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| Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Central Nervous System

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|  |  |  |  | 2  L | I | M | B | I | C | S | Y | S | T | E | M |  |  |  |  |  | 3  C |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | N |  |  |  |  |  |  | E |  |  |  |  |  |  | 4  E |  |
|  |  |  |  |  |  |  |  |  | 5  P |  |  | 6  B |  | I |  |  |  |  | 7  N |  | N |  |  |  |  |  |  | L |  |
|  |  |  |  |  |  |  |  | 8  M | E | M | B | R | A | N | E | P | O | T | E | N | T | I | A | L |  |  |  | E |  |
|  |  |  |  |  |  |  |  |  | R |  |  | A |  | G |  |  |  |  | R |  | R |  |  |  |  |  |  | C |  |
|  |  |  |  |  |  |  |  |  | I |  |  | I |  | E |  | 9  D |  |  | V |  | A |  |  |  |  |  |  | T |  |
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|  |  |  |  |  |  |  |  |  | E |  |  | T |  | 12  D | E | N | D | R | I | T | E |  |  |  |  | R |  | E |  |
|  |  |  |  |  |  | 13  C |  |  | R |  |  | E |  |  |  | C |  |  |  |  | R |  |  |  |  | E |  | N |  |
|  |  |  |  |  |  | E |  |  | A |  |  | M |  | 14  A |  | E |  |  |  |  | V |  |  |  |  | B |  | C |  |
|  |  |  |  |  |  | R |  |  | L |  |  |  |  | X |  | P |  |  |  |  | O |  |  |  |  | R |  | E |  |
|  |  |  |  | 15  M | Y | E | L | I | N |  | 16  H | Y | P | O | T | H | A | L | A | M | U | S |  |  |  | O |  | P |  |
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|  |  |  |  |  | 17  V | E | N | T | R | I | C | L | E |  | 18  G | L | I | A |  |  | S |  |  |  |  | P |  | A |  |
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|  |  |  |  |  |  | L |  |  | O |  | 19  N | E | U | R | O | N |  |  |  |  | S |  |  |  |  | N |  | O |  |
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|  |  |  |  |  |  | M |  |  | S |  |  | 20  A | C | 21  T | I | O | N | P | O | T | E | N | T | I | A | L |  | R |  |
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|  |  |  |  |  |  |  |  |  | Y |  | 22  S | Y | N | A | P | S | E |  |  |  |  |  |  |  |  | L |  | M |  |
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|  |  |  |  |  |  |  | 23  R | E | T | I | C | U | L | A | R | F | O | R | M | A | T | I | O | N |  | I |  |  |  |
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|  |  | 24  C | E | R | E | B | R | U | M |  |  |  |  | U |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Across**  **2.** parts of the brain involved in emotions and sense of smell; plays key role in coupling sensory inputs to short- and long-term memory; consists of the hippocampus, the hypothalamus and several other structures  **8.** difference in electrical charge between inside and outside of the plasma membrane  **10.** impulse conduction route to and from the central nervous system; smallest portion of nervous system that can receive a stimulus and generate a response  **12.** branching or tree-like nerve cell process that receives input from other neurons and transmits impulses toward the cell body (or toward the axon in unipolar neurons)  **15.** lipoprotein substance in the myelin sheath around many nerve fibers that contribute to high speed conductivity of impulses  **16.**  important autonomic and neuroendocrine control center located inferior to the thalamus in the brain  **17.**  a cavity, such as the large, fluid-filled spaces within the brain or the chambers of the heart  **18.** nonexciteable supporting cells of nervous tissue; formerly called neruoglia  **19.** nerve cell, including its processes (axons and dendrites)  **20.** nerve impulse, membrane potential of an active neuron  **22.**  membrane-to-membrane junction between a neuron and another neuron, effector cell, or sensory cell; function to propagate action potential  **23.**  located in the medulla where bits of gray and white matter mix intricately, this structure is involved in regulating input from sensory neurons, arousal, and motor control  **24.** largest and uppermost part of the human brain that controls consciousness, memory, sensations, emotions, and voluntary movements | **Down**  **1.**  fluid-containing membranes surrounding the brain and spinal cord  **3.** division of the nervous system composed of the brain and spinal cord  **4.** graphic representation of voltage changes in the brain tissue used to evaluate nerve tissue function  **5.** nerves connecting the brain and spinal cord to other parts of the body  **6.** part of the brain containing the midbrain, pons, and medulla oblongata  **7.** bundle nerve fibers, plus surrounding connective tissue, located outside the brain and spinal cord  **9.** “between” brain; parts of the brain between cerebral hemispheres and the mesencephalon, or midbrain  **11.**  plasma-like fluid that fills the subarachnoid space in the brain and spinal cord and in the cerebral ventricles  **13.** second largest part of the human brain; plays an essential role in the production of normal movements  **14.** in a neuron, the single process that extends from the axon hillock and transmits impulses away from the cell body  **21.**  mass of gray matter located in diencephalon just above the hypothalamus; helps produce sensations, associates sensations with emotions, and plays a part in the arousal mechanism |