

SEPTEMBER

MONTH	UNITS	STANDARDS	CHAPTERS	KEY IDEAS/CONCEPTS	PERFORMANCE INDICATORS/SKILLS
	<ul style="list-style-type: none"> Nervous System 	<p>STANDARD 1 Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</p> <p>STANDARD 4 Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.</p>	35	<p>Key Idea 1: Living things are both similar to and different from each other and from nonliving things.</p>	<p>PERFORMANCE INDICATOR 1.2 Describe and explain the structures and functions of the human body at different organizational levels (e.g., systems, tissues, cells, organelles).</p> <p>PERFORMANCE INDICATOR 1.3 Explain how a one-celled organism is able to function despite lacking the levels of organization present in more complex organisms.</p>
	SUPPLEMENTAL CONTENT & LEARNING STRATEGIES	MAJOR UNDERSTANDINGS		LAB THEMES	ASSESSMENTS
	<p>Introduction to the human body and human body systems. Nervous interaction and maintenance of HOMEOSTASIS.</p> <p>Drug effects on the human body.</p> <p>Vocab: Homeostasis Tissue Neurons Synapse Neurotransmitter Sensory Receptors Drugs and Effects</p>	<p>1.2a Important levels of organization for structure and function include organelles, cells, tissues, organs, organ systems, and whole organisms.</p> <p>1.2b Humans are complex organisms. They require multiple systems for digestion, respiration, reproduction, circulation, excretion, movement, coordination, and immunity. The systems interact to perform the life functions.</p> <p>1.2c The components of the human body, from organ systems to cell organelles, interact to maintain a balanced internal environment. To successfully accomplish this, organisms possess a diversity of control mechanisms that detect deviations and make corrective actions.</p> <p>1.2d If there is a disruption in any human system, there may be a corresponding imbalance in homeostasis.</p> <p>1.2e The organs and systems of the body help to provide all the cells with their basic needs. The cells of the body are of different kinds and are grouped in ways that enhance how they function together.</p> <p>1.2f Cells have particular structures that perform specific jobs. These structures perform the actual work of the cell. Just as systems are coordinated and work together, cell parts must also be coordinated and work together.</p> <p>1.2g Each cell is covered by a membrane that performs a number of important functions for the cell. These include: separation from its outside environment, controlling which molecules enter and leave the cell, and recognition of chemical signals. The processes of diffusion and active transport are important in the movement of materials in and out of cells.</p> <p>1.3a The structures present in some single-celled organisms act in a manner similar to the tissues and systems found in multicellular organisms, thus enabling them to perform all of the life processes needed to maintain homeostasis.</p>		<ul style="list-style-type: none"> Reflexes Lab Learning and Conditioning Lab Senses Labs Feedback Labs Effects on the Synapse 	<p>Written assessment which encompasses problem solving, comprehension, synthesis & evaluation of performance indicators</p> <p>Evaluation of group/individual work in form of project, or class activity</p> <p>Evaluation of lab write-ups</p>

OCTOBER & NOVEMBER

MONTH	UNITS	STANDARDS	CHAPTERS	KEY IDEAS/CONCEPTS	PERFORMANCE INDICATORS/SKILLS
OCTOBER & NOVEMBER	<ul style="list-style-type: none"> Skeletal, Muscular, and Integumentary Systems Circulatory and Respiratory System 	<p>STANDARD 1 Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</p> <p>STANDARD 4 Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.</p>	36, 37	<p>Key Idea 1: Living things are both similar to and different from each other and from nonliving things.</p>	<p>PERFORMANCE INDICATOR 1.2 Describe and explain the structures and functions of the human body at different organizational levels (e.g., systems, tissues, cells, organelles).</p>
	SUPPLEMENTAL CONTENT & LEARNING STRATEGIES	MAJOR UNDERSTANDINGS		LAB THEMES	ASSESSMENTS
	<ul style="list-style-type: none"> Effects of smoking and drug use. 	<p>1.2a Important levels of organization for structure and function include organelles, cells, tissues, organs, organ systems, and whole organisms.</p> <p>1.2b Humans are complex organisms. They require multiple systems for digestion, respiration, reproduction, circulation, excretion, movement, coordination, and immunity. The systems interact to perform the life functions.</p> <p>1.2c The components of the human body, from organ systems to cell organelles, interact to maintain a balanced internal environment. To successfully accomplish this, organisms possess a diversity of control mechanisms that detect deviations and make corrective actions.</p> <p>1.2d If there is a disruption in any human system, there may be a corresponding imbalance in homeostasis.</p> <p>1.2e The organs and systems of the body help to provide all the cells with their basic needs. The cells of the body are of different kinds and are grouped in ways that enhance how they function together.</p> <p>1.2f Cells have particular structures that perform specific jobs. These structures perform the actual work of the cell. Just as systems are coordinated and work together, cell parts must also be coordinated and work together.</p> <p>1.2g Each cell is covered by a membrane that performs a number of important functions for the cell. These include: separation from its outside environment, controlling which molecules enter and leave the cell, and recognition of chemical signals. The processes of diffusion and active transport are important in the movement of materials in and out of cells.</p> <p>1.3a The structures present in some single-celled organisms act in a manner similar to the tissues and systems found in multicellular organisms, thus enabling them to perform all of the life processes needed to maintain homeostasis.</p>		<ul style="list-style-type: none"> Chicken Wing Dissection Joint Labs, Flexors and Extensors. Transdermal Patch Graphing Labs Diseases of Bloods Blood Typing Blood Transfusions Lab Respiratory Volume Lab 	<p>Written assessment which encompasses problem solving, comprehension, synthesis & evaluation of performance indicators</p> <p>Evaluation of group/individual work in form of project, or class activity</p> <p>Evaluation of lab write-ups</p>

DECEMBER

MONTH	UNITS	STANDARDS	CHAPTERS	KEY IDEAS/CONCEPTS	PERFORMANCE INDICATORS/SKILLS
DECEMBER	<ul style="list-style-type: none"> Chemistry of Life Digestive and Excretory Systems 	<p>STANDARD 1 Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</p> <p>STANDARD 4 Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.</p>	2, 38	<p>Key Idea 1: Living things are both similar to and different from each other and from nonliving things.</p>	<p>PERFORMANCE INDICATOR 1.2 Describe and explain the structures and functions of the human body at different organizational levels (e.g., systems, tissues, cells, organelles).</p>
	SUPPLEMENTAL CONTENT & LEARNING STRATEGIES	MAJOR UNDERSTANDINGS		LAB THEMES	ASSESSMENTS
	<ul style="list-style-type: none"> Nutrients Properties of Water Bonds Nutrition Analysis Diet and Exercise Anorexia and Bulimia Enzymes Super size Me 	<p>1.2a Important levels of organization for structure and function include organelles, cells, tissues, organs, organ systems, and whole organisms.</p> <p>1.2b Humans are complex organisms. They require multiple systems for digestion, respiration, reproduction, circulation, excretion, movement, coordination, and immunity. The systems interact to perform the life functions.</p> <p>1.2c The components of the human body, from organ systems to cell organelles, interact to maintain a balanced internal environment. To successfully accomplish this, organisms possess a diversity of control mechanisms that detect deviations and make corrective actions.</p> <p>1.2d If there is a disruption in any human system, there may be a corresponding imbalance in homeostasis.</p> <p>1.2e The organs and systems of the body help to provide all the cells with their basic needs. The cells of the body are of different kinds and are grouped in ways that enhance how they function together.</p> <p>1.2f Cells have particular structures that perform specific jobs. These structures perform the actual work of the cell. Just as systems are coordinated and work together, cell parts must also be coordinated and work together.</p> <p>1.2g Each cell is covered by a membrane that performs a number of important functions for the cell. These include: separation from its outside environment, controlling which molecules enter and leave the cell, and recognition of chemical signals. The processes of diffusion and active transport are important in the movement of materials in and out of cells.</p> <p>1.3a The structures present in some single-celled organisms act in a manner similar to the tissues and systems found in multicellular organisms, thus enabling them to perform all of the life processes needed to maintain homeostasis.</p>		<ul style="list-style-type: none"> Molecular Model Enzyme Lab Blood Sugar Levels Kidney Dissection Cracker Lab 	<p>Written assessment which encompasses problem solving, comprehension, synthesis & evaluation of performance indicators</p> <p>Evaluation of group/individual work in form of project, or class activity</p> <p>Evaluation of lab write-ups</p>

JANUARY

MONTH	UNITS	STANDARDS	CHAPTERS	KEY IDEAS/CONCEPTS	PERFORMANCE INDICATORS/SKILLS
JANUARY	<ul style="list-style-type: none"> Endocrine and Reproductive Systems Review for Midterm Exam 	<p>STANDARD 1 Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</p> <p>STANDARD 4 Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.</p>	39	<p>Key Idea 1: Living things are both similar to and different from each other and from nonliving things.</p>	<p>PERFORMANCE INDICATOR 1.2 Describe and explain the structures and functions of the human body at different organizational levels (e.g., systems, tissues, cells, organelles).</p>
	SUPPLEMENTAL CONTENT & LEARNING STRATEGIES	Major Understandings		LAB THEMES	ASSESSMENTS
	<ul style="list-style-type: none"> Reproductive Strategies Fetal development Maintenance of Homeostasis 	<p>1.2a Important levels of organization for structure and function include organelles, cells, tissues, organs, organ systems, and whole organisms.</p> <p>1.2b Humans are complex organisms. They require multiple systems for digestion, respiration, reproduction, circulation, excretion, movement, coordination, and immunity. The systems interact to perform the life functions.</p> <p>1.2c The components of the human body, from organ systems to cell organelles, interact to maintain a balanced internal environment. To successfully accomplish this, organisms possess a diversity of control mechanisms that detect deviations and make corrective actions.</p> <p>1.2d If there is a disruption in any human system, there may be a corresponding imbalance in homeostasis.</p> <p>1.2e The organs and systems of the body help to provide all the cells with their basic needs. The cells of the body are of different kinds and are grouped in ways that enhance how they function together.</p> <p>1.2f Cells have particular structures that perform specific jobs. These structures perform the actual work of the cell. Just as systems are coordinated and work together, cell parts must also be coordinated and work together.</p> <p>1.2g Each cell is covered by a membrane that performs a number of important functions for the cell. These include: separation from its outside environment, controlling which molecules enter and leave the cell, and recognition of chemical signals. The processes of diffusion and active transport are important in the movement of materials in and out of cells.</p> <p>1.3a The structures present in some single-celled organisms act in a manner similar to the tissues and systems found in multicellular organisms, thus enabling them to perform all of the life processes needed to maintain homeostasis.</p>		<ul style="list-style-type: none"> Fetal Growth and Development Endocrine Lab 	<p>Written assessment which encompasses problem solving, comprehension, synthesis & evaluation of performance indicators</p> <p>Evaluation of group/individual work in form of project, or class activity</p> <p>Evaluation of lab writeups</p>

FEBRUARY

MONTH	UNITS	STANDARDS	CHAPTERS	KEY IDEAS/CONCEPTS	PERFORMANCE INDICATORS/SKILLS
	<ul style="list-style-type: none"> Immune System and Disease 	<p>STANDARD 1 Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</p> <p>STANDARD 4 Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.</p>	40	<p>Key Idea 1: Living things are both similar to and different from each other and from nonliving things.</p>	<p>PERFORMANCE INDICATOR 1.2 Describe and explain the structures and functions of the human body at different organizational levels (e.g., systems, tissues, cells, organelles).</p>
	<p>SUPPLEMENTAL CONTENT & LEARNING STRATEGIES</p>	<p>Major Understandings</p>		<p>LAB THEMES</p>	<p>ASSESSMENTS</p>
	<ul style="list-style-type: none"> AIDS / HIV Stance Cancer Mitosis and Meiosis 	<p>1.2a Important levels of organization for structure and function include organelles, cells, tissues, organs, organ systems, and whole organisms.</p> <p>1.2b Humans are complex organisms. They require multiple systems for digestion, respiration, reproduction, circulation, excretion, movement, coordination, and immunity. The systems interact to perform the life functions.</p> <p>1.2c The components of the human body, from organ systems to cell organelles, interact to maintain a balanced internal environment. To successfully accomplish this, organisms possess a diversity of control mechanisms that detect deviations and make corrective actions.</p> <p>1.2d If there is a disruption in any human system, there may be a corresponding imbalance in homeostasis.</p> <p>1.2e The organs and systems of the body help to provide all the cells with their basic needs. The cells of the body are of different kinds and are grouped in ways that enhance how they function together.</p> <p>1.2f Cells have particular structures that perform specific jobs. These structures perform the actual work of the cell. Just as systems are coordinated and work together, cell parts must also be coordinated and work together.</p> <p>1.2g Each cell is covered by a membrane that performs a number of important functions for the cell. These include: separation from its outside environment, controlling which molecules enter and leave the cell, and recognition of chemical signals. The processes of diffusion and active transport are important in the movement of materials in and out of cells.</p> <p>1.3a The structures present in some single-celled organisms act in a manner similar to the tissues and systems found in multicellular organisms, thus enabling them to perform all of the life processes needed to maintain homeostasis.</p>		<ul style="list-style-type: none"> Research project 	<p>Written assessment which encompasses problem solving, comprehension, synthesis & evaluation of performance indicators</p> <p>Evaluation of group/individual work in form of project, or class activity</p> <p>Evaluation of lab writeups</p>

MARCH

MONTH	UNITS	STANDARDS	CHAPTERS	KEY IDEAS/CONCEPTS	PERFORMANCE INDICATORS/SKILLS
MARCH	Cells – Structures and respective functions Photosynthesis and Respiration	<p>STANDARD 1 Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</p> <p>STANDARD 4 Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.</p>	7,8,9	<p>Key Idea 1: Living things are both similar to and different from each other and from nonliving things.</p> <p>Key Idea 3: Individual organisms and species change over time.</p>	<p>PERFORMANCE INDICATOR 1.2 Describe and explain the structures and functions of the human body at different organizational levels (e.g., systems, tissues, cells, organelles).</p> <p>PERFORMANCE INDICATOR 3.1 Explain the mechanisms and patterns of evolution.</p>
	SUPPLEMENTAL CONTENT & LEARNING STRATEGIES	MAJOR UNDERSTANDINGS		LAB THEMES	ASSESSMENTS
	<p>Absorption: Structure of the cell membrane, function of the cell membrane (passive & active transport, pinocytosis, phagocytosis), intercellular transport & intracellular circulation Nervous Regulation: Neurotransmitters, impulse transmission, neuron structure and function Autotrophic Nutrition (significance, process, results and adaptations) Respiration: Anaerobic vs. aerobic</p>	<p>1.2f Cells have particular structures that perform specific jobs. These structures perform the actual work of the cell. Just as systems are coordinated and work together, cell parts must also be coordinated and work together.</p> <p>1.2g Each cell is covered by a membrane that performs a number of important functions for the cell. These include: separation from its outside environment, controlling which molecules enter and leave the cell, and recognition of chemical signals. The processes of diffusion and active transport are important in the movement of materials in and out of cells.</p> <p>1.2h Many organic and inorganic substances dissolved in cells allow necessary chemical reactions to take place in order to maintain life. Large organic food molecules such as proteins and starches must initially be broken down (digested to amino acids and simple sugars respectively), in order to enter cells. Once nutrients enter a cell, the cell will use them as building blocks in the synthesis of compounds necessary for life.</p> <p>1.2i Inside the cell a variety of specialized structures, formed from many different molecules, carry out the transport of materials (cytoplasm), extraction of energy from nutrients (mitochondria), protein building (ribosomes), waste disposal (cell membrane), storage (vacuole), and information storage (nucleus).</p> <p>3.1j Billions of years ago, life on Earth is thought by many scientists to have begun as simple, single-celled organisms. About a billion years ago, increasingly complex multicellular organisms began to evolve.</p>		<ul style="list-style-type: none"> • Microscope Lab • Observing Cells • Graphing Labs 	<ol style="list-style-type: none"> 1. Written assessment which encompasses problem solving, comprehension, synthesis & evaluation of performance indicators 2. Evaluation of group/individual work in form of project, or class activity 3. Evaluation of lab write-ups

APRIL & MAY

MONTH	UNITS	STANDARDS	CHAPTERS	KEY IDEAS/CONCEPTS	PERFORMANCE INDICATORS/SKILLS
	<ul style="list-style-type: none"> Ecology Human Impact 	<p>STANDARD 1 Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</p> <p>STANDARD 4 Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.</p>	4,5,6	<p>Key Idea 1: Living things are both similar to and different from each other and from nonliving things.</p> <p>Key Idea 6: Plants and animals depend on each other and their physical environment.</p>	<p>PERFORMANCE INDICATOR 1.1 Explain how diversity of populations within ecosystems relates to the stability of ecosystems.</p> <p>PERFORMANCE INDICATOR 6.1 Explain factors that limit growth of individuals and populations.</p>
	SUPPLEMENTAL CONTENT & LEARNING STRATEGIES	MAJOR UNDERSTANDINGS		LAB THEMES	ASSESSMENTS
	<ul style="list-style-type: none"> Organism interactions Biomes Nutrient Cycles Ozone Depletion Greenhouse Effect Global Warming 	<p>1.1a Populations can be categorized by the function they serve. Food webs identify the relationships among producers, consumers, and decomposers carrying out either autotrophic or heterotrophic nutrition.</p> <p>1.1b An ecosystem is shaped by the nonliving environment as well as its interacting species. The world contains a wide diversity of physical conditions, which creates a variety of environments.</p> <p>1.1c In all environments, organisms compete for vital resources. The linked and changing interactions of populations and the environment compose the total ecosystem.</p> <p>1.1d The interdependence of organisms in an established ecosystem often results in approximate stability over hundreds and thousands of years. For example, as one population increases, it is held in check by one or more environmental factors or another species.</p> <p>1.1e Ecosystems, like many other complex systems, tend to show cyclic changes around a state of approximate equilibrium.</p> <p>1.1f Every population is linked, directly or indirectly, with many others in an ecosystem. Disruptions in the numbers and types of species and environmental changes can upset ecosystem stability.</p> <p>6.1a Energy flows through ecosystems in one direction, typically from the Sun, through photosynthetic organisms including green plants and algae, to herbivores to carnivores and decomposers.</p> <p>6.1b The atoms and molecules on the Earth cycle among the living and nonliving components of the biosphere. For example, carbon dioxide and water molecules used in photosynthesis to form energy-rich organic compounds are returned to the environment when the energy in these compounds is eventually released by cells. Continual input of energy from sunlight keeps the process going. This concept may be illustrated with an energy pyramid.</p> <p>6.1c The chemical elements, such as carbon, hydrogen, nitrogen, and oxygen, that make up the molecules of living things pass through food webs and are combined and recombined in different ways. At each link in a food web, some energy is stored in newly made structures but much is dissipated into the environment as heat.</p> <p>6.1d The number of organisms any habitat can support (carrying capacity) is limited by the available energy, water, oxygen, and minerals, and by the ability of ecosystems to recycle the residue of dead organisms through the activities of bacteria and fungi.</p> <p>6.1e In any particular environment, the growth and survival of organisms depend on the physical conditions including light intensity, temperature range, mineral availability, soil/rock type, and relative acidity (pH).</p>		<ul style="list-style-type: none"> Food Web Lab Human Impact Project 	<p>Written assessment which encompasses problem solving, comprehension, synthesis and evaluation of performance indicators.</p> <p>Evaluate of group/individual work in form of project, or class activity.</p>

JUNE

MONTH	UNITS	STANDARDS	CHAPTERS	KEY IDEAS/CONCEPTS	PERFORMANCE INDICATORS/SKILLS
JUNE	<ul style="list-style-type: none"> Ecology cont'd Exam Review 	<p>STANDARD 1 Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</p> <p>STANDARD 4 Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.</p>	5,6	<p>Key Idea 1: Living things are both similar to and different from each other and from nonliving things.</p> <p>Key Idea 6: Plants and animals depend on each other and their physical environment.</p>	<p>PERFORMANCE INDICATOR 1.1 Explain how diversity of populations within ecosystems relates to the stability of ecosystems.</p> <p>PERFORMANCE INDICATOR 6.1 Explain factors that limit growth of individuals and populations.</p>
	SUPPLEMENTAL CONTENT & LEARNING STRATEGIES	Major Understandings		LAB THEMES	ASSESSMENTS
	Multimedia presentation for introductory information (video, websearch, PowerPoint, etc.) Problem solving activity (group/individual) Lab Investigation <i>*Also See the "Supplemental Lab Activity Book"</i>	1.1a 1.1b 1.1c 1.1d 1.1e 1.1f 6.1a 6.1b 6.1c 6.1d 6.1e			Written assessment which encompasses problem solving, comprehension, synthesis & evaluation of performance indicators Evaluation of group/individual work in form of project, or class activity Evaluation of lab write-ups