



BIOLOGY

SCOPE & SEQUENCE
CREATED BY TEACHERS FOR THE
TEACHERS OF SRC

“Give the pupils something to do; not something to learn; and if the doing is of such a nature as to demand thinking; learning naturally results.”

~John Dewey



Biology

First Nine Weeks

Lab Safety

Chapter 1: The Science of Biology

Chapter 2: The Chemistry of Life

Chapters 3-7: Ecology

Second Nine Weeks

Chapter 8: Cell Structure and Function

Chapter 9: Photosynthesis

Chapter 22 & 23.1: Plants

Chapter 10: Cellular Respiration

SEMESTER EXAMS

Third Nine Weeks

Chapter 11: Cell Growth & Division

Chapter 13: DNA

Chapter 14: RNA & Protein Synthesis

Chapter 12: Introduction to Genetics and Reproduction (pp.933-936)

Chapter 15-16 Biotechnology

Fourth Nine Weeks

Chapters 17-20 & 24.3 (Primate Evolution)

Chapter 27: The Human Body (focus on blood flow, the brain, a the immune system)

EOC REVIEW

Chapters 24-25 Animals with dissections

*****EOC REVIEW WEB SITE – <http://bioeoc4src.weebly.com/>

Time Frame	Chapter/ Lesson	Science Activities	Vocabulary	NGSSS Benchmarks
ESSENTIAL QUESTIONS: 1. Given a problem, how would you utilize the scientific process to solve the problem? 2. Given a set of data, how would you organize, present, and interpret the data? 3. How has the discovery of the electron microscope impacted science and everyday life?				
1 st Quarter Weeks 1 & 2 (~ 10 days)	Unit 1: The Nature of Life Chapter 1: The Science of Biology	Procedures for Students Safety Guidelines, Safety Contract, & Safety Quiz	Observation Inference Hypothesis Controlled Experiment Ind. Variable Dep. Variable Control Group Data Theory Bias Biology DNA Sexual Reproduction Asexual Reproduction Metabolism Stimulus Homeostasis Evolve	<p>N.1.1 (High) - Define a problem based on a specific body of knowledge in Biology and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Pose questions about the natural world <input type="checkbox"/> Conduct systematic observations <input type="checkbox"/> Examine books and other sources of information to see what is already known <input type="checkbox"/> Plan investigations <input type="checkbox"/> Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs) <ul style="list-style-type: none"> <input type="checkbox"/> Pose answers, explanations, or descriptions of event <input type="checkbox"/> Generate explanations that explicate or describe natural phenomena (inferences) <input type="checkbox"/> Use appropriate evidence and reasoning to justify these explanations to others <input type="checkbox"/> Communicate results of scientific investigations <input type="checkbox"/> Evaluate the merits of the explanations produced by others. <p>N.1.3 (Low) - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>N.1.4 (High) - Identify sources of information and assess their reliability according to the strict standards of scientific investigation.</p> <p>N.1.6 (Moderate) - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>N.2.1 (High) - Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria of science).</p> <p>N.2.2 - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as arts, philosophy, and religions.</p> <p>N.3.1 (High) - Explain that a scientific theory is the culmination of many scientific investigations drawing together at the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.</p> <p>N.3.4 (Moderate) - Recognize that theories do not become laws, nor do laws become theories; theories are well supported explanations and laws are well supported descriptions.</p> <p>L.14.4 (Moderate) - Compare and contrast structure and function of various types of microscopes.</p>

Time Frame	Chapter/ Lesson	Science Activities	Vocabulary	NGSSS Benchmarks
ESSENTIAL QUESTIONS: <ol style="list-style-type: none"> 1. What are the four major biological macromolecules and how do they impact the functions of life? 2. What factors affect enzyme activity as a catalyst? 3. What properties of water make it the single most important molecule in plant life? 				
Weeks 3- 5 (~12 days)	Unit 1: The Nature of Life Chapter 2: The Chemistry of Life	Enzyme Lab	Atom Nucleus Electron Element Isotope Compound Ionic bond Covalent bond Molecule Van der Waals forces Hydrogen bond Cohesion Adhesion Mixture Solution Solute Solvent Suspension PH scale Buffer Monomer Polymer Carbohydrate Amino acid chemical reaction Reactant Activation energy Catalyst Substrate Ion Acid Base Lipid Protein Nucleotide Nucleic acid Product Enzyme	<p>L.18.1 (Moderate) - Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.</p> <p>L.18.11 (Moderate) - Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>L.18.12 (Moderate) - Discuss the special properties of water that contribute to Earth’s suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent.</p> <p>HONORS/ADVANCED:</p> <p>L.18.3 - Describe the structures of fatty acids, triglycerides, phospholipids, and steroids. Explain the functions of lipids in living organisms. Identify some reactions that fatty acids under go. Relate the structure and function of cell membrane.</p> <p>L.18.4- Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids under go. Relate the structure and function of enzymes.</p>

Time Frame	Chapter	Science Activities	Vocabulary	NGSSS Benchmarks	
Essential Questions					
<ol style="list-style-type: none"> 1. What is the environmental cost and benefits of using renewable and nonrenewable resources? 2. How do the changing biogeochemical cycles affect organisms in the environment in terms of both energy and matter? 3. What is the difference in the amount of energy available at the first trophic level compared to the amount of energy at the fourth trophic level? 					
Weeks 6-9 (~15 days)	Unit 2: ECOLOGY Chapters 3-7	*Close Read* <i>“Source of Half Earth’s Oxygen Gets Little Credit”</i>	Biosphere Species Community Biotic Factor Atmosphere Geosphere Weather Biome Understory Tyga Photic Zone Plankton Estuary Primary Producer Chemosynthesis Consumer Food Chain Food Web Ecological Pyramid Biogeochemical Cycle Nitrogen Fixation Limiting Nutrients Population Distribution Immigration Exponential Growth Carrying Capacity Density-Dependent Limiting Factor Density-Independent Limiting Factor Demography Habitat Niche Competitive Exclusion Keystone Species Commensalism Parasitism Primary Succession Secondary Succession	Ecology Population Ecosystem Abiotic Factor Hydrosphere Climate Greenhouse Effect Canopy Humus Permafrost Aphotic Zone Wetland Autotroph Photosynthesis Heterotroph Detritus Phytoplankton Trophic Level Biomass Nutrient Denitrification Population Density Age Structure Emigration Logistic Growth Limiting Factor Demographic Transition Tolerance Resource Principle Symbiosis Mutualism Ecological Succession Pioneer Species Biodiversity	L.17.2 (High) - Explain the general distribution of life in aquatic ecosystems as a function of chemistry, geography, light, depth, salinity and temperature. This benchmark can incorporate changes in salinity and its effect on membranes. L.17.4 (Moderate) - Describe changes in ecosystems resulting from seasonal variations, climate change and succession. L.17.5 (High) - Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity. L.17.8 (High) - Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, nonnative species. L.17.9 (Moderate) - Use a food web to identify and distinguish producers, consumers, and decomposers, and explain the transfer of energy through trophic levels. L.17.11 (High) - Evaluate the cost and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests. L.17.13 (High) - Discuss the need for adequate monitoring of environmental parameters when making policy decisions. L.17.20 (High) - Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability. E.7.1 (High) - Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon. Vocabulary Continued Ecosystem Services Anthrome Global Warming Deforestation Pollutant Smog Biological Sustainable Development Nonrenewable Resource Genetic Diversity Ecosystem Diversity Ecological Footprint Climate Change Monoculture Invasive Species Ozone Layer Magnification Renewable Resource Resilience Species Diversity
End of the 1 st Quarter					

Time Frame	Chapter/ Lesson	Science Activities	Vocabulary	NGSSS Benchmarks
<p>ESSENTIAL QUESTIONS:</p> <ol style="list-style-type: none"> 1. Why is the cell theory a scientific theory and not a scientific law? 2. What are some similarities between eukaryotic and prokaryotic cells? 3. How does water concentration outside of a cell affect the diffusion of water across a membrane? 				
<p><i>Start of the 2nd Quarter</i></p> <p>Weeks 10-11 (~10 days)</p>	<p>Unit 3: CELLS</p> <p>Chapter 8: Cell Structure & Function</p>		<p>Cell Cell Membrane Eukaryote Cytoplasm Ribosome Golgi Apparatus Lysosome Chloroplast Cell Wall Selectively Permeable Diffusion Aquaporin Isotonic Hypotonic Tissue Organ System</p> <p>Cell Theory Nucleus Prokaryotes Organelle Endoplasmic Reticulum Vacuole Cytoskeleton Mitochondrion Lipid Bilayer Homeostasis Facilitated Diffusion Osmosis Hypertonic Osmotic Pressure Organ Receptor</p>	<p>L.14.1 (Moderate) - Describe the scientific theory of cells (cell theory) and relate the history of its discovery to the process of science.</p> <p>L.14.2 (Moderate) - Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).</p> <p>L.14.3 (Moderate) - Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.</p> <p>N.3.1 (High) - Explain that a scientific theory is the culmination of many scientific investigations drawing together at the current evidence concerning a substantial range of phenomena; thus, a scientific theory represents the most powerful explanation scientists have to offer.</p> <p>HONORS/ADVANCED</p> <p>L.14.5- Explain the evidence supporting the scientific theory of the origin of eukaryotic cells (endosymbiosis).</p>
<p>Weeks 12-13 (~10 days)</p>	<p>Chapter 9: Photosynthesis</p>		<p>ATP Pigment Thylakoid NADP⁺ Light-Dependent Reactions Light-Independent Reactions Photosystem Electron Transport Chain Calvin Cycle</p> <p>Photosynthesis Chlorophyll Stroma ATP Synthase</p>	<p>L.18.7 (Moderate) - Identify the reactants, products, and basic functions of photosynthesis.</p> <p>L18.10 (High) - Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell.</p>

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Weeks 14-15 (~10 days)	Chapter 22 & 23.1: Plants		Alternation of generations Sporophyte Ovaries Gametophyte Ovule Bryophyte Fruit Vascular tissue Dicot Archegonium Monocot Antheridium Node Sporangium Stoma Tracheophyte Taproot Tracheid Meristem Xylem Guard cells Seed Capillary action Phloem Transpiration Gymnosperm Mesophyll Angiosperm Secondary growth Pollination Primary growth Cotyledon Vascular bundle Embryo sac Casparian strip Pollination Fibrous root Double fertilization Epidermis Endosperm Germination Vegetative reproduction Dormancy	<p>L.14.7 (Moderate) - Relate the structure of each of the major plant organs and tissues to physiological processes.</p> <p>L.15.6 (Moderate) - Discuss distinguishing characteristics of the domains and kingdoms of living organisms.</p>
Weeks 16-17 (~10 days)	Chapter 10: Cellular Respiration		Calorie Cellular Respiration Aerobic Anaerobic Glycolysis NAD+ Krebs' s Cycle Matrix Fermentation	<p>L.18.8 (Moderate) - Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.</p> <p>L.18.9 (Moderate) - Explain the interrelated nature of photosynthesis and cellular respiration.</p>
Week 18 3 ½ days	SEMESTER EXAMS			

Time Frame	Chapter/ Lesson	Science Activities	Vocabulary	NGSSS Benchmarks
<p>ESSENTIAL QUESTIONS:</p> <ol style="list-style-type: none"> 1. Explain why cellular reproduction is vital to living organisms. 2. Mutations occurring in what stage of the cell cycle can lead to uncontrolled cell growth? 3. How does sexual reproduction lead to genetic variation within a species? 				
<p><i>Start of 3rd Quarter</i></p> <p>Weeks 19-20 (~10 days)</p>	<p>Chapter 11: Cell Growth and Division</p>		<p>Cell division Asexual reproduction Sexual reproduction Chromosome Chromatin Cell cycle Interphase Mitosis Cytokinesis Prophase Chromatid Centromere Centriole Metaphase Anaphase Telophase Growth factor Cyclin Apoptosis Cancer Tumor Embryo Differentiation Totipotent Blastocyst Pluripotent Stem cell Multipotent</p>	<p>L.15.15 (Moderate) - Describe how mutation and genetic recombination increase genetic variation.</p> <p>L.16.8 (Moderate) - Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.</p> <p>L.16.14 (Moderate) - Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.</p>

Time Frame	Chapter/ Lesson	Science Activities	Vocabulary	NGSSS Benchmarks
<p>ESSENTIAL QUESTIONS:</p> <ol style="list-style-type: none"> 1. Why is DNA considered the universal code for life? 2. What is the only difference among the four DNA nucleotides? 				
<p>Weeks 21-22 (~10 days)</p>	<p>Chapter 13: DNA</p>		<p>Transformation Base Pairing DNA Polymerase</p> <p>RNA Ribosomal RNA Transcription RNA Promoter Exon Genetic Code Translation Operon Differentiation Homeobox Gene Mutation Point Frameshift Mutation Polyploidy</p> <p>Bacteriophage Replication Telomere</p> <p>Messenger RNA Transfer RNA Polymerase Intron Polypeptide Codon Anticodon Operator Homeotic Gene Hox Gene Mutation Mutagen</p>	<p>L.16.3 (High) - Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic material.</p> <p>L.16.5 (High) - Explain the basic process of transcription and translation, and how they result in the expression of genes.</p> <p>L.16.8 (Moderate) - Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.</p> <p>L.16.9 (Moderate) - Explain how and why the genetic code is universal and is common to almost all organisms.</p> <p>L.16.10 (High) - Evaluate the impact of biotechnology on the individual, society, and the environment including medical and ethical issues</p>
<p>Weeks 23-24 (~10 days)</p>	<p>Chapter 14: RNA & Protein Synthesis</p>			<p>L.15.15 (Moderate) - Describe how mutation and genetic recombination increase genetic variation.</p> <p>L.16.8 (Moderate) - Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.</p> <p>L.16.14 (Moderate) - Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction</p> <p>L.16.16 (Moderate) - Describe the process of meiosis, including independent assortment and crossing over. Explain how reduction division results in the formation of haploid gametes or spores.</p> <p>L.16.17 (High) - Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation.</p>

Time Frame	Chapter/ Lesson	Science Activities	Vocabulary	NGSSS Benchmarks	
<p>ESSENTIAL QUESTIONS:</p> <ol style="list-style-type: none"> 1. Many inherited disorders of humans appear in children of parents who do not have the disorder. How can you explain this? 2. Predict the results of a cross between a rabbit homozygous dominant for black coat color (BB) and a rabbit homozygous recessive for brown coat color (bb). 3. Explain why cellular reproduction is vital to living organisms. 4. Mutations occurring in what stage of the cell cycle can lead to uncontrolled cell growth? 5. How does sexual reproduction lead to genetic variation within a species? 					
<p>Weeks 19-21 (13 Days)</p>	<p>Chapter 12: Introduction to Genetics</p>		<p>Genetics Trait Gene Principle of Dominance Gamete Homozygous Phenotype Punnett Square Incomplete Dominance Multiple Alleles Homologous Haploid Tetrad</p> <p>Genome Sex Chromosome Sex-Linked Gene Nondisjunction Gel Electrophoresis</p> <p>Selective Breeding Hybridization Polymerase Chain Reaction Recombinant DNA Plasmid Transgenic Gene Therapy DNA Fingerprinting</p>	<p>Fertilization Hybrid Allele Segregation Probability Heterozygous Genotype Independent Assortment Codominance Polygenic Trait Diploid Meiosis Crossing-Over</p> <p>Karyotype Autosome Pedigree Restriction Enzyme Genomic Imprinting</p> <p>Biotechnology Inbreeding</p>	<p>L.16.1 (High) - Use Mendel's Laws of segregation and independent assortment to analyze patterns of inheritance. L.16.2 (High) - Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, co-dominant, sex-linked, polygenic, and multiple alleles. L.16.4 (High) - Explain how mutations in the DNA sequence may or may not result in phenotypic change. Explain how mutations in gametes may result in phenotypic changes in offspring.</p> <p>HE.912.C.1.3 - Evaluate how environment and personal health are interrelated. HE.912.C.1.4 - Analyze how heredity and family history can impact personal health. L.15.15 (Moderate) - Describe how mutation and genetic recombination increase genetic variation.</p> <p>ADVANCED/HONORS L.16.12 - Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, co-dominant, sex-linked, polygenic, and multiple alleles.</p> <p>L.16.10 (High) - Evaluate the impact of biotechnology on the individual, society, and the environment including medical and ethical issues.</p>
<p>Weeks 27-28 (~10 days)</p>	<p>Chapters 15-16: Biotechnology</p>		<p>Genetic Marker Clone DNA Microarray Forensics</p>		

Time Frame	Chapter/ Lesson	Science Activities	Vocabulary		NGSSS Benchmarks
ESSENTIAL QUESTIONS: <ol style="list-style-type: none"> 1. What scientific evidence and explanations support the theory of evolution? 2. What is the impact of extinction, genetic drift, and gene flow on populations? 3. How do limiting factors affect the carrying capacity of each population in a given year? 4. How do humans impact the environment? 5. What factors will cause a decrease in biodiversity and what is the consequence? 					
<p><i>Start of the 4th Quarter</i></p> <p>Weeks 29-31 (14 Days)</p>	<p>Unit 5: Evolution</p> <p>Chapters 17-20</p> <p>****Close Read****</p> <p>“Still Evolving, Human Genes Tell New Story”</p>		<p>Evolution Artificial Selection Fitness Biogeography Analogous Structure</p> <p>Gene Pool Frequency Polygenic Trait Stabilizing Selection Genetic Drift Founder Effect Hardy-Weinberg Principle Sexual Selection Speciation Behavioral Isolation Temporal Isolation</p> <p>Taxonomy Genus Taxon Order Phylum Domain Clade Derived Character</p> <p>Relative Dating Radiometric Dating Geologic Timescale Period Macroevolutionary Pattern Background Extinction Gradualism Adaptive Radiation Coevolution</p>	<p>Fossil Adaptation Natural Selection Homologous Structure Vestigial Structure</p> <p>Allele Single-Gene Trait Directional Selection Disruptive Selection Bottleneck Effect Genetic Equilibrium Gene Flow Reproductive Isolation Geographical Isolation Hox Gene</p> <p>Binomial Nomenclature Systematics Family Class Kingdom Phylogeny Cladogram Extinct</p> <p>Index Fossil Half Life Era Plate Tectonics Mass Extinction Punctuated Equilibrium Convergent Evolution Endosymbiotic Theory</p>	<p>L.15.1 (High) - Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.</p> <p>L.15.13 (Moderate) - Describe the conditions required for natural selection including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.</p> <p>N.1.3 (Low) - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>L.15.1 (High) - Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.</p> <p>L.15.8 (Moderate) - Describe the scientific explanation of the origin of life on Earth.</p> <p>L.15.10 (Moderate) - Identify basic trends in hominid evolution from early ancestors six million years ago to modern humans, including brain size, jaw size, language, and manufacture of tools.</p> <p>L.15.13 (Moderate) - Describe the conditions required for natural selection including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success.</p> <p>L.15.14 (Moderate) - Discuss mechanisms of evolutionary change other than natural selection, such as genetic drift and gene flow.</p> <p>L.15.15 (Moderate) - Describe how mutation and genetic recombination increase genetic variation.</p> <p>N.1.3 (Low)- Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p>

<p>Week 32</p>	<p>Unit 5: Evolution Cont.</p> <p>Chapter 24.3 Primate Evolution</p>		<p>Hominoid Bipedal Opposable Thumb</p>	<p>L.15.4 (High) - Describe how and why organisms are hierarchically classified and based on evolutionary relationships. L.15.5 (High) - Explain the reasons for changes in how organisms are classified. L.15.6 (Moderate) – Discuss distinguishing characteristics of the domains and kingdoms of living organisms L.17.5 (High) - Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity. L.17.8 (High) - Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, nonnative species. L.17.9 (Moderate) - Use a food web to identify and distinguish producers, consumers, and decomposers, and explain the transfer of energy through trophic levels. Explain the pathway of energy transfer through the trophic levels and the reduction of available energy at successive trophic levels. L.17.4 (Moderate) - Describe changes in ecosystems resulting from seasonal variations, climate change and succession.</p> <p>HONORS/ADVANCED L.15.2- Discuss the use of molecular clocks to estimate how long-ago various groups of organisms diverged evolutionarily from one another. L.15.3- Describe how biological diversity is increased by the origin of new species and how it is decreased by the natural process of extinction. L.15.12- List the conditions for Hardy-Weinberg equilibrium in a population and why these conditions are not likely to appear in nature. Use the Hardy-Weinberg equation to predict genotypes in a population from observed phenotypes.</p>
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Time Frame	Chapter/ Lesson	Science Activities	Vocabulary	NGSSS Benchmarks
ESSENTIAL QUESTIONS:				
<ol style="list-style-type: none"> How does blood pressure, blood volume, resistance, disease, and exercise affect the blood flow through the cardiovascular system? Once fertilization of an egg occurs, the blastocyst will implant itself into what part of the female reproductive system to start the beginning of pregnancy? How do people become resistant to antibiotics? How are vaccines important to individual and public health? 				
<p>Week 33 (9 Days)</p>	<p>Chapter 27: The Human Body (focus on blood flow, the brain, and the immune system)</p>	<p>Diagram of the Brain. Diagram for reproductive anatomy. Life’s Greatest Miracle; NOVA “What Makes Your Blood Flow” CPalms</p>	<p>Epithelial Tissue Connective Tissue Nervous Tissue Muscle Tissue Homeostasis Feedback Inhibition Infectious Disease Pathogen Inflammatory Response Antigen Humoral Immunity Cell Mediated Immunity</p>	<p>L.14.26 (Low) – Identify the major parts of the brain on diagrams or models. Identify the brain as an organ & its parts. **Identify the brain as an organ & its parts. L.14.36 (Moderate) – Describe the factors affecting blood flow through the cardiovascular system. L.16.13 (Moderate) – Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy. L.14.52 (Moderate) - Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics. L.14.6 (High) – Explain the significance of genetic factors, environmental factors, and pathogenic agents to health from the perspectives of both individual and public health. L.16.10 (High) - Evaluate the impact of biotechnology on the individual, society, and the environment including medical and ethical issues.</p>
<p>Week 34 (~5 days)</p>	<p>EOC REVIEW AND ASSESSMENT</p>			<p>ALL</p>

Time Frame	Chapter/ Lesson	Science Activities	Vocabulary		NGSSS Benchmarks
ESSENTIAL QUESTIONS:					
Week 36 (~5 days)	Chapters 24-25: Animals and Dissections		Invertebrate Vertebrate Radial Symmetry Zygote Cephalization Tetrapod Society Communication Digestive Tract Heart Closed Circulatory System Ventricle Kidney Malpighian Tubule	Chordate Feedback Inhibition Bilateral Symmetry Coelom Cartilage Behavior Kin Selection Language Rumen Open Circulatory System Excretion Nephridium Atrium	L.14.7 (Moderate) - Relate the structure of each of the major plant organs and tissues to physiological processes.
Week 37-38	TRANSITION TO NEXT YEAR/END OF YEAR TESTING/ACTIVITIES				