# Scope and Sequence

| Subject/Title of Unit | Grade | 6 Weeks | Estimated Time Frame (# of days) |
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| Biology<br>Body Systems | 9 - 12 | 6th Six Weeks | 19 days |

| TEKS/Student Expectations | Examples/Specifications: |
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| 1A Students will demonstrate safe practices during field and laboratory investigation<br>1B Students will make wise choices in the use and conservation of resources and the disposal or recycling of materials.<br>2A Students will plan and implement investigative procedures<br>2B Students will collect data and make measurements with precision;<br>2C Students will organize, analyze, evaluate, make inferences, and predict trends from data;<br>2D Students will communicate valid conclusions<br>3C Students will evaluate the impact of research on scientific thought, society, and the environment<br>3D Students will describe the connection between biology and future careers<br>3F Students will research and describe the history of biology and contributions of scientists<br>4A The students will identify the parts of prokaryotic and eukaryotic cells.<br>4B The students will investigate and identify cellular processes including homeostasis, permeability, energy production, transportation of molecules, disposal of wastes, function of cellular parts, and synthesis of new molecules.<br>4C Students will compare the structures and functions of viruses to cells and describe the role of viruses in causing diseases and conditions such as AIDS, common colds, smallpox, influenza, and warts<br>4D Students will identify and describe the role of bacteria in maintaining health such as in digestion and in causing diseases such as in streptococcus infections and diphtheria<br>5A Students will compare cells from different parts of plants and animals including roots, stems, leaves, epithelia, muscles and bones to show specialization of structure and function<br>5 C Students will sequence the levels of organization in multi-cellular organisms to relate the parts to each other and to the whole<br>9A Students will compare the structures and functions of different types of biomolecules such as carbohydrates, lipids, proteins, and nucleic acids<br>10A Students will interpret the functions of systems in organisms including circulatory, digestive, nervous, endocrine, reproductive, integumentary, skeletal, respiratory, muscular, excretory and immune<br>10B Students will compare the interrelationships of organ systems to each other and to the body as a whole<br>11A Students will identify and describe the relationships between internal feedback mechanisms in the maintenance of homeostasis<br>11B Students will investigate and identify how organisms , including humans, respond to stimuli<br>11C Students will analyze the importance of nutrition, environmental | Students will:<br><br>Gather data, graph data, interpret data, and distinguish observations from inferences, using laboratory equipment properly.<br><br>Explain how the human body is organized<br>Explain how each body system plays its part in maintaining homeostasis<br>Compare peripheral and central nervous system<br>Identify the organs of each body system and give its structure and specialized function within the system as a whole<br>Identify the 5 types of sensory receptors and demonstrate their functions in a laboratory investigation<br>Learn the effects of drugs/alcohol on the nervous system<br>Define the relationship between the muscular, skeletal and integumentary systems<br>Define the relationship between the circulatory and respiratory systems<br>Compare pulmonary and systemic circulation<br>Define the relationship between the digestive and excretory systems<br>Relate good nutrition to proper body functioning<br>Define the relationship between the endocrine and reproductive systems<br>Discuss cause and prevention of disease |

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| conditions, and physical exercise on health<br>11D Students will summarize the role of microorganisms in maintaining and disrupting equilibrium including diseases in plants and animals and decay in an ecosystem | |
| **Language of Instruction:** | **Instructional Resources/Textbook Correlations:** |
| Specialized cell, epithelial, connective, nervous, muscle – tissues, homeostasis, feedback inhibition, neuron, cell body, dendrite, axon, myelin sheath, resting and action potential, threshold, synapse, neurotransmitter, meninges, cerebrospinal fluid, cerebrum, cerebellum, brain stem, thalamus, hypothalamus, reflex, reflex arc, sensory receptor, pupil, lens, retina, rod, cone, cochlea, semicircular canal, taste bud, drug, stimulant, depressant, fetal alcohol syndrome, drug abuse, addiction, periosteum, bone marrow, cartilage, ossification, joint, ligament, myosin, actin, neuromuscular junction, tendon, epidermis, keratin, melanin, dermis, hair follicle, myocardium, atrium, ventricle, pulmonary vs. systemic circulation, valve, pacemaker, aorta, artery, capillary, vein, atherosclerosis, plasma, hemoglobin, lymphocyte, platelet, lymph, pharynx, trachea, larynx, bronchus, alveolus, diaphragm, nicotine, emphysema, Calorie, carbohydrate, fat, protein, vitamin, mineral, amylase, esophagus, peristalsis, stomach, chime, small intestine, pancreas, liver, villus, large intestine, kidney, ureter, urinary bladder, nephron, filtration, glomerulus, Bowman's capsule, reabsorption, loop of Henle, urethra, hormone, target cell, exocrine gland, endocrine gland, prostaglandin, pituitary gland, diabetes mellitus, ovary, testis, puberty, scrotum, seminiferous tubule, epididymis, vas deferens, urethra, penis, follicle, ovulation, fallopian tube, uterus, vagina, menstrual cycle, corpus luteum, menstruation, sexually transmitted diseases, zygote, implantation, differentiation, gastrulation, neurulation, placenta, fetus, disease, pathogen, germ theory of disease, vector, antibiotic, immunity, inflammatory response, fever, interferon, immune response, antigen, antibody, vaccination, allergy, histamine, asthma, risk factor, tumor, carcinogen, | Textbook – Chapters 35-40<br><br>Lab- Sensory and Reflexes Lab<br>Lab – Fetal Pig or Rat Dissection<br>Lab – Blood Pressure Lab<br><br>**Weblinks/Other Resources:**<br><br>TAKS Workbook<br>The Incredible Machine Video<br>Miracle of Life Video |
| **Evaluation/External Assessment/Local Assessment:** | **Best Instruction Timeline:** |
| TAKS Bell ringers<br>Chapter Worksheets<br>Lab reports<br>Daily Work<br>Homework<br>Teacher-designed test | 2 days - Nervous System<br>3 days - Skeletal, Muscular and Integumentary System<br>3 days - Circulatory and Respiratory System<br>2 days - Digestive and Excretory System<br>1 day - Endocrine and Reproductive System<br>1 day - Immune System and Disease<br>3 days - Dissections |

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| | 4 days - Assessment |