

# UNIT 6 - NERVOUS SYSTEM / SPECIAL SENSES

## STANDARDS AND OBJECTIVES

### STANDARD

**05 Students will describe the structures and functions of the nervous system and special senses.**

### OBJECTIVES

- 06.01 Restate the three broad functions of the nervous system:  
(sensory, integration, motor)
- 06.02 Describe the general organization of the nervous system.
- 06.03 List the functions and structures of neurons and neuroglial cells:  
(astrocytes, microglia, oligodendrocytes, ependymal cells, Schwann cells)
- 06.04 Sequence the major events when the nerve impulse (action potential) is initiated and transmitted through a neuron.
- 06.05 Contrast white and gray matter of nervous tissue.
- 06.06 Identify the structures responsible for the maintenance and protection of the central nervous system. (meninges [dura mater, arachnoid mater and pia mater])
- 06.07 Explain the role of each of the components of a reflex arc.  
(reflex, reflex arc, receptor, sensory neuron, association [interneuron] neuron, motor neuron, effector)
- 06.08 Identify the four principle parts of the brain.  
(cerebrum, cerebellum, brain stem, diencephalon)
- 06.09 Describe the location, and function of CSF.  
(ventricles, subarachnoid space)
- 06.10 Describe the functions of the three structures of the brain stem.  
(medulla oblongata, pons, midbrain)
- 06.11 Describe the structures and functions of the diencephalon.  
(thalamus, hypothalamus)
- 06.12 Describe the locations and functions of the four lobes of the cerebrum.  
(frontal, parietal, temporal, occipital)
- 06.13 Explain the major functions of the cerebellum.

- 06.14 Identify the following diseases or disorders of the nervous system.  
(ALS, Alzheimer's, bacterial meningitis, cerebral palsy, epilepsy, multiple sclerosis, Parkinson's)
- 06.15 Describe the principle anatomical structures of the eye.  
(accessory structures [eyelid, conjunctiva, lacrimal apparatus, extrinsic muscles] layers of the eyeball (fibrous tunic [sclera, cornea], vascular tunic [choroid, ciliary body, iris, lens, pupil], nervous tunic [retina])
- 06.16 Describe the principle anatomical structures of the ear.  
(outer ear [auricle, auditory canal], middle ear [tympanic cavity, tympanic membrane, auditory (Eustachian) tube, auditory ossicles (malleus, incus, stapes)], inner ear [bony labyrinth, membranous labyrinth, semicircular canals, vestibule, cochlea, Organ of Corti])
- 06.17 Identify the following diseases or disorders associated with special senses.  
(presbyopia, myopia, hyperopia, cataracts, conjunctivitis, deafness [conductive, sensorineural], glaucoma, macular degeneration, middle ear infection, strabismus, tinnitus, vertigo)