Nervous system webquest worksheet answers

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The substitution method is one of the ways to solve a system of linear equations. Using this method, you isolate the variables and substitute one of them to solve for the other. These are worksheets you can use to practice the method. Topic Resources The nervous system is your body's information processing and communication system. It receives messages, processes information, and then sends signals to the rest of your body telling it what to do. The brain receives information from your eyes, ears, nose, and other sense organs. It processes information and generates thoughts and ideas. Then the brain sends messages to your body. For example, it tells your muscles how to move so you can walk, talk, and do the things you want your body does without you thinking about it. For example, your brain automatically adjusts your breathing, heart rate, and blood pressure. The central nervous system is the brain and spinal cord. The nervous system is made of: Nerve cells and their fibers There are billions and billions of nerve cells in your brain, your spinal cord, and in clumps just outside your spinal cord. Each nerve cell has a microscopic body: The body of the nerve cell is responsible for processing nutrients and keeping the cell alive Each nerve cells or from receptors in your sense organs. Output fibers receive signals to other nerves, to muscles, or to other organs. Signals travel only one way in a nerve cell Sometimes nerve fibers are dozens of centimeters long. For example, a single nerve fiber may run from near your skin or your organs have sensory receptors. For example, the receptors at the end of nerve fibers in your skin detect things that are sharp or hot. Although nerve fibers and their signals act a lot like a wire carrying electrical signals, that's not exactly right. Nerve cells really send their signals using chemicals changes take place progressively along the length of a nerve fiber When the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place progressively along the length of a nerve fiber when the chemical changes take place pl neurotransmitters drift across a microscopic gap where they hit the chemical receptors of another cell If that cell is a nerve cell, then the progressive chemical changes in that other cell is not a nerve cell—for example, if the next cell is a muscle cell, then the neurotransmitter causes chemical changes that make the muscle cell (neuron) consists of a large cell body and nerve fibers—one elongated extension (axon) for sending impulses and usually many branches (dendrites) for receiving impulses. The impulses from the axon cross a synapse (the junction between two nerve cells) to the dendrite of another cell. Each large axon is surrounded by oligodendrocytes in the brain and spinal cord and by Schwann cells in the peripheral nervous system. The membranes are wrapped tightly around the axon, forming a multilayered sheath. This myelin sheath resembles insulation, such as that around an electrical wire. Nerve impulses travel much faster in nerves with a myelin sheath than in those without one. One nerve cell sends just one kind of signal that can't carry a lot of information. However, when billions of nerve cells are interconnected like they are in your brain, they form a very powerful information processor. NOTE: This is the Consumer Version. DOCTORS: CLICK HERE FOR THE PROFESSIONAL VERSION The brain is at the center of our nervous system. It sits atop our heads, where it sends and receives important messages. These messages travel through our nerves and inform our actions. Conversely, our brain also react to neural messages that it receives from our nerves and information instantly and tell us to pull our hand away. The brain and the nerves work together constantly to keep us in check. Anything that seems instinctual or automatic is due to the nervous system. When we feel hunger or thirst after a while of fasting, this is due to the hypothalamus. Or when we feel the sudden urge to run away during stressful situations, this is due to the amygdala. The main route that nerves travel down, before branching off to their repsective body parts, is the spinal cord. The spinal cord extends from the brain down to the tail bone. Though it is a bundle of nervous, many nerves branch off and continue along to places like our arms and legs. Human behavior, in all its complexity, is partly the product of interactions between two key physical components: the nervous and endocrine systems. These two systems help regulate the electrical and chemical processes that relay information throughout and between the brain and body. These functions include metabolism, reproduction, emotion, and homeostasis. Neurons—bundles of which make up nerves—are the building blocks of the body's communication system. They're organized into networks that allow signals to move between the hervous system. The nervous system, in turn, has two parts: the central nervous system, which includes the brain and spinal cord, and the peripheral nervous system. The central nervous system (CNS) is made up of the brain and spinal cord are vital to human life and function. Protective barriers surround them, including bone (skull and spine) and membraneous tissue known as meninges. Additionally, the brain and spine are suspended in cerebrospinal fluid. The CNS processes every sensation and thought that you experience. Receptors throughout the body gather sensory information and pass it on to the CNS. The CNS also sends messages to the rest of the body to control movement, actions, and responses to the environment. The peripheral system (PNS) is composed of nerves that extend beyond the central nervous system. The neural networks that make up the PNS are actually bundles of axons from neuron cells. The nerve bundles range from relatively small to large enough for the human eye to see. The PNS is further divided into two different systems: the somatic nervous system and the autonomic nervous system. The somatic nervous system transmits sensory communications and is responsible for voluntary movement and action. It is composed of sensory (afferent) neurons and motor (efferent) neurons carry information from the nervous system. to the brain and spinal cord; motor neurons transmit information from the central nervous system to the muscle fibers. The autonomic nervous system is also involved in emotional responses such as sweating and crying. The autonomic nervous system is subdivided into the sympathetic nervous system and parasympathetic nervous system controls the body's response to an emergency. When the system is aroused, your heart and breathing rates increase, digestion slows or stops, your pupils dilate, and you begin to sweat. Also known as the fight-orflight response, this system prepares your body to confront danger or avoid it. The parasympathetic system balances the sympathetic system is composed of glands that secrete chemical messengers known as hormones, which the bloodstream carries to organs and tissues to regulate functions such as metabolism, digestion, blood pressure, and growth. Some of the endocrine system's most important glands are the pineal gland, hypothalamus, pituitary gland, thyroid, ovaries, and testes. Each works in specialized ways in specific areas. Although the endocrine system is not directly linked to the nervous system, the two interact in a number of ways. They're linked by the hypothalamus, a tiny collection of nuclei at the base of the forebrain that controls an astonishing amount of human behavior, including emotional and stress responses. It's also involved in basic drives such as: Importantly, the hypothalamus controls the pituitary gland, which in turn regulates the release of hormones from other glands in the endocrine system. The endocrine system is not a part of the nervous system, but it is just as essential to communication throughout the body. Although the nervous and endocrine systems are separate systems, they interact in important ways to influence human behavior. They work in tandem to help people respond to the mervous system? Not directly, but it interacts with the nervous system in important ways. The hypothalamus connects the two and controls the pituitary gland, which in turn controls the endocrine system? The endocrine system interact with the nervous systems communicate with each other through the hypothalamus, which controls basic drives such as hunger and thirst. The hypothalamus also regulates the pituitary gland, which governs the release of hormones by the body's other glands. How are the nervous and endocrine systems both interact with the hypothalamus, which controls communication between the two via chemical messengers. They're both essential to the human body and work constantly to keep it functioning and responding to stimuli effectively.