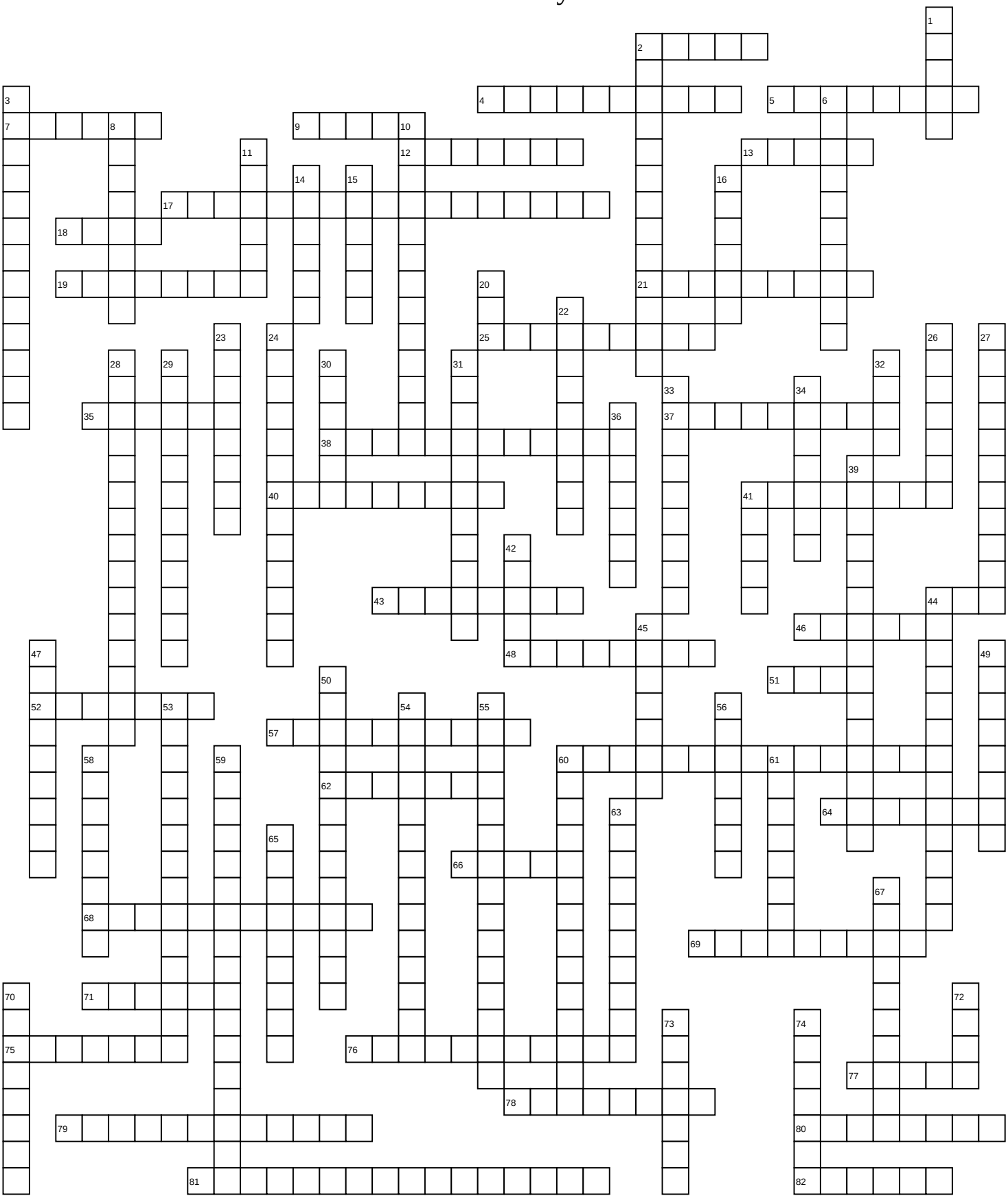
Nervous System



ACROSS

2 _____ neurons begin in the central nervous system projecting their axons outside the CNS and directly or indirectly controlling muscles.

4 _____ transport, also called axonal transport, is responsible for movement of mitochondria, lipids, synaptic vesicles, proteins, and other cell parts to and from a neuron's cell body through the cytoplasm of its axon.

5 _____ is a phenethylamine hormone and neurotransmitter. As a hormone, it inhibits the release of prolactin from the anterior lobe of the pituitary. As a neurotransmitter in the brain, it activates five types of receptors and their variants.

7 A _____ action is an automatic (involuntary) neuromuscular action elicited by a defined stimulus.

9 The _____ or encephalon is the control center of the central nervous system.

12 The _____ nervous system is the part of the nervous system that directly controls the gastrointestinal system.

13 The spinal _____ or cavity is the space in the vertebrae through which the spinal cord passes.

17 _____ is any change in a cell's membrane potential that makes it more polarized.
18 The _____ mater, or pachymeninx, is the tough and inflexible outermost of the three layers of the meninges surrounding the brain and spinal cord.
19 A _____ is a tissue mass composed mainly of somata and dendritic structures. They are often interconnected with each other to form a complex known as a plexus.
21 The _____ nervous system is the part of the peripheral nervous system that acts as a control system, maintaining homeostasis in the body.
25 The _____ mater is one of the three meninges. It is interposed between the more superficial dura mater and the deeper pia mater.
35 The _____ gland is a small endocrine gland in the brain which produces melatonin.
37 The tachykinin neuropeptide, _____ P, has been associated in the regulation of mood disorders, anxiety, stress, reinforcement, neurogenesis, respiratory rhythm, neurotoxicity, nausea / emesis and pain.
38 A _____ is any of the variety of peptides found in neural tissue. Examples include the endorphins and enkephalins.
40 The medulla _____ is the lower portion of the brainstem.
41 Axon _____ (also called axon pathfinding) describes the means by which neurons send out axons to reach the correct targets.
43 The _____ lobe is a lobe in the brain positioned above the occipital lobe and behind the frontal lobe which integrates sensory information from different modalities, particularly determining spatial sense and navigation.
44 A reflex _____ is the neural pathway that mediates a reflex action.
46 The _____ system is the part of the human brain involved in emotion, motivation, and emotional association with memory.
48 The telencephalon is the name for the forebrain, a large region within the brain to which many functions are attributed, which many people refer to as the _____.
51 Gamma-aminobutyric acid (usually abbreviated to _____) is the chief inhibitory neurotransmitter in the central nervous system and also in the retina.
52 The _____ potential of a cell is the membrane potential that would be maintained if there were no action potentials, synaptic potentials, or other active changes in the membrane potential.
57 The _____ is a region of the brain that plays an important role in the integration of sensory perception and motor control, using constant feedback on body position to fine-tune motor movements.
60 _____ ganglia are mostly small terminal ganglia or intramural ganglia lying near or within the organs they innervate.
62 A _____ cell is a type of neuron having two extensions, which is a specialized sensory neuron for the transmission of special senses.
64 The axon _____ is the anatomical part of a neuron that connects the cell body called soma to the axon.
66 _____ matter is composed of myelinated nerve cell processes, or axons, which connect various gray matter areas of the brain to each other.
68 The _____ trunk is a bundle of nerve fibers, a chain of ganglia, that runs from the base of the skull to the coccyx.
69 _____ conduction is the means by which action potentials are transmitted along myelinated nerve fibers.
71 An _____ potential is a spike of electrical discharge that travels along the membrane of a cell.
75 Synaptic _____s store the various neurotransmitters that are released during calcium-regulated exocytosis into the synaptic cleft of a synapse.
76 The _____ system is a set of structures in the brain continuous with the central canal of the spinal cord through which cerebrospinal fluid flows.
77 _____'s area is a section of the human brain that is involved in language processing, speech production, and comprehension.
78 _____s are the branched projections of a neuron that act to conduct the electrical stimulation received from other neural cells to the cell body of the neuron.
79 Located just below the thalamus, the _____ links the nervous system to the endocrine system via the pituitary gland.
80 The _____ is the membrane of a neuron's axon.
81 _____s are chemicals that are used to relay, amplify and modulate signals between a neuron and another cell.
82 A _____ network refers to a network or circuitry of biological neurons.

DOWN

1 A dendritic _____ is a small membranous extrusion that protrudes from a dendrite and forms one half of a synapse.
2 The _____, or midbrain, is the middle of three vesicles that arise from the neural tube that forms the brain of developing animals.
3 In the autonomic nervous system, fibers from the CNS to the ganglion are known as _____ fibers.
6 Synaptic _____ is the ability of the connection, or synapse, between two neurons to change in strength.
8 _____ nerves - otherwise known as motor or effector neurons - carry nerve impulses away from the central nervous system to effectors such as muscles or glands.
10 A _____ junction is the synapse or junction of the axon terminal of a motoneuron with the motor end plate.
11 _____ is an electrically insulating phospholipid layer that surrounds the axons of many neurons.
14 The _____ cord is a thin, tubular bundle of nerves that is an extension of the central nervous system from the brain, enclosed and protected by the bony vertebral column.
15 The fight-or-_____ response states that animals react to threats with a general discharge of the sympathetic nervous system.
16 _____s are electrically excitable cells in the nervous system that process and transmit information.
20 The _____ mater is the delicate innermost layer of the meninges.
22 The _____ lobe is the visual processing center of the mammalian brain, containing most of the anatomical region of the visual cortex.
23 The _____ is a pair and symmetric part of the brain constituting the main part of the diencephalon.
24 _____s are chemical compounds derived from the amino acid tyrosine containing catechol and amine groups.
26 Chemical _____s are specialized junctions through which the cells of the nervous system employ neurotransmitters to signal to each other and to non-neuronal cells such as those in muscles or glands.
27 A synapse is _____ if it uses acetylcholine as its neurotransmitter.
28 _____s are a variety of neuroglia whose main function is the myelination of axons exclusively in the central nervous system of the higher vertebrates.
29 The _____ is the region of the brain that includes the thalamus, hypothalamus, epithalamus, prethalamus or subthalamus and pretectum. It is derived from the prosencephalon.
30 The term _____ nerve generally refers to one of 31 paired mixed nerves formed from dorsal and ventral roots and exiting from the vertebrae through the intervertebral foramen.
31 The _____ nervous system is a branch of the autonomic nervous system, always active at a basal level and becoming more active during times of stress.
32 _____ matter is a major component of the central nervous system, consisting of nerve cell bodies, glial cells, capillaries, and short axons and dendrites.
33 _____s are characteristic star-shaped glial cells in the brain.
34 Nodes of _____, also known as neurofibril nodes, are regularly spaced gaps in the myelin sheath around an axon or nerve fiber.
36 _____ neurons are nerve cells within the nervous system responsible for converting external stimuli from the organism's environment into nerve impulses relayed to the central nervous system.
39 In a kind of complementary opposition to the sympathetic nervous system, the _____ nervous system is the division of the autonomic nervous system that functions with actions that do not correspond to stress.
41 _____ cells, commonly called neuroglia, are non-neuronal cells that provide support and nutrition, maintain homeostasis, form myelin, and participate in signal transmission in the nervous system.
42 The _____ nerve, also called cranial nerve II, is the nerve that transmits visual information from the retina to the brain.
44 The first neurotransmitter identified, the chemical compound _____ is a neurotransmitter in both the peripheral nervous system and central nervous system.
45 _____ nerves are nerves that emerge directly from the brain in contrast to spinal nerves which emerge from segments of the spinal cord.
47 _____ is a monoamine neurotransmitter synthesized in serotonergic neurons in the central nervous system and enterochromaffin cells in the gastrointestinal tract.
49 _____ is the reabsorption of a neurotransmitter by the neurotransmitter transporter of a pre-synaptic neuron after it has performed its function of transmitting a neural impulse.
50 _____ fluid is a clear bodily fluid that occupies the subarachnoid space and the ventricular system around and inside the brain.
53 Epinephrine and _____ are fight or flight hormones released from the adrenal glands, which are also neurotransmitters in the central and sympathetic nervous systems.
54 _____ is a decrease in the absolute value of a cell's membrane potential.
55 The _____ nucleus is a region of the brain, located in the hypothalamus, that is responsible for controlling endogenous circadian rhythms.
56 The _____ nervous system is the part of the peripheral nervous system associated with the voluntary control of body movements and with reception of external stimuli.
58 _____ is the cytoplasm within the axon of a neuron.
59 Choline _____ is an enzyme which joins Acetyl CoA to choline, resulting in the formation of the neurotransmitter acetylcholine.
60 The _____ (or forebrain) is the rostral-most portion of the brain.
61 _____ neurons--otherwise known as sensory or receptor neurons--carry nerve impulses from receptors or sense organs toward the central nervous system.
63 A _____ neuron is a type of neuron that possesses a single axon and many dendrites.
65 Membrane _____ is the electrical voltage across a cell's plasma membrane.
67 The _____ nervous system resides or extends outside the central nervous system serving the limbs and organs.
70 In a biological membrane, the _____ potential (or Nernst potential) of a particular ion is the membrane voltage at which there is no net flow of ions from one side of the membrane to the other.
72 The _____, or perikaryon, is the bulbous end of a neuron, containing the cell nucleus.
73 The _____ nervous system represents the largest part of the nervous system, including the brain and the spinal cord.
74 _____ cells are a variety of glial cell that mainly provide myelin insulation to axons in the peripheral nervous system.