Chenango Valley High School
Living Environment Curriculum Map

NYS Learning/ Core Standards	Content (What needs to be taught?)	Curriculum Materials Used	(All) Assessments Used (Daily/Weekly/Benchmarks)	Time Line
Standard 1; Key Idea 1; Performance Indicators 1.1, 1.2, 1.3, 1.4 **KI 2; PI: 2.1, 2.2, 2.3, 2.4** **KI 3; PI: 3.1, 3.2, 3.3, 3.4, 3.5** **Common Core-Reading Standards (RST) 1, 3, 4, 7, 8 9** **Common Core-Writing Standards (WHST) 1, 2, 4, 5, 6, 7, 8, 9, 10**	**Scientific Problem Solving** • Making Observations- qualitative v quantitative • How do scientists formulate and test a hypothesis? **Experimental Design** • Review and utilize the steps of the scientific method • Review the experiments of Redi, Spallanzani, and Pasteur • Discuss how theories are developed **Scientific measurements** • Metric system- base units of measurements: meter, liter, grams, Celsius • Metric conversions **Laboratory Skills** • Use a triple beam balance, graduated cylinder, rules, thermometer, microscope **Laboratory techniques** • Data collection and organization- develop data table • Statistical analysis: mean. median, mode • Graphing skills: line, bar, circle graphs *Guiding Question: What is a scientist (biologist) and how do they do their work?*	**Textbook**: Chapter 1 **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as Jurassic Park, My Sister's Keeper, Secret Life of Bees, Fever 1793** **Informational works such as Chew On This, Race for the Double Helix, Silent Spring, Sand County Almanac** **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**	**Regents Style Test** **Quizzes** **Laboratories** • Experimental Design • Metric Labs • Equipment Labs	**September**

Standard 4; **KI 1;** **PI: 1.2** **KI 2;** **PI: 2.1** **KI 5;** **PI: 5.1** **RST 2, 4, 5, 6, 7** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	**Characteristics of Life** • Characteristics that all organisms share • Needs of organisms • Maintenance of homeostasis **Nature of Matter** • Atoms- protons, neutrons, electrons • Elements and isotopes • Compounds v mixtures • Chemical bonds- ionic v covalent v hydrogen **Properties of water** • Polarity • Cohesion v adhesion • Solutions v suspensions **Acids/ Bases** • pH scale • hydrogen ion concentration in relation to pH level • buffers **Carbon compounds** • Carbohydrates- function and structure • Lipids- function and structure • Proteins- function and structure • Nucleic acids- function and structure **Chemical reactions and enzymes** • Reactants v products • Enzymes and their role in biological systems • Regulation of enzymatic activity *Guiding Questions: How is chemistry involved in biology? What are some of the building blocks of life?*	**Textbook**: Chapter 1 and 2 **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as Jurassic Park, My Sister's Keeper, Secret Life of Bees, Fever 1793** **Informational works such as Chew On This, Race for the Double Helix, Silent Spring, Sand County Almanac** **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**	**Regents Style Test** **Quizzes** **Laboratories** • Yeast laboratory • Molecular modeling • Properties of water • Measuring pH • Enzyme Activity	**October**

Standard 4; **Key Idea 1;** **PI: 1.1** **KI 5;** **PI 5.1** **KI 6;** **PI: 6.1, 6.2, 6.3** **KI 7;** **PI: 7.1, 7.2** **RST 2, 5, 6, 7, 8, 9, 10** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	**The Biosphere** • Ecology • Levels of organization • Energy flow • Feeding relationships • Cycles of matter • Water cycle • Carbon cycle • Nitrogen cycle • Phosphorous cycle • Limiting factors **Ecosystems and Communities** • Role of climate • Factors shaping an ecosystem • Biotic v abiotic • Community interactions • Symbiotic relationships • Ecological succession • Biomes • Different ecosystems **Populations** • Characteristics of populations • Limiting factors • Density dependent v density independent • Human population growth **Humans and the Biosphere** • Human activities and the effect on the biosphere • Agriculture • Industrial growth and development • Renewable v nonrenewable resources • Resource management	**Textbook**: Chapters 3- 6 **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as Jurassic Park, My Sister's Keeper, Secret Life of Bees, Fever 1793** **Informational works such as Chew On This, Race for the Double Helix, Silent Spring, Sand County Almanac** **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**	**Regents Style Test** **Quizzes** **Laboratories** • Predator- Prey Simulation • Succession and Biodiversity Field Walk • Climates and Biomes • Population Growth • Invasive Species • How Does the Environment Affect an Eagle Population? Biodiversity (SED)	**November**

	• Value of biodiversity • Threats to biodiversity • Pollution • Invasive species • Ozone depletion • Global warming • Acid precipitation *Guiding Questions: How do organisms coexist in the world? Do humans have an impact on the biological systems in the world?*			
Standard 4; **Key Idea 1;** **PI: 1.2, 1.3** **RST 2, 5, 6, 7, 8, 9, 10** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	**Cell Theory, Cell Structure, Organelles** • History of development of cell theory • Cell theory • Prokaryote v eukaryote • Cell organelles- structure and function • Cell boundaries • Diffusion, osmosis, active transport • Levels of organization *Guiding Question: What are the basic building blocks of living organisms and how do they survive?*	**Textbook**: Chapter 7 **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as <u>Jurassic Park</u>, <u>My Sister's Keeper</u>, <u>Secret Life of Bees</u>, <u>Fever 1793</u>** **Informational works such as**	**Regents Style Test** **Quizzes** **Laboratories** • Using a Microscope • Observing Cells • Diffusion in an Egg • Diffusion and Osmosis (SED)	**Early-December**

		Chew On This, Race for the Double Helix, Silent Spring, Sand County Almanac **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**		
Standard 4: **Key Idea 1;** **PI: 1.2** **KI 5;** **PI: 5.1** **RST 2, 5, 6, 7, 8, 9, 10** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	**Chemical Activity in the Cell** (with an emphasis on cellular energetics: photosynthesis and respiration) • Review elements, compounds, simple chemistry • Constructing pathways of photosynthesis and respiration • Compare and contrast energy producing reactions in cells *Guiding Question: How do cells produce the energy required for various life activities?*	**Textbook**: Chapters 8 and 9 **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as Jurassic Park, My Sister's Keeper, Secret Life of Bees, Fever 1793** **Informational works such as Chew On This, Race for the Double Helix, Silent Spring, Sand County Almanac** **Synopsis articles from Science**	**Regents Style Test** **Quizzes** **Laboratories** • Structure of a Deciduous Leaf • Analysis of Plant Pigments Using Paper Chromatography • Factors Affecting Photosynthesis • Can Microbes Tell the Difference?	**Mid December through early January**

		News for Kids, Huffington Post, Science Daily and other web sites		
Standard 4; **Key Idea 2;** **PI: 2.1** **RST 2, 5, 6, 7, 8, 9, 10** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	**Cell Reproduction- Mitosis, Meiosis, and Chromosomes** • Identify landmark events in mitotic cell division in animal and plant cells • Identify landmark events in meiotic division in animal and plant cells • Compare the number and arrangement of chromosomes as a result of mitosis and as a result of meiosis • Cancer is uncontrolled cell division (mitosis) *Guiding Question: How does and organism increase the number of cells (and therefore increase in size or grow)? How does an organism repair damaged tissue?*	**Textbook**: Chapter 10 (and sections of 39) **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as <u>Jurassic Park</u>, <u>My Sister's Keeper</u>, <u>Secret Life of Bees</u>, <u>Fever 1793</u>** **Informational works such as <u>Chew On This</u>, <u>Race for the Double Helix</u>, <u>Silent Spring</u>, <u>Sand County Almanac</u>** **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**	**Regents Style Test** **Quizzes** **Laboratories** • Limits to Cell Size • Modeling Mitosis • Mitosis in Plants and Animal Cells • Modeling Meiosis	**Late January**

Standard 4; **Key Idea 2;** **PI 2.1** **RST 2, 5, 6, 7, 8, 9, 10** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	**Mendelian Genetics and Patterns of Inheritance** • Introduction to Gregor Mendel • Learn to use Punnet squares • Compare dominant and recessive alleles • Predict offspring results based on parental genetic information *Guiding Question: How are genetic traits passed on to offspring?* **Human Inheritance, Sex Determination, and Genetic Disorders** • Identify various human traits and predict offspring results • Construct human pedigrees • Identify major chromosomal anomalies • Predict inheritance patterns of genetic disorders • Predict the sex of an offspring *Guiding Questions: Can I predict what "my" offspring will look like?*	**Textbook**: Chapters 11 and 14 **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as <u>Jurassic Park</u>, <u>My Sister's Keeper</u>, <u>Secret Life of Bees</u>, <u>Fever 1793</u>** **Informational works such as <u>Chew On This</u>, <u>Race for the Double Helix</u>, <u>Silent Spring</u>, <u>Sand County Almanac</u>** **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**	**Regents Style Test** **Quizzes** **Laboratories** • Predicting Traits • Statistics and Probability in Genetics • Making a Karoytype • Constructing a Human Pedigree • Is it a boy or is it a girl?	**Early February**
Standard 4; **Key Idea 2;** **PI: 2.1, 2.2**	**Relationship between genes and DNA** • Griffith experiment- transforming agent • Avery • Hershey- Chase	**Textbook**: Chapter 12 **Teacher Developed PowerPoint Presentations**	**Regents Style Test** **Quizzes** **Laboratories**	**Mid to late February**

Key Idea 7; **PI: 7.2** **RST 2, 5, 6, 7, 8, 9, 10** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	**Structure of DNA** • Nucleotides- purines v pyrimidines • Structure of nucleotides • Chargaff's Rule • Watson, Crick, Franklin *Guiding Question: What is the structure and function of DNA?* **Chromosome Structure** • Chromatin • Histones • Nucleosomes **DNA Replication** • DNA polymerase • Complimentary strands *Guiding Question: How does DNA replication occur and what is the purpose of it?* • **Differences between DNA and RNA** structure and function • Ribose v deoxyribose • Number of strands • Uracil v thymine **Types of RNA** • mRNA • tRNA • rRNA *Guiding Questions: What are the various types of RNA and their respective functions?* **Transcription**	**Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as Jurassic Park, My Sister's Keeper, Secret Life of Bees, Fever 1793** **Informational works such as Chew On This, Race for the Double Helix, Silent Spring, Sand County Almanac** **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**	• Making a Karyotype • DNA Replication Model • DNA Extraction • Simulating Protein Synthesis	

	• RNA polymerase. promoters • DNA template • Intron v exon • Codons *Guiding Question: How is a DNA gene sequence transcribed into an mRNA sequence?* **Translation (Protein Synthesis)** • Role of mRNA role of tRNA • Role of ribosome • Polypeptide sequence *Guiding Question: How does a specific gene sequence, written in the language of DNA, ultimately produce a protein product that creates a phenotype?* **Gene Mutations** • Point mutations • Frame-shift mutations • Mutagenic agents **Chromosomal mutations** • Deletion • Duplication • Inversion • Translocation *Guiding Question: What are some agents that produce mutations and how do these mutations ultimately cause changes in the organism?*			
Standard 4; **Key Idea 2;** **PI: 2.1, 2.2**	**Gene Regulation** **Selective Breeding**	**Textbook**: Chapter 13 **Teacher Developed PowerPoint Presentations**	**Regents Style Test** **Quizzes**	**Late-February**

Key Idea 7; **PI: 7.2** **RST 2, 5, 6, 7, 8, 9, 10** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	• Hybridization • Inbreeding • Genetic variation **Manipulation of DNA- Tools of molecular Biology** • DNA profiling • Polymerase Chain Reaction • Genetic modification • DNA chips • Human Genome Project **Genetic Engineering** • Transgenic organisms • Cloning • Pros and cons of GMO • Ethics and responsibility *Guiding Question: How can we manipulate the genetic composition of various organisms?*	**Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as <u>Jurassic Park</u>, <u>My Sister's Keeper</u>, <u>Secret Life of Bees</u>, <u>Fever 1793</u>** **Informational works such as <u>Chew On This</u>, <u>Race for the Double Helix</u>, <u>Silent Spring</u>, <u>Sand County Almanac</u>** **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**	**Laboratories** • How Many CATs? A DNA profiling Simulation • Modeling restriction enzymes • Investigating the Effects o f Radiation on Seeds	
Standard 4; **Key Idea 3;** **PI: 3.1** **RST 2, 5, 6, 7, 8, 9, 10** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	**Charles Darwin** • Voyage of the Beagle • Darwin's observations • Natural selection • Survival of the fittest • Adaptations • Descent with modification **Lamarck**	**Textbook**: Chapter 15 through 18 **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School**	**Regents Style Test** **Quizzes** **Laboratories** • Great Fossil Find • Comparing Adaptations in Birds • Beaks of Finches (SED)	**March**

	Population Growth and Variation **Inherited Variation and Artificial Selection** **Evolutionary Relationships** • Phylogenetic trees **Evolutionary "Evidence"** • Fossil record • Biogeography • Homology • Embryology • Biochemistry *Guided Question: How do organisms change from generation to generation? What does the idea of natural selection state? What are some of the scientific evidence for natural selection?* **Taxonomy** • Kingdom characteristics • Dichotomous keys *Guided Question: How do we organize the vast number of living organisms?*	**Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as Jurassic Park, My Sister's Keeper, Secret Life of Bees, Fever 1793** **Informational works such as Chew On This, Race for the Double Helix, Silent Spring, Sand County Almanac** **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**	• Interpreting Fossil Evidence • Evidence for Evolution • Modeling Camouflage • Amino Acid Sequences and Evolution • Primate Evolution • Using and Constructing a Dichotomous Key • Practicing Cladistics	
Standard 4; Key Idea 1 PI 1.2 **Standard 4; Key Idea 5; PI 5.2, 5.3** **RST 2, 5, 6, 7, 8, 9, 10**	**Homeostasis in Organisms: Circulation and Immunity** • Identify parts of the human circulatory system • Compare and contrast circulatory structures • Discuss and illustrate immune responses • Understand and explain vaccine use • Investigate circulatory and immune system disorders *Guiding Questions: How are materials moved throughout the body? How do we gain immunity against foreign*	**Textbook**: Chapter 37 and 40 **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain	**Regents Style Test** **Quizzes** **Laboratories** • Virus Replication • Factors influencing heart rate • Examination of whole blood using Wright's Stain	**Early April**

WHST 1, 2, 4, 5, 6, 7, 8, 9, 10	*materials?*	• SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as <u>Jurassic Park</u>, <u>My Sister's Keeper</u>, <u>Secret Life of Bees</u>, <u>Fever 1793</u>** **Informational works such as <u>Chew On This</u>, <u>Race for the Double Helix</u>, <u>Silent Spring</u>, <u>Sand County Almanac</u>** **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**		
Standard 4; Key Idea 1 PI 1.2 **Standard 4; Key Idea 5; PI 5.2, 5.3** **RST 2, 5, 6, 7, 8, 9, 10** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	**Homeostasis in Organisms: Respiratory (Gas Exchange) System** • Examine the pathway of air into and out of the human body • Compare and contrast concentrations of various gasses in inhaled- exhaled air • Diagram and discuss O_2/CO_2 exchange at the alveolus level • Relate pulse rate to gas exchange rate • Investigate gas exchange systems disorders *Guiding Questions: How do human obtain the oxygen required for cellular processes?*	**Textbook**: Chapter 37 **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources**	**Regents Style Test** **Quizzes** **Laboratories** • Measuring Lung Capacity • SED: Making Connections	**Mid-April**

		Literature Works such as <u>Jurassic Park</u>, <u>My Sister's Keeper</u>, <u>Secret Life of Bees</u>, <u>Fever 1793</u> **Informational works such as <u>Chew On This</u>, <u>Race for the Double Helix</u>, <u>Silent Spring</u>, <u>Sand County Almanac</u>** **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**		
Standard 4; **Key Idea 1** **PI 1.2** **Standard 4;** **Key Idea 5;** **PI 5.2, 5.3** **RST 2, 5, 6, 7, 8, 9, 10** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	**Homeostasis in Organisms: Digestion** Nutrition Healthy diet Process of digestion Pathway of digestive system Digestive system disorders *Guiding Questions: How do humans obtain the nutrients necessary for life?*	**Textbook**: Chapter 38 **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as <u>Jurassic Park</u>, <u>My Sister's Keeper</u>, <u>Secret Life of Bees</u>, <u>Fever 1793</u>** **Informational works such as**	**Regents Style Test** **Quizzes** **Laboratories** • How do villi aid in absorption?	**Late April**

		Chew On This, Race for the Double Helix, Silent Spring, Sand County Almanac **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**		
Standard 4; **Key Idea 1** **PI 1.2** **Standard 4;** **Key Idea 5;** **PI 5.2, 5.3** **RST 2, 5, 6, 7, 8, 9, 10** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	**Homeostasis in Organisms: Excretory System** • Compare and contrast egestion to excretion • Identify main excretory wastes in humans • Investigate and identify organs in the human excretory waste disposal system • Investigate excretory system disorders *Guiding Question: What are the various physiological mechanisms that rid the human body of wastes?*	**Textbook**: Chapter 38 **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as Jurassic Park, My Sister's Keeper, Secret Life of Bees, Fever 1793** **Informational works such as Chew On This, Race for the Double Helix, Silent Spring, Sand County Almanac** **Synopsis articles from Science News for Kids, Huffington Post,**	**Regents Style Test** **Quizzes** **Laboratories** • Urinalysis	

		Science Daily and other web sites		
Standard 4; **Key Idea 1** **PI 1.2** **Standard 4;** **Key Idea 5;** **PI 5.2, 5.3** **RST 2, 5, 6, 7, 8, 9, 10** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	**Homeostasis in Organisms: Regulatory Systems** • Compare and contrast mechanisms involved in endocrine (chemical) v nervous (electrical) responses • Distinguish between voluntary and involuntary responses • Examine a neural pathway in a human and discuss the cell types involved • Investigate reflex arcs • Investigate nervous and endocrine system disorders *Guiding Question: How are the body systems coordinated so that the human body can respond to changes in the environment (either internal or external)?*	**Textbook**: Chapter 35 and 39 **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as Jurassic Park, My Sister's Keeper, Secret Life of Bees, Fever 1793** **Informational works such as Chew On This, Race for the Double Helix, Silent Spring, Sand County Almanac** **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**	**Regents Style Test** **Quizzes** **Laboratories** • Making Sensory Comparisons • Reflexes and the Human Nervous System • Diagnosing Endocrine Problems	**Early May**
Standard 4; **Key Idea 1** **PI 1.2**	**Homeostasis in Organisms: Skeletal and Muscular Systems** • Compare and contrast and identify the three types of muscle tissues	**Textbook**: Chapter 36 **Teacher Developed PowerPoint Presentations**	**Regents Style Test** **Quizzes**	

Standard 4; **Key Idea 5;** **PI 5.2, 5.3** **RST 2, 5, 6, 7, 8, 9, 10** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	• Compare and contrast and identify the major types of joints • Discuss their relationship between the skeletal and muscular systems • Investigate muscular and skeletal system disorders *Guiding Question: How do the muscles and bones of our body interact so that we can move from place to place?*	**Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as Jurassic Park, My Sister's Keeper, Secret Life of Bees, Fever 1793** **Informational works such as Chew On This, Race for the Double Helix, Silent Spring, Sand County Almanac** **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**	**Laboratories** • Bone Composition and Function • Comparing Three Types of Muscle • Chicken Wing Dissection	
Standard 4: **Key Idea 2:** **PI: 2.1** **Standard 4:** **Key Idea 4:** **PI: 4.1** **RST 2, 5, 6, 7, 8,**	**The continuity of life is sustained through reproduction and development** • Identify and describe the function of organs of the human reproductive systems • Investigate and discuss the roles of the various hormones, organs, and body structures involved in human reproduction • Graphically represent the hormone changes that occur during the human menstrual system	**Textbook**: Chapter 39 **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:**	**Regents Style Test** **Quizzes** **Laboratories** • How many Offspring? • Fetal growth and Development • Hormones of the Human Menstrual Cycle	**Mid-May**

9, 10 **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	• Examine the growth and development of a human fetus *Guiding Question: How is life continued in the human population> What changes occur to a human fetus as it develops from a fertilized egg to a baby?*	• Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual** **Internet Resources** **Literature Works such as <u>Jurassic Park</u>, <u>My Sister's Keeper</u>, <u>Secret Life of Bees</u>, <u>Fever 1793</u>** **Informational works such as <u>Chew On This</u>, <u>Race for the Double Helix</u>, <u>Silent Spring</u>, <u>Sand County Almanac</u>** **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**		
Standard 4: **Key Idea 1:** **PI: 1.2** **RST 2, 5, 6, 7, 8, 9, 10** **WHST 1, 2, 4, 5, 6, 7, 8, 9, 10**	**Plant Anatomy and Physiology** • Compare and contrast the major plant phyla • Discuss the specialized systems that plants have than enable them to survive • Discuss the reproductive mechanisms that plants have evolved for life in a terrestrial environment *Guiding Question: Plants are all over the world; how do they survive in such hostile environments?*	**Textbook**: Chapter 22 through 29 **Teacher Developed PowerPoint Presentations** **Guided notes developed by Michael Comet of South Lewis High School** **Audio-visual enhancements:** • Teacher's Domain • SAS Pathway • WebMax **Laboratory Manual**	**Regents Style Test** **Quizzes** **Laboratories** • A Microscopic Introduction to Plants • Stomata and Guard Cells • Velcro and Seed Dispersal • Embryonic Growth in Plants • The Plant Game • SED: Biodiversity	**Late-May**

		Internet Resources **Literature Works such as <u>Jurassic Park</u>, <u>My Sister's Keeper</u>, <u>Secret Life of Bees</u>, <u>Fever 1793</u>** **Informational works such as <u>Chew On This</u>, <u>Race for the Double Helix</u>, <u>Silent Spring</u>, <u>Sand County Almanac</u>** **Synopsis articles from Science News for Kids, Huffington Post, Science Daily and other web sites**		
	Review	Regents Review Review Packets Practice Regents Exams		**Early- June**

COMMON CORE Standards for Science: LITERACY (Addendum to Curriculum Maps) READING

Key Idea 1: Read and cite specific evidence from scientific sources to support scientific laws and hypotheses. Make logical inferences and conclusions based on evidence provided. Inquire about any inconsistencies.

Science Lessons to Utilize: All Units & Topics

Key Idea 3: Follow precisely a multistep procedure when carrying out experiment, taking measurements, performing technical tasks. Analyze the results and compare to information provided in background reading provided prior to the activity.

Science Lessons to Utilize: All Laboratory Activities

Key Idea 4: Determine the meaning of symbols, key terms, and other scientific words and phrases as they are used in specific scientific or technical context.

Science Lessons to Utilize: All Units & Topics

Key Idea 7: Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively as well as written information, to answer questions and solve problems.

Science Lessons to Utilize: All Units & Topics

Key Idea 8: Evaluate the hypotheses, data, analysis, and conclusions in a laboratory activity and compare the results to current accepted scientific explanations.

Science Lessons to Utilize: All Laboratory Activities

Key Idea 9: Synthesize information from a range of sources, especially experiments, into an understanding of a process or concept, and provide a coherent conclusion

Science Lessons to Utilize: All Units & Topics

*ADD to current Curriculum Maps: COMMON CORE: Literacy Standards (i.e. CC St Reading KI 2, CC St Writing KI 6)

All current lessons, topics, labs can be part of the Common Core as they DO include reading and writing.

COMMON CORE Standards for Science: LITERACY (Addendum to Curriculum Maps) WRITING

Key Idea 1: Write arguments focused on scientific content

a: Introduce scientific topics, establish significance of the topic, organize logical evidence to support current scientific understandings

c: Use scientific terms and proper syntax to support and clarify evidence to support current scientific understandings

e: Provide a concluding statement that supports the understandings presented

Science Lessons to Utilize: All Units & Topics

Key Idea 2: Write informative lab reports including scientific procedures & technical processes used during experiments

a: Introduce a topic and organize complex ideas, concepts and information so that each new element builds on that which precedes it to create a unified whole, include information from any relevant sources

e: Provide a concluding statement that follows from and supports the information or explanation presented

Science Lessons to Utilize: All Laboratory Activities

Key Idea 6: Use technology to produce, publish, update writing products as new information is introduced about current scientific understandings, especially findings from new research

Science Lessons to Utilize: All Units & Topics

Key Idea 7: Conduct short as well as more sustained research projects to answer a question or solve a problem, synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation

Science Lessons to Utilize: All Units & Topics

Key Idea 8: Gather relevant information from multiple sources, using effective search techniques, to investigate information provided about current scientific understandings

Science Lessons to Utilize: All Units & Topics

Key Idea 9: Draw evidence from various sources to support, analyze, research or contradict current scientific understandings

Science Lessons to Utilize: All Units & Topics

Key Idea 10: Write routinely over extended time frames a scientific journal about understandings presented in class

Science Lessons to Utilize: All Units & Topics