

<b>Course Name:</b>	Human Biology	
<b>Credits:</b>	1	
<b>Prerequisites:</b>	Biology 2	
<b>Description:</b>	This course presents the structure and function of the human body. Practical use of medical terminology as applied to and identifying organ systems, organs and what they do, pathology, treatments, and specialists in medical fields. Students will be required to participate in lab exercises, dissections, lab practical, quizzes and exams. This course does include a laboratory component and meets graduation requirements for science.	
<b>Academic Standards:</b>	This course is an extension of other science courses and is not covered by content standards.	
<b>Units:</b>	<b>Length:</b>	<b>Unit Outcomes:</b>
<b>Introduction</b>	5 weeks	These introductory chapters provide a foundation for the study of medical terminology. It teaches students to divide words into component parts, recognize basic combining forms (that will be used extensively when body system chapters are covered), suffixes, and prefixes along with all their meanings. Additionally, students gain an understanding of the organization and complexity of the body and become familiar with the location and function of major body organs. Lastly and most important is the transition from one body system to another in the order in which units are set up. Each unit has a bearing or a relationship to the next. It is important to understand that connection and eventually leads to the big picture.
<b>Digestive</b>	2 weeks	Name and ID organs of the digestive system. Describe the disease process and symptoms that affect these organs.
<b>Urinary</b>	2 weeks	Given an opportunity to learn about the structure and function of the microanatomy and macroanatomy of the urinary system.
<b>Blood</b>	2 weeks	Allow students to ID the various functions, formation and composition of blood; including different 7 blood cells, whole blood samples, blood types, diseases of blood, clinical procedures and lab tests.
<b>Cardiovascular</b>	3 weeks	Opportunities to understand the anatomy and physiology of the heart and accompanying blood vessels that transport blood to tissues as needed. Realize that gas exchange is integral in systemic circulation. Become acquainted with clinical procedures and tests to ID conditions and pathology.

<b>Respiratory</b>	2 weeks	Opportunities to understand the anatomy and physiology of the organs of respiration and thoracic cavity along with concepts learned from the last two units: Blood and Cardiovascular. Become acquainted with clinical procedures and tests to ID conditions and pathology. Learn about the abbreviations that accompany respiratory and breathing tests.
<b>Nervous</b>	2 weeks	Understand anatomy and physiology of the organs of the cranial and spinal cavities. along with concepts learned from the last 3 units: Blood, Cardiovascular and Respiration. Identify the 2 divisions of the NS - Central NS and Peripheral NS. Become acquainted to ID conditions and pathology. Learn about the efferent vs. afferent nerves along with the autonomic NS. Cranial Nerves, meninges, and parts of the brain are critical components.
<b>Skeletal</b>	4 weeks	Understand microanatomy and physiology of bones. Determine connections and concepts learned from the last 4 units: Blood, Cardiovascular, Respiration and Nervous Systems. Identify the 2 divisions of the skeleton. Become acquainted to ID conditions and pathology. Learning about parts, type, locations and shapes of bones are the critical components.
<b>Muscular</b>	2 weeks	Understand microanatomy and physiology of muscle. Determine connections and concepts learned from the last 5 units: Blood, Cardiovascular, Respiration, Nervous, and Skeletal Systems. Identify the 3 types of muscle. Become acquainted to ID conditions and pathology. Learning about parts, type, locations and naming of muscles and joints are the critical components.
<b>Integumentary</b>	2 weeks	The student will have an opportunity to learn about skin, the largest organ in the body. Skin functions include thermoregulation, protection from foreign antigens, protection from desiccation, and sensation of the environment for pain, temperature, pressure, and touch. The student will become familiar with terms associated with the medical specialty of dermatology. The student will be introduced to pathological conditions of the skin and the laboratory procedures used for diagnosis and treatment of these abnormalities

<b>Reproduction</b>	4 weeks	Opportunity to learn the major organs of the male reproductive system, define some abnormal and pathological conditions that affect the male system, and learn to differentiate between several types of sexually transmitted infections. Students will also be given the opportunity to define many combining forms used to describe the structures of the male system and explain various laboratory tests, clinical procedures, and abbreviations that are pertinent to the system. Opportunity to learn about locations and functions of the female reproductive organs. explore Students will have the opportunity to identify abnormal conditions of the system and conditions affecting newborns. In this context, they will be introduced to the laboratory tests, clinical procedures, and abbreviations related to gynecology and obstetrics. Students can apply this knowledge to understanding terms in the context of patient care, such as completing and processing medical reports and records.
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Unit Name: <b>Introduction</b>	<b>Length:</b> 5 weeks
<b>Essential Questions:</b> How do we analyze words by dividing them into their component parts? How will student relate medical terms to the structure and function of the human body? Can you ID organs, tissues and cells from body systems? How could you use a system of location like N-S-E W to describe locations on a patient's body?	<b>Outcomes:</b> These introductory chapters provide a foundation for the study of medical terminology. It teaches students to divide words into component parts, recognize basic combining forms (that will be used extensively when body system chapters are covered), suffixes, and prefixes along with all their meanings. Additionally, students gain an understanding of the organization and complexity of the body and become familiar with the location and function of major body organs. Lastly and most important is the transition from one body system to another in the order in which units are set up. Each unit has a bearing or a relationship to the next. It is important to understand that connection and eventually leads to the big picture.
<b>Academic Vocabulary:</b> cell, tissue, organ, organ systems, body cavities, abdominopelvic regions, body quadrants, spinal column, body planes, prone, supine, lateral, medial, superior, inferior, proximal, distal, anterior, posterior, dorsal, ventral, -plasty, -ectomy, -globin, -osis, -centesis, -cele, -trophy, -stomy, -tomy, -megaly, -oma, -plasia, -pathy, -penia, -sclerosis, -dynia, -malacia, -emia, -lysis, -algia, -gen / -genic, -gram, -stasis, -blast, -oid, ultra-, anti-, inter-, ecto-, endo-, hemi-, dia-, brady-, tachy-, epi-, auto-, dys-, pan-, neo-, peri-, para-, hyper-, retro-, trans-, syn-/sym-, poly-, intra-, pseudo-, re-	<b>Learning Targets:</b> Relate basic word parts to anatomical locations. Review the operation of a compound microscope for microanatomy of tissues. Identify the main word parts: prefix, suffix, combining vowel, and root words. Utilize the rules in medical terminology or word construction. Compare and contrast the studies associated with body systems. Identify the main word parts: prefix, suffix, combining vowel, and root words. Pronounce and spell terminology correctly. Apply the rules in medical terminology to topics. Compare and contrast the studies associated with body systems. Identify organs and regions to which they belong. Compare and contrast the studies associated with body systems. Identify symptoms and conditions of patients along with the procedures and possible remedies for patient well-being.
Topic 1: <b>Rules for Building Med Terms</b>	<b>Length:</b> 1 week
Lesson Frame: Bingo for terms list	We will review the three rules to basic word structure.
	I will apply the 3 rules to building med terms.
Lesson Frame: Dictation Comprehension Practical	We will practice with common prefix, root words and suffixes for med terms.
	I will know how to define med terms through the 3 rules and practice.
<b>Performance Tasks:</b> Lab Practical	Notes:
Topic 2: <b>Levels of Organization</b>	<b>Length:</b> 1 week
Lesson Frame: Cells and Tissues	We will learn and review the levels of organization.

	I will know the levels of organization leading up to organ systems.
Lesson Frame: Body Cavities and Organ ID	We will observe and ID the 5 body cavities and organs within.
	I will be able to match organs to body cavities.
Lesson Frame: Anatomical and Clinical Divisions of the body	We will locate specific body locations and areas of interest.
	I will be able to determine a location or clinical division of the human body.
<b>Performance Tasks:</b> Microscopy Review Body Cavities Lab	Notes:
<b>Topic 3: Body Regions</b>	<b>Length:</b> 1 week
Lesson Frame: Locations of the Back:	We will analyze specific areas of the spinal cavity.
	I will be able to locate all 6 areas of the spine along with specific names.
Lesson Frame: Planes of the Body	We will analyze planes of the body.
Lesson Frame: Directional and Positional Terms	We will review how to ID body positioning and anatomical locating.
	I will know patient perspective (left-right), antagonistic directions and specific local of organs.
<b>Performance Tasks:</b> Lab Practical Identify new word elements and understand the new medical term meaning. Dictation Comp Quiz	Notes:
<b>Topic 4: Suffixes and Terminology</b>	<b>Length:</b> 1 week
Lesson Frame: Building Body System Terms with Common Suffixes	We will determine the importance of suffixes.
	I will ID the most commonly uses suffixes.
Lesson Frame: Pear Deck - Term Factory	We will review suffixes.
	I will create study pieces for suffixes.
Lesson Frame: Face to the Name - Power Point	We will create photo discriptions of conditions containing specific suffixes.
	I will match the slideshow to a list of conditions.
<b>Performance Tasks:</b> Dictation Comp Quiz (See Unit 4 Performance Task)	Notes:

<b>Topic 5: Prefixes and Terminology</b>	<b>Length:</b> 1 week
Lesson Frame: Prefix Bingo	We will determine the importance of prefixes.
	I will ID the most commonly uses prefixes..
Lesson Frame: Face to the Name	We will review prefixes.
	I will create study peices for prefixes.
Lesson Frame:	We will create photo discriptions of conditions containing specific prefixes.
	I will match the slideshow to a list of conditions.
<b>Performance Tasks:</b> Dictation Comp quiz Lab Practical for Chapter 3-4 Given are the most commonly used Prefixes and Suffixes in Human Biology Terminology. 1.) Using each Suffix below and in the order they are listed , create slide depicting (illustrating) a Human Biology Term that contains that Suffix. 2.) Using each Prefix below and in the order they are listed , create slide depicting (illustrating) a Human Biology Term that contains that Prefix.  Options for presentation: PowerPoint, Prezi, or Animoto	Notes:

Unit Name: <b>Digestive System</b>	<b>Length:</b> 2 weeks
<b>Academic Vocabulary:</b> absorption, amino acids, digested, elimination, enzymes, fatty acids, gastrointestinal, glucose, triglycerides, deglutition, emulsification, peristalsis, mastication, defecation	<b>Outcomes:</b> Name and ID organs of the digestive system. Describe the disease process and symptoms that affect these organs.
<b>Essential Questions:</b> What are the 3 main functions of the digestive system? What are the differences between the alimentary canal organs and the accessory digestive organs?	<b>Learning Targets:</b> Relate basic word parts to anatomical locations. Apply the rules in medical terminology to topics. Compare and contrast the studies associated with the digestive system. Identify symptoms and conditions of patients along with the procedures and possible remedies for patient well-being.
Topic 1: <b>Structure and Function</b>	<b>Length:</b> 1 week
Lesson Frame: Oral Cavity	We will ID mechanical and chemical digestion in the oral cavity. I will know what teeth, tongue, salivary glands and salive do to aid in digestion.
Lesson Frame: Upper GI	We will ID mechanical and chemical digestion of the upper GI. I will know what the esophagus, stomach and duodenum do to aid in digestion.
Lesson Frame: Lower GI	We will ID mechanical and chemical digestion of the lower GI. I will know what the jejunum, ilium, ceacum and the rest of the colon does to aid in digestion.
<b>Performance Tasks:</b> Taste Bud Lab Fetal Pig Dissection Organic Compound Detection Lab Dictation Comp Terminology	Notes:
Topic 2: <b>Pathology and Procedure</b>	<b>Length:</b> 1 week
Lesson Frame: Symptoms of Digestive Pathology	We will dissect the fetal pig to ID digestive system. I will locate and function all digestive organs.
Lesson Frame: Describe by acting out Pathology of Digestive Organs	We will review the possible pathology and conditions in the alimentary canal. I will use prefix suffix and root combos to determine pathology of GI.
Lesson Frame: ID certain procedures and treatments for digestive system anomalies	We will observe symptoms of GI conditions. I will be able to determine pathology and possible treatment for problems.

<b>Performance Tasks:</b> Charades/Video Clips Dictation Comp Symptoms Dictation Comp Pathology Lab Practical for Dissections	Notes:

<b>Unit Name: Urinary System</b>	<b>Length: 2 weeks</b>
<b>Essential Questions:</b> What are the major functions of the kidneys? What are the medical and anatomical terms associated with the urinary system?	<b>Outcomes:</b> Given an opportunity to learn about the structure and function of the microanatomy and macroanatomy of the urinary system.
<b>Academic Vocabulary:</b> Bowman's Capsule, arterioles, calices, catheter, cortex, filtration, glomerulus, hilum, meatus, micturition, nephron, nitrogenous waste, potassium, reabsorption, trigone, ureter, urethra, urine, voiding, renal pelvis, renal medulla, cystoscopy, nephrolithiasis	<b>Learning Targets:</b> Apply the rules in medical terminology to topics. Compare and contrast differences in men and women. Learn major organs of the urinary system and their function. Identify the importance of the waste conversion process. Learn how a urinalysis has become an important diagnostic tool.
<b>Topic 1: Urinary structure and function</b>	<b>Length: 1 week</b>
Lesson Frame: Urinary Organs ID	We will dissect a fetal pig to ID urinary tract. I will locate and list all organs and function.
Lesson Frame: Microanatomy (parts of a nephron)	We will dissect a kidney to determine functionality. I will locate and list all microanatomy and function within the kidney.
Lesson Frame: Function of the Urinary System	We will compare and contrast functionality of urinary organs through urinalysis. I will be able to chemically analyze a urinalysis and ID problems from results.
<b>Performance Tasks:</b> Fetal Pig Dissection Kidney Dissection Kidney Function/Build a Nephron Dictation Comp Terminology	Notes:
<b>Topic 2: Pathology and Tests</b>	<b>Length: 1 week</b>
Lesson Frame: Urinalysis	We will use procedure to analyze urine samples. I will test urine for essential compound deficiencies or excesses.
Lesson Frame: Clinical Procedures for Pathology	We will use procedure to analyze pathology and condition.. I will test and observe for urogenital deficiencies or conditions.
Lesson Frame: Compare and Contrast Pathology in male and female	We will compare and contrast male to female anatomical differences. I will ID the variance that exists in male and female anatomy of urinary tract.

<b>Performance Tasks:</b> Urinalysis Lab Dictation Comp Pathology Lab Practical from Cell-Tissue-Organ-Organ System	Notes:

Unit Name: <b>Blood</b>	<b>Length:</b> 2 weeks
<b>Essential Questions:</b> How do blood cells develop from a common stem cell? What does each blood cell do? What is the function of each part of blood (plasma, serum, blood cells?) What is cell differentiation? How do you ID Blood Cells in microscopy?	<b>Outcomes:</b> Allow students to ID the various functions, formation and composition of blood; including different 7 blood cells, whole blood samples, blood types, diseases of blood, clinical procedures and lab tests.
<b>Academic Vocabulary:</b> albumin, antibody, bilirubin, coagulation, antigen, basophil, neutrophil, eosinophil, erythrocyte, leukocyte, thrombocyte, hemolysis, hemoglobin, heparin, lymphocyte, monocyte, macrophage, plasma, platelet, plasmapheresis, hemophilia, leukemia, anemia, hematocrit	<b>Learning Targets:</b> Name, locate, and describe the functions of the components of blood. Identify functions of other systems that are directly related to the blood system to include skeletal, circulatory, respiratory, lymphatic, endocrine systems and digestive systems. Identify the pathological conditions that affect and exist with the blood system. Be able to verify the circulation/pathway of blood throughout the body. Describe important laboratory tests and clinical procedures.
Topic 1: <b>Composition of Blood</b>	<b>Length:</b> 1 week
Lesson Frame: Plasma-RBC-WBC	We will ID blood components. I will be able to visually ID, through microscopy, blood components.
Lesson Frame: Functions of 7 blood cells	We will function out the 7 parts of blood. I will ID the parts of blood through physical characteristics.
Lesson Frame: Reading a Hematocrit	We will read and study various blood samples. I will know what a normal hematocrit look like in comparison to deficiencies.
<b>Performance Tasks:</b> Stages of development and differentiation Lab Microscopy of blood sample Lab Essential Compounds in Blood Lab Dictation Comp Quz Terminology	Notes:
Topic 2: <b>Blood Conditions/Pathology and Tests</b>	<b>Length:</b> 1 week
Lesson Frame: ABO blood Typing	We will become familiar with ABO typing system. I will be able to explain the differences in blood types.
Lesson Frame: Immunology: Antibody vs. Antigen	We will look at functionality of each blood component. I will know what differentiates the blood types and Rh factor.
Lesson Frame: Blood Borne Pathogens ID	We will emphasize the importance of safety when handling blood.

	I will comply with protocols when dealing with Blood Born Pathogens.
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<b>Performance Tasks:</b>	Notes:
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ABO Typing Lab	Notes:
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Dictation Comp Quiz Pathology/Procedure	Notes:
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Identifying Abbreviations for Blood system	Notes:
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Damage and Repair: Anatomy of a Clot	Notes:
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What is CRISPR?	Notes:
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<b>Unit Name: Cardiovascular System</b>	<b>Length: 3 weeks</b>
<b>Essential Questions:</b> How pulmonary circulation different than systemic circulation? What are the functions cardio anatomy? How is an EKG related to electro conduction of the heart and blood pressure?	<b>Outcomes:</b> Opportunities to understand the anatomy and physiology of the heart and accompanying blood vessels that transport blood to tissues as needed. Realize that gas exchange is integral in systemic circulation. Become acquainted with clinical procedures and tests to ID conditions and pathology.
<b>Academic Vocabulary:</b> aorta, artery, bundle of His, AV node, atrium, capillaries, Vena Cava, veins, ventricles, coronary arteries, diastole, systole, pericardium, endocardium, myocardium, pulmonary artery, pulmonary vein, septum, SA node, pacemaker, sphygmomanometer, tricuspid valve, mitral valve, aortic valve, pulmonary valve, pulse, blood pressure, murmur, aneurysm, varicose vein, fibrillation	<b>Learning Targets:</b> Apply the rules in medical terminology to topics. Name, locate, and describe the functions of the major organs of the cardiovascular system, especially the heart and major blood vessels. Identify the pathological conditions that affect and exist in the cardiovascular system. Be able to verify the circulation/pathway of blood throughout the body. Describe important laboratory tests and clinical procedures.
<b>Topic1: Cardio Anatomy and Physiology</b>	<b>Length: 2 weeks</b>
Lesson Frame: Parts and Function ID	We will dissect the fetal pig to ID cardiovascular organs. I will locate and list all organs and function.
Lesson Frame: Compare and Contrast: Left Side vs. Right Side	We will dissect a heart to determine functionality. I will locate and list all accessory organs and function in route of blood flow in 4-chambered heart.
Lesson Frame: Trace a Pathway - Capillary Circulation, Systemic Circulation, Cardio Circulation, and Pulmonary Circulation	We will compare and contrast functionality of left and right side of heart. I will be able to physically analyze blood and ID problems within CV system.
<b>Performance Tasks:</b> Fetal Pig Dissection 4 Chambered Heart Dissection Route of Blood Flow Practical Series of 4 Lab (valves, vessels, chambers, and circulations) Oxygenated vs. Deoxygenated blood Dictation Comp Quiz Terminology	Notes:
<b>Topic 2: Procedure/Test and Pathology</b>	<b>Length: 1 week</b>
Lesson Frame: Blood Pressure Lab - vasodilation and vasoconstriction	We will analyze the physiology of the heart itself for pathology. I will learn to use a sphygmometer in conjunction with a stethoscope to test BP.
Lesson Frame: Electricity and Pacemaker	We will locate and the start of electricity and follow it throughout the heart.

	I will know how electricity flows through the heart and its importance.
Lesson Frame: PQRST waves Electrocardiogram	We will study various EKG's to become familiar with all of the electrical movements.
	I will be able to read a normal PQRST and ID what is happening at each graph point in EKG.
<p><b>Performance Tasks:</b>                  BP and Tools Lab                  Cardio Conduction Lab ID                  How to Read an EKG                  Identify deficiency in EKG                  Congenital Heart Conditions                  Dictation Comp Quiz Pathology</p>	Notes:

Unit Name: <b>Respiratory System</b>	<b>Length:</b> 2 weeks
<b>Essential Questions:</b> What are the main structures of the chest cavity and respiratory system? Describe the mechanical process of breathing. Why is tissue elasticity important for optimal functioning?	<b>Outcomes:</b> Opportunities to understand the anatomy and physiology of the organs of respiration and thorascic cavity along with concepts learned from the last two units: Blood and Cardiovascular. Become acquainted with clinical procedures and tests to ID conditions and pathology. Learn about the abbreviations that accompany respiratory and breathing tests.
<b>Academic Vocabulary:</b> adenoids, alveoli, apex, bronchioles, bronchus, CO2, cilia, diaphragm, epiglottis, trachea, expiration, inspiration, pharynx, larynx, mediastinum, pleura, tonsil, paranasal sinuses, auscultation, sputum, asthma, atelectasis, pneumonia, tracheostomy, tracheotomy, Tuberculosis	<b>Learning Targets:</b> Apply the rules in medical terminology to topics. Name, locate, and describe the functions of the major organs of the respiratory system, especially the lungs and some parts of the Cardio System. Identify the pathological conditions that affect and exist in the respiratory system. Be able to verify the circulation/pathway of blood throughout the body. Be able to verify locations of gas exchange ie. CO <sub>2</sub> -> O <sub>2</sub> and O <sub>2</sub> -> CO <sub>2</sub> . Describe important laboratory tests and clinical procedures.
Topic 1: <b>Anatomy and Physiology</b>	<b>Length:</b> 1 week
Lesson Frame: Model a respiratory system	We will dissect the respiratory system of fetal pig. I will be able to list and match organs and function.
Lesson Frame: ID and Remove Respiratory Organs	We will make analogies to respiratory system from household items. I will be able build a model of respiratory system to list and match organs and function.
Lesson Frame: Tracheotomy vs. Tracheostomy	We will perform a tracheotomy and create a tracheostomy on our fetal pigs. I will know the difference between -otomy and -ostomy.
<b>Performance Tasks:</b> Respiration in the Bag Fetal Pig Dissection - Thorascic Cavity Endotracheal Intubation and Tracheostomy Practice (pig) Dictation /Comp Quiz Terminology	Notes:
Topic 2: <b>Pathology vs. Conditions of Respiratory</b>	<b>Length:</b> 1 week
Lesson Frame: Breathing Mechanics - PFT's	We will ID organs involved on respiration. I will match structure and function of accessory organs to respiratory system.
Lesson Frame: Modeling Pathology and Conditions for primary and accessory organs	We will observe symptoms and pathology of respiratory organs. I will review prefix and suffix ID to determine pathology.

Lesson Frame: Auscultation Exercises (stethoscope usage)	We will perform various observations to determine PFT's. I will be able to read and analyze my own PFT by using tools and measurements.
<b>Performance Tasks:</b> Complete Respiration Measurements Lab Abbreviations and Formulas for Pulmonary Function Testing Medical Report Diagnosis Symptoms Lab - Auscultation Dictation /Comp - Pathology /Procedure Lab Practical	Notes:

<b>Unit Name: Nervous System</b>	<b>Length: 2 weeks</b>
<b>Essential Questions:</b> What are the key parts of the functioning Nervous System? Identify the different neurons as well as microanatomy of neurons. What are some neurological disorders and conditions?	<b>Outcomes:</b> Understand anatomy and physiology of the organs of the cranial and spinal cavities. along with concepts learned from the last 3 units: Blood, Cardiovascular and Respiration. Identify the 2 divisions of the NS - Central NS and Peripheral NS. Become acquainted to ID conditions and pathology. Learn about the efferent vs. afferent nerves along with the autonomic NS. Cranial Nerves, meninges, and parts of the brain are critical components.
<b>Academic Vocabulary:</b> acetylcholine, astrocyte, axon, autonomic NS, blood -brain barrier, cauda equina, cell body, CNS, PNS, cerebellum, cerebrum, brain stem, dendrite, myelin sheath, dura mater, glial cell, hypothalamus, meninges, moter nerves, sensory nerves, neurotransmitter, stimuli, gyri, sulci, plexus, pons, synapse, venticles, EEG	<b>Learning Targets:</b> Apply the rules in medical terminology to topics. Name, locate, and describe the functions of the major organs of the nervous system. Identify the pathological conditions that affect and exist in the nervous system. Describe important laboratory tests and clinical procedures used.
<b>Topic 1: Microanatomy of the NS</b>	<b>Length: 1 week</b>
Lesson Frame: Parts of a Neuron and their Functions	We will ID parts of a neuron. I will locate the microantomy of the NS.
Lesson Frame: Types of Neurons and Locations	We will study the various types of neurons. I will list and match specific neuron to function and location.
Lesson Frame: Motor vs. Sensory Nerves	We will compare and contrast input vs output impulse. I will determine whether an action is a stimulus or a response.
<b>Performance Tasks:</b> Microscope Lab to ID various nerve tissue Action/Reaction Lab- Video Dictation Comp Terminology	Notes:
<b>Topic 2: CNS and PNS</b>	<b>Length: 1 week</b>
Lesson Frame: Parts of the Brain	We will dissect a brain. I will locate and function major parts of the brain.
Lesson Frame: Parts of the PNS - Spinal Cord, Plexuses, and Peripheral Nerves	We will compare and contrast the PNS and the CNS. I will locate and function major parts of the brain and spinal column.
Lesson Frame: Cranial Nerves and their Functions	We will study the number, name and function of the Cranial Nerves. I will ID and match Cranial Nerves 1-12 to their function.

**Performance Tasks:**

Sheep Brain Dissection

Color Code Brain Diagram

Differentiate between the Plexuses

Labeling the Meninges

Notes:

<b>Unit Name: Skeletal System</b>	<b>Length: 4 weeks</b>
<b>Essential Questions:</b> Many of the bones of the body have an English as well as a medical name. How many of these bones can you currently name? Many different types of fractures occur in bones, what are they? What is forensic science? What is the benefit of being strong, durable and yet light-weight?	<b>Outcomes:</b> Understand microanatomy and physiology of bones. Determine connections and concepts learned from the last 4 units: Blood, Cardiovascular, Respiration and Nervous Systems. Identify the 2 divisions of the skeleton. Become acquainted to ID conditions and pathology. Learning about parts, type, locations and shapes of bones are the critical components.
<b>Academic Vocabulary:</b> acetabulum, acromion, articular cartilage, bone, calcaneus, calcium, cancellous bone, cartilaginous tissue (cartilage), collagen, compact bone, condyle, cranial bones, diaphysis, disk (disc), epiphyseal plate, epiphysis, facial bones, fissure, fontanelle, foramen, fossa, haversian canals, malleolus, manubrium, mastoid process, medullary cavity, metaphysis, olecranon, osseous tissue, ossification, osteoblast, osteoclast, osteoporosis, periosteum, phosphorus, pubic symphysis, red bone marrow, ribs, sella turcica, sinus, styloid process, suture, temporomandibular joint, trabeculae, trochanter, tubercle, tuberosity, vertebra, xiphoid process, yellow bone marrow	<b>Learning Targets:</b> Apply the rules in medical terminology and forensic anthropology skeletal system. Name, locate, and describe the functions of bones. Identify types of mechanical movements related to these systems. Identify the pathological conditions that affect and exist with the skeletal system. Verify the how other body systems affect the skeletal system. Describe important laboratory tests and clinical procedures. Acquire an in depth understanding of skeletal system by completing the text/manual exercises and patient medical reports.
<b>Topic 1: Gross Anatomy of Bones</b>	<b>Length: 2 weeks</b>
Lesson Frame: Microanatomy of Bone	We will review the use of microscopy of tissue. I will be able to ID microanatomy of bone.
Lesson Frame: Type of Bone	We will physically ID the types of bone through observation. I know what and where compact and spongy bone is.
Lesson Frame: Landmarks and Shapes of Bone	We will observe various bone samples. I will be able to ID many landmarks on specific bones.
<b>Performance Tasks:</b> Microscope ID of Bone Material Lab Practical using Skeleton Race, Age and Gender of Skeleton - Lab	Notes:
<b>Topic 2: Skeleton Types and Measurements</b>	<b>Length: 2 weeks</b>
Lesson Frame: Axial Skeleton	We will compare and contrast the axial vs appendicular skeleton. I will know the function of axial skeleton and influential bones.
Lesson Frame: Appendicular Skeleton	We will compare and contrast the axial vs appendicular skeleton.

	I will locate and function the bones that comprise the appendages.
Lesson Frame: Forensic Anthropology	We will introduce various methodologies in forensic science.
	I will know how to ID and measure bones and landmarks involved in forensic anthropology.
<b>Performance Tasks:</b> Lab Practical - Complete Skeleton Forensic Science Lab - ID victims through Measurements Dictation Comp Quiz Terminology	Notes:

<b>Unit Name: Muscular System (and joints)</b>	<b>Length: 2 weeks</b>
<b>Essential Questions:</b> Can you explain various musculoskeletal disease conditions and terms related to joints? Will students be able to make a distinction between learning the location of the major bones, joints, and muscles of the body and understand how movement and flexibility of both internal and external structures depends on these tissues and organ systems, including parts of the viscera and blood vessels play an important in movement.	<b>Outcomes:</b> Understand microanatomy and physiology of muscle. Determine connections and concepts learned from the last 5 units: Blood, Cardiovascular, Respiration, Nervous, and Skeletal Systems. Identify the 3 types of muscle. Become acquainted to ID conditions and pathology. Learning about parts, type, locations and naming of muscles and joints are the critical components.
<b>Academic Vocabulary:</b> Part 1 - abduction, adduction, dorsiflexion, extension, fascia, flexion, insertion of a muscle, origin of a muscle, plantar flexion, pronation, rotation, skeletal muscle, smooth muscle, striated muscle, supination, visceral muscle Part 2 - articulation, bursa, bursae, ligament, suture joint, synovial cavity, synovial fluid, synovial joint, synovial membrane, tendon	<b>Learning Targets:</b> Apply the rules in medical terminology to topics for muscle and joints Name, locate, and describe the functions muscles, and joints. Identify types of mechanical movements related to these systems. Identify the pathological conditions that affect and exist with the muscle system. Verify the how other body systems affect the muscle system. Describe important laboratory tests and clinical procedures.
<b>Topic 1: Muscles</b>	<b>Length: 1 week</b>
Lesson Frame: Gross Anatomy of Muscles and Compare and Contrast the 3 Muscle Types	We will observe through microscopy the types of muscle. I will ID the three muscle types according to nucleus location.
Lesson Frame: Naming Strategies and ID of Skeletal Muscle	We will use all strategies in maning and ID of muscles. I will be able to make distinction between major classifications of muscle.
Lesson Frame: Skeletal Muscle Movements ( Kinesiology)	We will observe the physiology of muscle. I will match muscles to location, fiber direction, action, origin/insertion and divisions.
<b>Performance Tasks:</b> Muscle Types Microscopy: ID of nuclei Lab Practical - ID and Location of Muscles (Axial vs. Appendicular Skeleton)	Notes:
<b>Topic 2: Joints</b>	<b>Length: 1 week</b>
Lesson Frame: Types of Joints	We will study movements. I will ID movements and match muscle to bone to joint.
Lesson Frame: Parts of a Synovial Joint	We will dissect a synovial joint. I will become familiar with the anatomy and physiology of a synovial joint.

Lesson Frame: Joint Movement and Conditions	We will review actions and simple machines within the human body.
	I will demonstrate the 8 major actions for joints and match to joint types.
<b>Performance Tasks:</b> Kinesiology Lab Lab Practical - Joint Types and Locations (naming) Dictation Comp Quiz (muscle and joints)	Notes:

Unit Name: <b>Integumentary System</b>	<b>Length:</b> 2 weeks
<b>Essential Questions:</b> What are the structures in the skin and its accessory organs? What types of glands in the skin are responsible for the condition called acne? Where are these glands located, and how do they produce acne? How does the function of melanin explain not only the variety of skin colors but susceptibility to skin cancer? Which component of the skin is responsible for the stretch marks that pregnant women get when their bellies become very large?	<b>Outcomes:</b> The student will have an opportunity to learn about skin, the largest organ in the body. Skin functions include thermoregulation, protection from foreign antigens, protection from desiccation, and sensation of the environment for pain, temperature, pressure, and touch. The student will become familiar with terms associated with the medical specialty of dermatology. The student will be introduced to pathological conditions of the skin and the laboratory procedures used for diagnosis and treatment of these abnormalities.
<b>Academic Vocabulary:</b> albino, apocrine sweat gland, basal layer, collagen, cuticle, dermis, epidermis, epithelium, hair follicle, integumentary system, keratin, lipocyte, lunula, melanin, paronychium, pore, sebaceous gland, sebum, squamous epithelium, stratified, stratum, strata, stratum corneum, subcutaneous tissue, crust, cellulitis, eczema, exanthematous viral diseases, gangrene, impetigo, psoriasis, scabies, scleroderma, systemic lupus erythematosus (SLE), tinea, vitiligo, cyst, erosion, fissure, macule, nodule, papule, polyp, pustule, ulcer, vesicle, wheal	<b>Learning Targets:</b> Apply the rules in medical terminology to topics. Name, locate, and describe the functions of the components of skin. ID functions of other systems that are directly related to the skin system to include digestive, circulatory, nervous, and musculoskeletal systems. Identify the pathological conditions that affect and exist with the skin system. Be able to verify how the body regulates temperature. Describe important laboratory tests and clinical procedures.
Topic 1: <b>Gross Anatomy of Skin</b>	<b>Length:</b> 1 week
Lesson Frame: Microanatomy of Dermal Tissue	We will view integumentary system under microscope. I will ID anatomy by sight.
Lesson Frame: Skin Function Related to Other Organ Systems	We will reference the importance of skin. I will now all of the jobs that skin is responsible for.
Lesson Frame: Skin Pathology and Conditions	We will observe structural integrity of skin and the changes that result in breach. I will be able to ID the 15 pathological symptoms.
<b>Performance Tasks:</b> Microscopy of Skin Samples of various mammal vs. human Lab Practical - ID PArts of Skin Lab Practical - Matching Illustrations to skin pathology	Notes:
Topic 2: <b>Accessory Organs to Skin</b>	<b>Length:</b> 1 week
Lesson Frame: Hair	We will look at all accesory organs associated with skin. I will list the accessory organs to skin.

Lesson Frame: Nails	We will look at all accessory organs associated with skin.
Lesson Frame: Glands	I will function out the accessory organs.
<b>Performance Tasks:</b> Microscopy of Hair and Nails Protein Synthesis ID for Skin, Hair, Nails and Glandular Secretions Lab Practical	We will compare and contrast glandular function externally. I will know the difference between endocrine and exocrine glands. Notes:

Unit Name: <b>Reproductive System</b>	<b>Length:</b> 4 week
<p><b>Essential Questions:</b>          What are the terms for the organs in the male reproductive system?          How do hormones have an impact on male characteristics and spermatogenesis?          What are the combining forms that are used with the male reproductive system?          What are the terms for the organs in the female reproductive system?          How do the organs interact with hormones and function in the processes of menstruation and pregnancy?          What are the combining forms that are used with the female reproductive system?          What are the benchmark moments from conception to birth?</p>	<p><b>Outcomes:</b>          Opportunity to learn the major organs of the male reproductive system, define some abnormal and pathological conditions that affect the male system, and learn to differentiate between several types of sexually transmitted infections. Students will also be given the opportunity to define many combining forms used to describe the structures of the male system and explain various laboratory tests, clinical procedures, and abbreviations that are pertinent to the system. Opportunity to learn about locations and functions of the female reproductive organs. Students will have the opportunity to identify abnormal conditions of the system and conditions affecting newborns. In this context, they will be introduced to the laboratory tests, clinical procedures, and abbreviations related to gynecology and obstetrics. Students can apply this knowledge to understanding terms in the context of patient care, such as completing and processing medical reports and records.</p>
<p><b>Academic Vocabulary:</b>          bulbourethral gland, Cowper gland, ejaculation, ejaculatory duct, epididymis, epididymides, erectile dysfunction, flagellum, fraternal twins, glans penis, identical twins, impotence, interstitial cells of the testis, parenchyma, perineum, prepuce (foreskin), prostate gland, scrotum, semen, seminal vesicle, seminiferous tubules, spermatozoon, spermatozoa, sterilization, stroma, testis, testes, testosterone, vas deferens, adnexa uteri, amnion, areola, Bartholin glands, cervix, chorion, clitoris, coitus, corpus luteum, cul de sac, embryo, endometrium, estrogen, fallopian tube, fertilization, fetus, fimbriae, follicle stimulating hormone (FSH), gamete, genitalia, gestation, gonad, graafian follicle, gynecology, human chorionic, gonadotropin (HCG), hymen, labia, lactiferous ducts, luteinizing hormone (LH), mammary papilla, menarche, menopause, menstruation, myometrium, neonatology, obstetrics, orifice, ovary, ovulation, ovum, parturition, perineum, pituitary gland, placenta, pregnancy, progesterone, puberty, uterine serosa, uterus, vagina, vulva</p>	<p><b>Learning Targets:</b>          Compare and contrast abnormal conditions that exist for males.          Learn major organs of the reproductive and their function.          Identify the importance of hormone function and the processes of sperm production.          Describe important laboratory tests and clinical procedures used.          Relate basic word parts to anatomical locations.          Compare and contrast abnormal conditions that exist for females and of the newborn child.          Learn major organs of the reproductive and their function.          Identify the importance of hormone function and the processes of menstruation and pregnancy.          Describe important laboratory tests and clinical procedures used in gynecology and obstetrics.</p>
Topic 1: <b>Male Reproductive Organ Anatomy and Physiology</b>	<b>Length:</b> 1 week
Lesson Frame: Urogenital Observation	We will ID the male genital components
	I will be able to ID via sight and location.
Lesson Frame: Spermatogenesis to Copulation	We will review meiosis.
	I will be able ID location of sperm production.

Lesson Frame: STD's	We will research and ID various pathologies to male reproduction. I will link bacterial and viral pathologies to symptoms.
<b>Performance Tasks:</b> Lab Practical - Structure and Function Lab Practical - Causes for Pathology and Symptoms Dictation Comp Quiz Terminology	Notes:
<b>Topic 2: Female Reproductive Organ Structure and Function</b>	<b>Length:</b> 1 week
Lesson Frame: Urogenital Observation	We will ID the female genital components I will be able to ID via sight and location.
Lesson Frame: Accessory Organs	We will review meiosis. I will be able ID location of egg production.
Lesson Frame: Pathology and Conditions	We will research and ID various pathologies to female reproduction. I will link bacterial and viral pathologies to symptoms.
<b>Performance Tasks:</b> Lab Practical - Diagramming Hormone Production, Location and Function Cause and Effect of Pathogens Dictation Comp - Terminology	Notes:
<b>Topic 3: Mentrual Cycle to Conception to Birth</b>	<b>Length:</b> 2 week
Lesson Frame: Hormones Before and After Conception	We will match and monitor hormone production before and after conception.
Lesson Frame: Trimesters 1, 2, and 3	We will monitor development during these stages of pregnancy. I will annotate the changes for both mom and fetus.
Lesson Frame: Birthing	We will observe the differences in birthing methods. I will know the difference between natural birth, assited birth, and caesarian birth.
<b>Performance Tasks:</b> Hormone Matching/Timing Trimester Monitoring and Benchmarks - video series Compare and Contrast Birthing Procedures Monitoring Stages of Birth	Notes:

September	October	November	December	January	February	March	April	May	June
Unit 1	Unit 4	Unit 6	Unit 7 (cont.)	Unit 9	Unit 11	Unit 12	Unit 14	Health Fair Projects	
Unit 2	Unit 5	Unit 7	Unit 8	Unit 10		Unit 13	Unit 15		
Unit 3									