

Grade 10, 11, 12

Distance Learning Module 5: Week of: 4/27 - 5/1

Anatomy and Physiology - Modified from Unit #2 - Nervous/Cardiovascular System

Targeted Goals from Stage 1: Desired Results

Content Knowledge: Students must choose to research the Nervous System OR the Cardiovascular System. NOT BOTH!

Nervous System:

The nervous system is organized into subsystems that have different structures and functions.

Neurons are the cellular building blocks of the nervous system. The major structural components of a neuron are the dendrites, cell body, axon, axon terminals. All of which have specific structures and functions vital to their role in transmitting messages.

Sensory neurons transmit impulses from sense organs to the central nervous system, while motor neurons bring impulses from the central nervous system to the target muscle, gland, etc.

The central nervous system's primary structures are the brain, spinal cord, spinal nerves, and dorsal and ventral roots, all of which have a specific structure and function that allows them to perform their intended function.

The major structures of the brain are: the cerebrum and associated lobes, cerebellum, and brain stem, including the midbrain, pons, and medulla oblongata.

The cells associated with the sense of sight (rods and cones), have specific locations and structural organization that allows them to function within a system and allow for vision.

Students will know the path that visual information takes through the brain and where in the brain that visual information is processed.

Cardiovascular System:

The heart is a complex organ that has multiple layers, chambers, and functions, all of which work in harmony to allow it to move

blood through the body.

The heart generates its own electricity and has a specific path that the electrical current takes through the heart which determines the sequence of a heartbeat.

Blood moves in a specific way through the heart, lungs, and body so that oxygenated blood can move through the body and deoxygenated blood can be returned to the lungs and eliminated from the body.

An EKG/ECG is an effective tool used by medical professionals that allows them to learn about the heart health of a person.

Students will know how to read an EKG/ECG graph and explain what each peak/valley represents.

Students will know the causes and treatments for a cardiovascular heart disease of their choice.

Vocabulary:

Nervous System: Central Nervous System, Peripheral Nervous System, Autonomic Nervous System, Involuntary Nervous System, Voluntary Nervous System, Sympathetic Nervous System, Parasympathetic Nervous System, Neuron, Axon, Axon Terminals/Axon Endings, Cell Body, Dendrites, Neurotransmitters, Synapse, Motor neurons, Sensory neurons, Interneurons, Nerve, Sensory Nerve, Motor Nerve, Mixed Nerve, Ascending Tract, Descending Tract, Spinal Nerves, Dorsal Root, Ventral Root, Cerebrum, Cerebral Cortex (Frontal Lobe, Parietal Lobe, Temporal Lobe, Occipital Lobe), Brain Stem (Midbrain, Pons, Medulla Oblongata), Cerebellum, Rod cells, Cone cells, Cornea, Pupil, Lens, Iris, Retina, Macula, Optic nerve.

OR

Cardiovascular System: Epicardium, Myocardium, Endocardium, Pericardium, Atrium, Ventricle, Mitral valve, Tricuspid valve, Pulmonary valve, Aortic valve, Aorta, Superior vena cava, Inferior vena cava, Pulmonary veins, Pulmonary arteries, Coronary arteries, Coronary veins, Artery, Vein, Capillary, Pulmonary circulation, Systemic circulation, Septum, Sinoatrial node, Atrioventricular node, Systolic, Diastolic, Sphygmomanometer, Stethoscope, EKG, P, Q, R, S, and T waves (in association with EKGs)

Skills: Conduct research to investigate, model, and communicate detailed information about a body system.

Expectation:

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
Monday: Students will continue working on their selected body system model.	Nervous System Model Example Cardiovascular System Model Example Nervous System Model Requirements Cardiovascular System Model Requirements	
Tuesday: Students will continue working on their selected body system model.	Nervous System Model Example Cardiovascular System Model Example Nervous System Model Requirements Cardiovascular System Model Requirements	Formal check-in day: Uploaded snapshot of model in its current state. This will be evidence that progress has been made on Monday and Tuesday.
Wednesday: Students will finish their selected body system model.	Nervous System Model Example Cardiovascular System Model Example Nervous System Model Requirements Cardiovascular System Model Requirements	
Thursday: Students will incorporate their body system research and pictures of their model into their Anatomy and Physiology website.	Nervous System Model Example Cardiovascular System Model Example Nervous System Model Requirements Cardiovascular System Model Requirements	Formal check-in day: Body system model completed and snapshot uploaded to Google Classroom. Some progress evident on student websites.
Friday: Students will incorporate their body system research and pictures of their model into their Anatomy and Physiology website.	Nervous System Model Example Cardiovascular System Model Example Nervous System Model Requirements Cardiovascular System Model Requirements	

Week criteria for success (attach student checklists or rubrics):

Students have completed their body system model with a snapshot of the model uploaded to Google Classroom for review.

Students have started and made progress on the addition of webpages to their Anatomy and Physiology website that include their body system research and pictures of the model they created.

Supportive resources and tutorials for the week (plans for re-teaching):

The teacher will be available for questions specific to this class between the hours of 11:00 and 11:40, Monday - Friday. Students can contact the teacher using the Zoom link in the Office Hours section of Google Classroom.