | --- | --- | |  | a. | in a coma. | |  | b. | in a persistent vegetative state. | |  | c. | in a minimally conscious state. | |  | d. | brain dead. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 17. The hypothesis that the psyche is responsible for behavior was expounded by:   |  |  |  | | --- | --- | --- | |  | a. | Charles Darwin. | |  | b. | René Descartes. | |  | c. | Aristotle. | |  | d. | Socrates. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 18. Mentalism is:   |  |  |  | | --- | --- | --- | |  | a. | the study of the mind. | |  | b. | mental imagery. | |  | c. | the notion that the mind is responsible for behavior. | |  | d. | another word for mindfulness. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 19. The \_\_\_\_\_ is a nonmaterial entity that is responsible for intelligence, attention, awareness, and consciousness.   |  |  |  | | --- | --- | --- | |  | a. | brain | |  | b. | heart | |  | c. | mind | |  | d. | conscience |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 20. The notion that the mind resides in the pineal body comes from:   |  |  |  | | --- | --- | --- | |  | a. | Charles Darwin. | |  | b. | René Descartes. | |  | c. | Aristotle. | |  | d. | Socrates. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 21. According to the philosophy of dualism, the:   |  |  |  | | --- | --- | --- | |  | a. | body influences the mind. | |  | b. | pineal body is the mind. | |  | c. | pineal body influences the body by directing fluids from the ventricles to the muscles. | |  | d. | pineal body is the mind and influences the body by directing fluids from the ventricles to the muscles. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 22. Research has indicated that the pineal body is responsible for \_\_\_\_\_ rather than controlling human behavior.   |  |  |  | | --- | --- | --- | |  | a. | vision | |  | b. | problem solving | |  | c. | movement | |  | d. | biological rhythms |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 23. The difficulty in explaining how a nonmaterial mind can influence a material body is called the:   |  |  |  | | --- | --- | --- | |  | a. | mind problem. | |  | b. | mind–body problem. | |  | c. | brain problem. | |  | d. | psyche problem |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 24. Some of Descartes's followers argued that:   |  |  |  | | --- | --- | --- | |  | a. | the mind and the body are separate at birth. | |  | b. | humans and very few other animals have minds. | |  | c. | young children do not have minds. | |  | d. | those who are mentally ill have minds. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 25. The notion that all behavior can be explained by the workings of the brain is commonly referred to as:   |  |  |  | | --- | --- | --- | |  | a. | psychology. | |  | b. | experimentalism. | |  | c. | materialism. | |  | d. | dualism. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 26. The notion that all living things are related was put forward by:   |  |  |  | | --- | --- | --- | |  | a. | Charles Darwin. | |  | b. | Alfred Russel Wallace. | |  | c. | neither Charles Darwin nor Alfred Russel Wallace. | |  | d. | both Charles Darwin and Alfred Russel Wallace. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 27. The notion that differential success in the reproduction of characteristics results from interactions between organisms and their environment is known as:   |  |  |  | | --- | --- | --- | |  | a. | natural selection. | |  | b. | genetic theory. | |  | c. | biological theory. | |  | d. | innate behavior. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 28. Images of blood flow in the brain in monkeys have demonstrated that:   |  |  |  | | --- | --- | --- | |  | a. | humans and monkeys use different brain areas for language. | |  | b. | humans and monkeys use the same brain areas for language. | |  | c. | monkeys show no brain activation for language because they cannot understand language. | |  | d. | None of the answers is correct. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 29. Individual variation in plants and animals was first explained by:   |  |  |  | | --- | --- | --- | |  | a. | Charles Darwin. | |  | b. | Gregor Mendel. | |  | c. | neither Charles Darwin nor Gregor Mendel. | |  | d. | both Charles Darwin and Gregor Mendel. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 30. The study of how genetic expression is related to the environment and experience is known as:   |  |  |  | | --- | --- | --- | |  | a. | genotyping. | |  | b. | phenotyping. | |  | c. | epigenetics. | |  | d. | environmental genetics. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 31. Neuroscientists study the nervous systems of other animals such as slugs, snails, fruit flies, rats, and monkeys because:   |  |  |  | | --- | --- | --- | |  | a. | if all animals are related, then all nervous systems are related, and we can learn about the human brain by studying other animals. | |  | b. | all animals' nervous systems are different, which means we need to study each animal separately in order to understand how the specific nervous system of each animal works. | |  | c. | the mind and the body are separate, which means we need to study a variety of different animals to see how their minds work. | |  | d. | None of the answers is correct. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 32. A \_\_\_\_\_ is a set of characteristics that can be seen or measured.   |  |  |  | | --- | --- | --- | |  | a. | genotype | |  | b. | phenotype | |  | c. | species | |  | d. | genus |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 33. A group of organisms that can breed among themselves is called a:   |  |  |  | | --- | --- | --- | |  | a. | genus. | |  | b. | species. | |  | c. | phylum. | |  | d. | genotype. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 34. Which is the correct sequence of steps in an experimental procedure?   |  |  |  | | --- | --- | --- | |  | a. | make a prediction, formulate a theory, confirm or modify the theory, test it | |  | b. | make a prediction, test it, formulate a theory, confirm or modify the theory | |  | c. | formulate a theory, make a prediction, test it, confirm or modify the theory | |  | d. | make a prediction, formulate a theory, test it, confirm or modify the theory |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 35. Inherited behavior:   |  |  |  | | --- | --- | --- | |  | a. | is demonstrated only by animal instincts. | |  | b. | includes emotional expressions in humans. | |  | c. | cannot include emotional expressions in humans because the behavior is learned. | |  | d. | includes emotional expression in animals but not in humans. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 36. The first humanlike brain evolved:   |  |  |  | | --- | --- | --- | |  | a. | 700 million years ago. | |  | b. | 250 million years ago. | |  | c. | 6 million years ago. | |  | d. | 100,000 to 200,000 years ago. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 37. The first brain evolved approximately:   |  |  |  | | --- | --- | --- | |  | a. | 100,000 to 200,000 years ago. | |  | b. | 3 million to 4 million years ago. | |  | c. | 250 million years ago. | |  | d. | 700 million years ago. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 38. Humans are of the order \_\_\_\_\_ and the family \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | mammals; primates | |  | b. | primates; mammals | |  | c. | primates; great apes | |  | d. | great apes; primates |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 39. Which sequences is correct?   |  |  |  | | --- | --- | --- | |  | a. | phylum, order, class, family, genus, species | |  | b. | phylum, class, order, family, genus, species | |  | c. | phylum, class, family, order, genus, species | |  | d. | phylum, family, class, order, genus, species |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 40. The branch of biology that is concerned with naming and classifying species is:   |  |  |  | | --- | --- | --- | |  | a. | genetics. | |  | b. | embryology. | |  | c. | taxonomy. | |  | d. | evolutionary biology. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 41. Humans, monkeys, Neanderthals, and chimpanzees all belong to the same:   |  |  |  | | --- | --- | --- | |  | a. | species. | |  | b. | genus. | |  | c. | family. | |  | d. | order. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 42. Humans, tigers, dogs, and monkeys are all part of the same:   |  |  |  | | --- | --- | --- | |  | a. | species. | |  | b. | class. | |  | c. | genus. | |  | d. | family. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 43. Insects have:   |  |  |  | | --- | --- | --- | |  | a. | only nerve nets. | |  | b. | only a few ganglia. | |  | c. | enough ganglia to be called a brain. | |  | d. | the same brain organization as a chordate. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 44. The correct order of organisms from the least complex to the most complex nervous system is:   |  |  |  | | --- | --- | --- | |  | a. | flatworm, frog, squid, sea anemone. | |  | b. | sea anemone, frog, flatworm, squid. | |  | c. | sea anemone, flatworm, squid, frog. | |  | d. | frog, sea anemone, squid, flatworm. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 45. Animals with both a brain and a spinal cord are called:   |  |  |  | | --- | --- | --- | |  | a. | mammals. | |  | b. | eukaryotic. | |  | c. | primates. | |  | d. | chordates. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 46. Humans are unique in that they have the:   |  |  |  | | --- | --- | --- | |  | a. | largest brain of any animal species. | |  | b. | most complex spinal cord of any animal species. | |  | c. | largest brain–body size ratio of any living animal. | |  | d. | most advanced nervous system of any living animal. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 47. More advanced nervous systems often have similar structures on the left and right sides (e.g., the left and right hemispheres of the brain). This concept is known as:   |  |  |  | | --- | --- | --- | |  | a. | mirroring. | |  | b. | bilateral symmetry. | |  | c. | bilateral structures. | |  | d. | mirror symmetry. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 48. A notochord is a:   |  |  |  | | --- | --- | --- | |  | a. | spinal cord and a brain. | |  | b. | longitudinal flexible rod in the back. | |  | c. | segmented spine. | |  | d. | segmented spine and spinal cord. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 49. Chordates are any organisms that have a:   |  |  |  | | --- | --- | --- | |  | a. | brain. | |  | b. | spinal cord. | |  | c. | peripheral nervous system. | |  | d. | brain and a spinal cord. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 50. The correct order of the evolution of nervous systems from simple to complex is:   |  |  |  | | --- | --- | --- | |  | a. | nerve net, segmentation, ganglia, spinal cord, brain. | |  | b. | spinal cord, nerve net, brain, ganglia, segmentation. | |  | c. | brain, spinal cord, nerve net, segmentation, ganglia. | |  | d. | ganglia, nerve net, segmentation, brain, spinal cord. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 51. Other than mammals, which chordate has the largest forebrain?   |  |  |  | | --- | --- | --- | |  | a. | reptiles | |  | b. | amphibians | |  | c. | birds | |  | d. | bony fish |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 52. Which of the following statements is true about nervous systems?   |  |  |  | | --- | --- | --- | |  | a. | A nervous system is essential for life. | |  | b. | A nervous system is not essential for life. | |  | c. | Mammals are the only organisms with nervous systems. | |  | d. | Nervous systems do not vary much between organisms. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 53. Why do the brains of animals such as primates fold?   |  |  |  | | --- | --- | --- | |  | a. | to allow a small brain to fit in a large skull | |  | b. | to allow a large brain to fit into a small skull | |  | c. | because all mammals' brains fold | |  | d. | because they have a small brain–body size ratio |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 54. How are cladograms used to organize organisms?   |  |  |  | | --- | --- | --- | |  | a. | A cladogram is a chart that shows the effect of fruit eating on diet. | |  | b. | A cladogram is a diagram that shows how parents transmit heritable factors to offspring. | |  | c. | A cladogram is a chart that displays groups of related organisms. | |  | d. | A cladogram is a graph that displays the relationship between brain size and body size. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 55. Which sequence of events describes the evolution of brain cells and muscles?   |  |  |  | | --- | --- | --- | |  | a. | Brain cells evolved long before the evolution of muscles. | |  | b. | Brain cells evolved first, and then muscles evolved shortly after. | |  | c. | Muscles evolved first, and then brain cells evolved shortly after. | |  | d. | Brain cells and muscles evolved together. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 56. Based on the complexity of their nervous systems, which two organisms have a more recent common ancestor?   |  |  |  | | --- | --- | --- | |  | a. | squids and frogs | |  | b. | squids and flatworms | |  | c. | sea anemones and flatworms | |  | d. | flatworms and frogs |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 57. What is the defining feature of hominids?   |  |  |  | | --- | --- | --- | |  | a. | walking upright | |  | b. | large brains | |  | c. | eating fruit | |  | d. | solitary mating |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 58. Which statement applies to Neanderthals?   |  |  |  | | --- | --- | --- | |  | a. | They had larger brains than modern humans. | |  | b. | They made music and wore jewelry and makeup. | |  | c. | They likely communicated using language. | |  | d. | All of the above statements apply to Neanderthals. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 59. Why is the species of *Homo floresiensis* so intriguing?   |  |  |  | | --- | --- | --- | |  | a. | It was the first member of the genus *Homo* to use sophisticated tools. | |  | b. | It was about 3 feet tall and lived up to around 13,000 years ago. | |  | c. | It was a subspecies of Neandertals and lived up to 70,000 years ago. | |  | d. | It had the largest brain of any member of genus *Homo*. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 60. If other organisms have large brains in relationship to their body size, then why is human behavior in particular so complex?   |  |  |  | | --- | --- | --- | |  | a. | Humans have different kinds of neurons compared to other organisms. | |  | b. | Other organisms do not have as many neurons as humans. | |  | c. | The large number of neurons in the human brain are densely packed. | |  | d. | The neurons of the human brain are loosely packed. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 61. As the number of neurons increases in animals with larger brains:   |  |  |  | | --- | --- | --- | |  | a. | new regions and new connections are made, with neurons controlling different functions located all over the brain. | |  | b. | new connections are made, but no new regions are made. | |  | c. | new regions are made, but no new connections are made. | |  | d. | neurons cluster into specific areas for neurons controlling specific functions. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 62. Why is the SARGP2 gene significant in human evolution?   |  |  |  | | --- | --- | --- | |  | a. | It contributes to the large number of densely packed neurons in the human brain and has mutated twice in the course of human evolution. | |  | b. | It controls brain size and has mutated each time a new *Homo* species has appeared in human evolution. | |  | c. | It is the only gene shared between archaic humans, apes, and modern humans. | |  | d. | It is active when the cerebrum is developing and has mutated three times over the course of human evolution. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 63. The primate order contains approximately:   |  |  |  | | --- | --- | --- | |  | a. | 275 species. | |  | b. | 375 species. | |  | c. | 475 species. | |  | d. | 575 species. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 64. Humans and chimpanzees shared a common ancestor approximately:   |  |  |  | | --- | --- | --- | |  | a. | 2–4 million years ago. | |  | b. | 3–6 million years ago. | |  | c. | 5–10 million years ago. | |  | d. | 10–15 million years ago. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 65. Humans are most closely related to:   |  |  |  | | --- | --- | --- | |  | a. | gibbons. | |  | b. | orangutans. | |  | c. | chimpanzees. | |  | d. | gorillas. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 66. The first primates to walk upright, like modern humans, were:   |  |  |  | | --- | --- | --- | |  | a. | *Homo erectus*. | |  | b. | *Homo habilis*. | |  | c. | a Neanderthal species. | |  | d. | an *Australopithecus* species. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 67. The correct order of these early hominids from smallest to largest brain size is:   |  |  |  | | --- | --- | --- | |  | a. | *Homo erectus*, *Homo habilis*, *Homo neanderthalensis*. | |  | b. | *Homo habilis*, *Homo erectus*, *Homo neanderthalensis*. | |  | c. | *Homo neanderthalensis*, *Homo habilis*, *Homo erectus*. | |  | d. | *Homo habilis*, *Homo neanderthalensis*, *Homo erectus*. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 68. The oldest fossils that have been identified as human are approximately:   |  |  |  | | --- | --- | --- | |  | a. | 5.1 million years old. | |  | b. | 200,000 years old. | |  | c. | 2.8 million years old. | |  | d. | 1.3 million years old. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 69. Which of our human ancestors had the largest brain size?   |  |  |  | | --- | --- | --- | |  | a. | *Australopithecus* | |  | b. | Neanderthals | |  | c. | *Homo habilis* | |  | d. | *Homo erectus* |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 70. Tools are associated with:   |  |  |  | | --- | --- | --- | |  | a. | *Homo habilis*. | |  | b. | *Homo erectus*. | |  | c. | *Homo sapiens*. | |  | d. | All of the answers are correct. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 71. Modern humans appeared approximately:   |  |  |  | | --- | --- | --- | |  | a. | 50,000 years ago. | |  | b. | 200,000 years ago. | |  | c. | 100,000 years ago. | |  | d. | 1 million years ago. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 72. *Homo sapiens* coexisted with:   |  |  |  | | --- | --- | --- | |  | a. | *Homo erectus*. | |  | b. | *Homo habilis*. | |  | c. | Neanderthals. | |  | d. | *Australopithecus*. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 73. Which sequence is correct?   |  |  |  | | --- | --- | --- | |  | a. | *Homo habilis*, *Homo erectus*, *Homo sapiens* | |  | b. | *Homo erectus*, *Homo habilis*, *Homo sapiens* | |  | c. | *Homo habilis*, *Homo sapiens*, *Homo erectus* | |  | d. | *Homo erectus*, *Homo sapiens*, *Homo habilis* |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 74. Modern Europeans may have acquired genes that helped them adapt to the cold and absorb more vitamin D through interbreeding with:   |  |  |  | | --- | --- | --- | |  | a. | *Homo habilis*. | |  | b. | *Homo erectus*. | |  | c. | Neanderthals. | |  | d. | *Australopithecus*. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 75. The encephalization quotient is determined by:   |  |  |  | | --- | --- | --- | |  | a. | measuring the size of an animal's brain. | |  | b. | measuring the weight of an animal's brain. | |  | c. | relating actual brain size to expected brain size. | |  | d. | comparing the brain sizes of different species with one another. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 76. Which living animal has an encephalization quotient that is closest to that of modern humans?   |  |  |  | | --- | --- | --- | |  | a. | chimpanzee | |  | b. | elephant | |  | c. | blue whale | |  | d. | dolphin |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 77. Which has the largest encephalization quotient?   |  |  |  | | --- | --- | --- | |  | a. | monkey | |  | b. | chimpanzee | |  | c. | *Homo habilis* | |  | d. | dolphin |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 78. The human cerebellum contains about \_\_\_\_\_ as many neurons as the cerebrum.   |  |  |  | | --- | --- | --- | |  | a. | half | |  | b. | one-third | |  | c. | four times | |  | d. | twice |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 79. What is the difference between topographic maps and connectome maps as representations of neural activity?   |  |  |  | | --- | --- | --- | |  | a. | Connectome maps represent information processing areas involving sensation, cognition, and motion, while topographic maps represent the connections between these regions. | |  | b. | Topographic maps represent functional areas, such as the sensory activity and movement, while connectome maps represent the connections between these regions. | |  | c. | Topographic maps represent areas related to motor activity, while connectome maps represent areas related to sensory activity. | |  | d. | Connectome maps represent CNS activity, while topographic maps represent ANS activity. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 80. Although the elephant brain contains many more neurons than the human brain, most of these additional neurons are located in the elephant's:   |  |  |  | | --- | --- | --- | |  | a. | cerebellum. | |  | b. | cerebrum. | |  | c. | spinal cord. | |  | d. | brain stem. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 81. Climate change may have placed pressure on apes to adapt to their environment. Specifically, apes that lived in \_\_\_\_\_ climates may have begun to walk upright.   |  |  |  | | --- | --- | --- | |  | a. | drier | |  | b. | wetter | |  | c. | colder | |  | d. | coastal |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 82. Dunbar proposed that group sizes of \_\_\_\_\_ tend to be correlated with increased brain size in primates.   |  |  |  | | --- | --- | --- | |  | a. | about 50 | |  | b. | about 100 | |  | c. | about 150 | |  | d. | more than 200 |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 83. Vegetation eaters have:   |  |  |  | | --- | --- | --- | |  | a. | larger brains than fruit eaters. | |  | b. | smaller brains than fruit eaters. | |  | c. | greater social skills than fruit eaters. | |  | d. | larger brains and greater social skills than fruit eaters. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 84. Eating fruit favors a larger brain because it requires good:   |  |  |  | | --- | --- | --- | |  | a. | sensory skills. | |  | b. | motor skills. | |  | c. | memory skills. | |  | d. | All of the answers are correct. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 85. Fruit-eating primates:   |  |  |  | | --- | --- | --- | |  | a. | have a smaller brain than vegetation eaters. | |  | b. | eat more glucose and thus have a larger brain than vegetation eaters. | |  | c. | forage more than vegetation eaters and thus have a larger brain. | |  | d. | None of the answers is correct. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 86. Howler monkeys have smaller brains than equally sized spider monkeys. This is thought to stem from the fact that howler monkeys:   |  |  |  | | --- | --- | --- | |  | a. | eat more fruit than spider monkeys. | |  | b. | eat less fruit than spider monkeys. | |  | c. | eat less meat than spider monkeys. | |  | d. | live in larger social groups than spider monkeys. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 87. You have discovered a new breed of monkey in the jungles of South America. The diet of these monkeys appears to consist mainly of fruit. Based on what you know about evolution and other fruit-eating monkeys, which statement is likely to apply to this newly discovered breed of monkey?   |  |  |  | | --- | --- | --- | |  | a. | They will have color vision. | |  | b. | They will have relatively larger brains (with respect to body size). | |  | c. | They will have larger social groups. | |  | d. | All of the answers are correct. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 88. How much of the body's resources does the brain use?   |  |  |  | | --- | --- | --- | |  | a. | 20 percent | |  | b. | 50 percent | |  | c. | 10 percent | |  | d. | 80 percent |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 89. Humans are classed as:   |  |  |  | | --- | --- | --- | |  | a. | fruit eaters. | |  | b. | vegetation eaters. | |  | c. | both fruit and vegetation eaters. | |  | d. | a separate category from vegetation and fruit eaters. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 90. \_\_\_\_\_ allowed humans to maximize caloric gain and spend less time foraging.   |  |  |  | | --- | --- | --- | |  | a. | Living in larger social groups | |  | b. | Cooking food | |  | c. | Eating vegetation | |  | d. | All of the answers are correct. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 91. The radiator hypothesis is a theory relating to cooling of the brain by:   |  |  |  | | --- | --- | --- | |  | a. | blood flow. | |  | b. | cerebral spinal fluid. | |  | c. | blood flow and cerebral spinal fluid. | |  | d. | None of the answers is correct. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 92. Compared with *Australopithecus* skulls, human skulls contain holes through which blood vessels could pass. This would have led to:   |  |  |  | | --- | --- | --- | |  | a. | better brain cooling. | |  | b. | increased brain size. | |  | c. | changes in diet. | |  | d. | both better brain cooling and increased brain size. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 93. Stedman and colleagues argue that size reductions in facial muscles and facial bones in early hominids may have led to:   |  |  |  | | --- | --- | --- | |  | a. | changes in diet. | |  | b. | changes in mating patterns. | |  | c. | changes in hunting strategies. | |  | d. | None of the answers is correct. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 94. Our small face, vaulted cranium, upright mobility, and distribution of hair are features that link us with juvenile chimps. This illustrates:   |  |  |  | | --- | --- | --- | |  | a. | natural selection. | |  | b. | neoteny. | |  | c. | selective dominant traits. | |  | d. | selective environmental influences. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 95. One of the benefits of neoteny is that it allows:   |  |  |  | | --- | --- | --- | |  | a. | time for more brain cells to be produced. | |  | b. | greater genetic diversity. | |  | c. | greater variety in diet. | |  | d. | None of the answers is correct. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 96. Brain size is correlated with:   |  |  |  | | --- | --- | --- | |  | a. | plasticity. | |  | b. | body size. | |  | c. | nutrition. | |  | d. | All of the answers are correct. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 97. If one person has a brain weighing 1000 grams and another has a brain weighing 1500 grams, the difference most likely reflects:   |  |  |  | | --- | --- | --- | |  | a. | a major difference in intelligence. | |  | b. | water content. | |  | c. | body size. | |  | d. | both water content and body size. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 98. A behavior that is typical of all members of a species is called:   |  |  |  | | --- | --- | --- | |  | a. | instinct. | |  | b. | habit. | |  | c. | member-typical behavior. | |  | d. | species-typical behavior. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 99. Which of the following is NOT correlated with brain size?   |  |  |  | | --- | --- | --- | |  | a. | health | |  | b. | gender | |  | c. | age | |  | d. | intelligence |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 100. You and your grandfather both take the same intelligence test, and you score almost 20 points higher! This is an example of the \_\_\_\_\_, and it is likely due to \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | Flynn effect; differences in education and/or life experiences | |  | b. | Flynn effect; the increasing size of the human brain over generations | |  | c. | Spearman effect; increasing size of the human brain over generations | |  | d. | Spearman effect; differences in education and/or life experiences |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 101. Comparing intelligence between species is difficult because we are typically reduced to comparing:   |  |  |  | | --- | --- | --- | |  | a. | differences in brain size. | |  | b. | differences in mating patterns. | |  | c. | differences in species-typical behaviors. | |  | d. | None of the answers is correct. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 102. Studies of the brains of very intelligent people (e.g., Albert Einstein) have revealed that intelligent people's brains:   |  |  |  | | --- | --- | --- | |  | a. | are usually larger than average. | |  | b. | are usually smaller than average. | |  | c. | have no size relationship to intelligence. | |  | d. | do not vary. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 103. \_\_\_\_\_ is the complex learned behaviors passed on from one generation to another.   |  |  |  | | --- | --- | --- | |  | a. | Neoteny | |  | b. | Evolution | |  | c. | Culture | |  | d. | Intelligence |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 104. The acquisition of culture by humans stems most directly from:   |  |  |  | | --- | --- | --- | |  | a. | an evolved ability for high mental flexibility. | |  | b. | our larger brain. | |  | c. | improved diet. | |  | d. | the invention of smartphones. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 105. The first artistic relics were made by modern humans approximately:   |  |  |  | | --- | --- | --- | |  | a. | 100,000 years ago. | |  | b. | 55,000 years ago. | |  | c. | 30,000 years ago. | |  | d. | 10,000 years ago. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 106. Reading and writing were invented approximately:   |  |  |  | | --- | --- | --- | |  | a. | 25,000 years ago. | |  | b. | 7000 years ago. | |  | c. | 12,000 years ago. | |  | d. | 3000 years ago. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 107. \_\_\_\_\_ are ideas, behaviors, or styles that spread from person to person in a culture and can be influenced by brain structure.   |  |  |  | | --- | --- | --- | |  | a. | Phenotypes | |  | b. | Trends | |  | c. | Memes | |  | d. | None of the answers are correct. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 108. According to Mesoudi, language, music, mathematics, and art may have spread through cultures by way of:   |  |  |  | | --- | --- | --- | |  | a. | genetics. | |  | b. | learning. | |  | c. | religion. | |  | d. | memes. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 109. Which of the following can cause reduction in brain size?   |  |  |  | | --- | --- | --- | |  | a. | neurological diseases | |  | b. | brain injury near time of birth | |  | c. | fetal alcohol spectrum disorder (FASD) | |  | d. | all of the above |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 110. What does "plasticity" refer to?   |  |  |  | | --- | --- | --- | |  | a. | a body's potential for change | |  | b. | a body's reaction to plastic | |  | c. | a body's muscular flexibility | |  | d. | a body's behavioral adaptability |  |  |  | | --- | --- | | *ANSWER:* | a | |