

TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
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WSWHE BOCES Living Environment Year 2
Scope, Sequence, and Timeline/Curriculum Map

CR – Constructed Response Tasks
RST-Reading in Science and Technology
WHST-Writing in History/Science/Technology
CCLS-Common Core Learning Standards
[Glencoe Science Biology:](#)
[The Dynamics of Life text](#)

<p>Mendel and Meiosis</p> <p>-Laws of Heredity</p> <p>-Predicting offspring using Punnett squares</p> <p>-Meiosis</p> <p>-Variation in species</p>	<p>13</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> <p>Key Idea 2 Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.</p> <p>Performance Indicator 2.1 Explain how the structure and replication of genetic material result in offspring that resemble their parents.</p> <p>Major Understandings:</p> <p>a. Genes are inherited, but their expression can be modified by interactions with the environment.</p> <p>b. Every organism requires a set of coded instructions for specifying</p>	<p>RST.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics</p> <p>RST.8 Evaluate the hypotheses, data, analysis, and</p>	<p>1. Who is Gregor Mendel?</p> <p>2. What is Mendel's contribution to genetics?</p> <p>3. How are Mendel's ideas used today in genetics?</p>	<p>Chapter 10 Section 10.1, 10.2 vocabulary sheets Vocabulary crossword puzzles</p> <p>Unit 10 Chapter 10 Resources Book: Minilabs, Biolab, Reinforcement/ Study Guide, Concept mapping, problem-solving, section focus</p> <p>Laboratory Manual Chapter 10 lab</p>	<p>Heredity Trait Genetics Gamete Fertilization Zygote Pollination Hybrid Allele Dominant Recessive Law of segregation Phenotype Genotype Homozygous Heterozygous Law of Independent-assortment Diploid Haploid Homologous-chromosome Meiosis Sperm Egg</p>	<p>RST.1 10.1, 10.2 Section Assessments (CR)</p> <p>Lab activity questions (CR)</p> <p>RST.4 Chapter 10 Vocabulary quizzes</p> <p>Chapter 10 Assessment</p> <p>RST.8 Lab Activity questions (CR)</p> <p>WHST.1 Lab activities analysis and conclusions (CR)</p>
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		<p>its traits. For offspring to resemble their parents, there must be a reliable way to transfer information from one generation to the next. Heredity is the passage of these instructions from one generation to another.</p> <p>c. Hereditary information is contained in genes, located in the chromosomes of each cell. An inherited trait of an individual can be determined by one or by many genes, and a single gene can influence more than one trait. A human cell contains many thousands</p> <p>d. In asexually reproducing organisms, all the genes come from a single parent. Asexually produced offspring are normally genetically identical to the parent.</p> <p>e. In sexually reproducing organisms, the new individual receives half of the genetic information from its mother (via the egg) and half from its father (via the sperm). Sexually produced offspring often resemble, but are not identical to,</p>	<p>conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information</p> <p>WHST.1 Write arguments focused on discipline-specific content. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and</p>		<p>Glencoe Investigating Living Systems Lab 22 Heredity or Environment</p> <p>Biologycorner.com labs Cell cycle labeling</p> <p>Mitosis Internet lesson</p> <p>Onion cell mitosis</p> <p>How well does a Punnett Square predict actual ratios?</p> <p>Meiosis internet lesson</p> <p>Phases of Meiosis</p> <p>Principles of Heredity</p>	<p>Sexual-reproduction Crossing over Genetic-recombination Nondisjunction</p>	<p>WHST.2 Lab experiment procedure questions Performance 2.1 Practice Genetics problems</p> <p>Performance Indicator 4.1 Section Assessment 10.2</p>
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		<p>either of their parents.</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> <p>Key Idea 4 The continuity of life is sustained through reproduction and development.</p> <p>Performance Indicator 4.1 Explain how organisms, including humans, reproduce their own kind.</p> <p>Major Understandings:</p> <p>a. Reproduction and development are necessary for the continuation of any species.</p> <p>b. Some organisms reproduce asexually with all the genetic information coming from one parent. Other organisms reproduce sexually with half the genetic information typically contributed by each parent. Cloning is the production of</p>	<p>evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p> <p>c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the</p>		<p>Simple Genetics Practice Problems</p> <p>Genetic Crosses that Involve 2 Traits</p> <p>Heredity Simulation</p> <p>The Gee in Genome</p> <p>Naturalscience s.sdsu.edu/classes/lab2.5/ How do organisms reproduce?</p>		
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		<p>identical genetic copies.</p> <p>c. The processes of meiosis and fertilization are key to sexual reproduction in a wide variety of organisms. The process of meiosis results in the production of eggs and sperm which each contain half of the genetic information. During fertilization, gametes unite to form a zygote, which contains the complete genetic information for the offspring.</p> <p>d. The zygote may divide by mitosis and differentiate to form the specialized cells, tissues, and organs of multicellular organisms.</p> <p>e. Human reproduction and development are influenced by factors such as gene expression, hormones, and the environment. The reproductive cycle in both males and females is regulated by hormones such as testosterone, estrogen, and progesterone</p> <p>f. The structures and functions of the human female reproductive system, as in almost all other mammals, are designed to</p>	<p>discipline in which they are writing.</p> <p>e. Provide a concluding statement or section that follows from or supports the argument presented.</p>				
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		<p>produce gametes in ovaries, allow for internal fertilization, support the internal development of the embryo and fetus in the uterus, and provide essential materials through the placenta, and nutrition through milk for the newborn.</p> <p>g. The structures and functions of the human male reproductive system, as in other mammals, are designed to produce gametes in testes and make possible the delivery of these gametes for fertilization.</p> <p>h. In humans, the embryonic development of essential organs occurs in early stages of pregnancy. The embryo may encounter risks from faults in its genes and from its mother's exposure to environmental factors such as inadequate diet, use of alcohol/drugs/tobacco, other toxins, or infections throughout her pregnancy.</p>					
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DNA and Genes -Structure of DNA -DNA Replication -Genes -Sequence of nucleotides in	19	<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> <p>Key Idea 2 Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.</p>	RST.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.	1. Where does the source of variation come from? 2. What determines a good mutation from a bad mutation?	Chapter 11 textbook Chapter 11 Sections 11.1, 11.2, 11.3 textbook notes sheets Chapter 11 vocabulary sheets	Nitrogenous-base Double helix DNA replication Messenger RNA Ribosomal RNA Transfer RNA Transcription Codon Translation Mutation Point mutation	<u>RST.1</u> 11.1, 11.2, 11.3 Section Assessments (CR) Lab activity questions (CR) RST.4 Chapter 11 Vocabulary quizzes

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DNA -Protein synthesis -Mutations in DNA		<p>Performance Indicator 2.1 Explain how the structure and replication of genetic material result in offspring that resemble their parents.</p> <p>Major Understandings:</p> <p>a. Genes are inherited, but their expression can be modified by interactions with the environment.</p> <p>b. Every organism requires a set of coded instructions for specifying its traits. For offspring to resemble their parents, there must be a reliable way to transfer information from one generation to the next. Heredity is the passage of these instructions from one generation to another.</p> <p>c. Hereditary information is contained in genes, located in the chromosomes of each cell. An inherited trait of an individual can be determined by one or by many genes, and a single gene can influence more than one trait. A human cell contains many thousands</p> <p>d. In asexually reproducing organisms, all the genes come from a single parent. Asexually produced offspring are normally genetically</p>	<p>RST.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics</p> <p>RST.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information</p> <p>WHST.1 Write arguments focused on discipline-specific content. a. Introduce precise, knowledgeable claim(s), establish the</p>	<p>3. Do organisms always change from the simple to the complex?</p>	<p>Vocabulary crossword puzzles</p> <p>Unit 11 Chapter11 Resources Book: Minilabs, Biolab, Reinforcement/ Study Guide, Concept mapping, problem-solving, section focus</p> <p>Laboratory Manual Chapter 11 lab.</p> <p>Edvotek Kit Whose DNA Was Left Behind lab</p> <p>Biologycorner.com labs DNA-The Double Helix</p>	<p>Frameshift-mutation Chromosomal-mutation Mutagen</p>	<p>Chapter11 Assessment</p> <p>RST.8 Lab Activity questions (CR)</p> <p>WHST.1 Lab activities analysis and conclusions (CR)</p> <p>WHST.2 Lab experiment procedure questions</p> <p>Performance Indicator 2.1 Section assessment 11.1</p> <p>Performance Indicator 5.1 Section assessment 11.2</p>

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		<p>identical to the parent.</p> <p>e. In sexually reproducing organisms, the new individual receives half of the genetic information from its mother (via the egg) and half from its father (via the sperm). Sexually produced offspring often resemble, but are not identical to, either of their parents.</p> <p>f. In all organisms, the coded instructions for specifying the characteristics of the organism are carried in DNA, a large molecule formed from subunits arranged in a sequence with bases of four kinds (represented by A, G, C, and T). The chemical and structural properties of DNA are the basis for how the genetic information that underlies heredity is both encoded in genes (as a string of molecular ‘bases’) and replicated by means of a template.</p> <p>g. Cells store and use coded information. The genetic information stored in DNA is used to direct the synthesis of the thousands of proteins that each cell requires.</p> <p>h. Genes are segments of DNA</p>	<p>significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p> <p>c. Use words, phrases, and clauses as well as varied syntax to link</p>		<p>DNA, RNA, and Snorks</p> <p>How DNA Controls the Workings of the Cell</p> <p>DNA Extraction</p> <p>Lesson Plans Inc. 2007 Gene Mutations Worksheet</p> <p>Genetics Science Learning Center Website Basic Genetics</p> <p>Bio 4 Beginners: Jen from Stanford University Do it yourself Strawberry DNA</p>		
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		<p>molecules. Any alteration of the DNA sequence is a mutation. Usually, an altered gene will be passed on to every cell that develops from it. of different genes in its nucleus.</p> <p>i. The work of the cell is carried out by the many different types of molecules it assembles, mostly proteins. Protein molecules are long, usually folded chains made from 20 different kinds of amino acids in a specific sequence. This sequence influences the shape of the protein. The shape of the protein, in turn, determines its function.</p> <p>j. Offspring resemble their parents because they inherit similar genes that code for the production of proteins that form similar structures and perform similar functions.</p> <p>k. The many body cells in an individual can be very different from one another, even though they are all descended from a single cell and thus have essentially identical genetic instructions. This is because different parts of these instructions are used in different types of cells, and are influenced by the cell's environment and past history.</p>	<p>the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>e. Provide a concluding statement or section that follows from or supports the argument presented.</p>				
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		<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> <p>Key Idea 5 Organisms maintain a dynamic equilibrium that sustains life.</p> <p>Performance Indicator 5.1 Explain the basic biochemical processes in living organisms and their importance in maintaining dynamic equilibrium.</p> <p>Major Understandings:</p> <p>a. The energy for life comes primarily from the Sun. Photosynthesis provides a vital connection between the Sun and the energy needs of living systems.</p> <p>b. Plant cells and some one-celled organisms contain chloroplasts, the site of photosynthesis. The process</p>					
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		<p>of photosynthesis uses solar energy to combine the inorganic molecules carbon dioxide and water into energy-rich organic compounds (e.g., glucose) and release oxygen to the environment.</p> <p>c. In all organisms, organic compounds can be used to assemble other molecules such as proteins, DNA, starch, and fats. The chemical energy stored in bonds can be used as a source of energy for life processes.</p> <p>d. In all organisms, the energy stored in organic molecules may be released during cellular respiration. This energy is temporarily stored in ATP molecules. In many organisms, the process of cellular respiration is concluded in mitochondria, in which ATP is produced more efficiently, oxygen is used, and carbon dioxide and water are released as wastes.</p> <p>e. The energy from ATP is used by the organism to obtain, transform, and transport materials, and to eliminate wastes.</p> <p>f. Biochemical processes, both breakdown and synthesis, are made possible by a large set of biological</p>					
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		<p>catalysts called enzymes. Enzymes can affect the rates of chemical change. The rate at which enzymes work can be influenced by internal environmental factors such as pH and temperature.</p> <p>g. Enzymes and other molecules, such as hormones, receptor molecules, and antibodies, have specific shapes that influence both how they function and how they interact with other molecules.</p>					
<p>Patterns of Heredity and Human Genetics</p> <p>-Pedigrees</p> <p>-Human genetic disorders</p> <p>-Determining human traits</p> <p>-Complex inheritance of human traits</p>	19	<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> <p>Key Idea 2 Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.</p> <p>Performance Indicator 2.1 Explain how the structure and replication of genetic material result in offspring that resemble their parents.</p>	<p>RST.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to</p>	<p>1. What is heredity?</p> <p>2. Why do I resemble my parents?</p> <p>3. Why don't I look identical to either parent?</p> <p>4. What determines the sex of the child?</p>	<p>Chapter 12 textbook Chapter 12 Sections 12.1, 12.2, 12.3 textbook notes sheets</p> <p>Chapter 1 2 vocabulary sheets Vocabulary crossword puzzles</p> <p>Unit 12 Chapter 1 2 Resources Book: Minilabs,</p>	<p>Pedigree Carrier Fetus Incomplete-dominance Codominant Allele Multiple allele Autosome Sex-chromosome Sex-linked trait Polygenetic-inheritance Karyotype</p>	<p>RST.1 12.1, 12.2, 12.3 Section Assessments (CR)</p> <p>Lab activity questions (CR)</p> <p>RST.4 Chapter 12 Vocabulary quizzes</p> <p>Chapter 12 Assessment</p> <p>RST.8 Lab Activity questions (CR)</p>

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		<p>Major Understandings:</p> <p>a. Genes are inherited, but their expression can be modified by interactions with the environment.</p> <p>b. Every organism requires a set of coded instructions for specifying its traits. For offspring to resemble their parents, there must be a reliable way to transfer information from one generation to the next. Heredity is the passage of these instructions from one generation to another.</p> <p>c. Hereditary information is contained in genes, located in the chromosomes of each cell. An inherited trait of an individual can be determined by one or by many genes, and a single gene can influence more than one trait. A human cell contains many thousands</p> <p>d. In asexually reproducing organisms, all the genes come from a single parent. Asexually produced offspring are normally genetically identical to the parent.</p> <p>e. In sexually reproducing</p>	<p>grades 9-10 texts and topics</p> <p>RST.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information</p> <p>WHST.1 Write arguments focused on discipline-specific content. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims,</p>		<p>Biolab, Reinforcement/ Study Guide, Concept mapping, problem-solving, section focus</p> <p>Laboratory Manual Chapter 1 2 lab</p> <p>Biologycorner.com Human Genetics</p> <p>Ooompa Loompa Genetics</p> <p>Practice: Codominance and Incomplete Dominance</p> <p>Bacterial ID Lab at Howard Hughes Medical</p>		<p>WHST.1 Lab activities analysis and conclusions (CR)</p> <p>WHST.2 Lab experiment procedure questions</p> <p>Performance Indicator 2.1 Section assessment 12.1</p>
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		<p>organisms, the new individual receives half of the genetic information from its mother (via the egg) and half from its father (via the sperm). Sexually produced offspring often resemble, but are not identical to, either of their parents.</p> <p>f. In all organisms, the coded instructions for specifying the characteristics of the organism are carried in DNA, a large molecule formed from subunits arranged in a sequence with bases of four kinds (represented by A, G, C, and T). The chemical and structural properties of DNA are the basis for how the genetic information that underlies heredity is both encoded in genes (as a string of molecular ‘bases’) and replicated by means of a template.</p> <p>g. Cells store and use coded information. The genetic information stored in DNA is used to direct the synthesis of the thousands of proteins that each cell requires.</p>	<p>reasons, and evidence.</p> <p>b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p> <p>c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>		<p>Institute</p> <p>Exploratorium.edu Mutant fruit flies</p> <p>Science Kit & Boreal Laboratories Simulated ABO and Rh Blood Typing Lab Activity</p>		
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		<p>h. Genes are segments of DNA molecules. Any alteration of the DNA sequence is a mutation. Usually, an altered gene will be passed on to every cell that develops from it. of different genes in its nucleus.</p> <p>i. The work of the cell is carried out by the many different types of molecules it assembles, mostly proteins. Protein molecules are long, usually folded chains made from 20 different kinds of amino acids in a specific sequence. This sequence influences the shape of the protein. The shape of the protein, in turn, determines its function.</p> <p>j. Offspring resemble their parents because they inherit similar genes that code for the production of proteins that form similar structures and perform similar functions.</p> <p>k.. The many body cells in an individual can be very different from one another, even though they are all descended from a single cell and thus have essentially identical genetic instructions. This is because</p>	<p>d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>e. Provide a concluding statement or section that follows from or supports the argument presented.</p>				
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		different parts of these instructions are used in different types of cells, and are influenced by the cell's environment and past history.					
Genetic Technology -Test crosses -Selective breeding -Engineering transgenic organisms -Recombinant DNA -Human genome	17	<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> <p>Key Idea 2 Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.</p> <p>Performance Indicator 2.2 Explain how the technology of genetic engineering allows humans to alter genetic makeup of organisms.</p> <p>Major Understandings: a. For thousands of years new varieties of cultivated plants and domestic animals have resulted from selective breeding for</p>	<p>RST.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics</p>	<p>1. What is incomplete dominance and Co-dominance?</p> <p>2. What is an allele?</p> <p>3. Explain how the technology of genetic engineering allows humans to alter genetic makeup</p>	<p>Chapter 13 textbook Chapter 13 Sections 13.1, 13.2, 13.3 textbook notes sheets</p> <p>Chapter 13 vocabulary sheets Vocabulary crossword puzzles</p> <p>Unit 13 Chapter 13 Resources Book: Minilabs, Biolab, Reinforcement/ Study Guide, Concept</p>	<p>Inbreeding Test cross Genetic-engineering Recombinant-DNA Transgenic-organism Restriction-enzyme Vector Plasmid Clone Human genome Linkage map Gene therapy</p>	<p>RST.1 13.1, 13.2, 13.3 Section Assessments (CR)</p> <p>Lab activity questions (CR)</p> <p>RST.4 Chapter 13 Vocabulary quizzes</p> <p>Chapter 13 Assessment</p> <p>RST.8 Lab Activity questions (CR)</p> <p>WHST.1 Lab activities analysis and conclusions</p>

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		<p>particular traits.</p> <p>b. In recent years new varieties of farm plants and animals have been engineered by manipulating their genetic instructions to produce new characteristics.</p> <p>c. Different enzymes can be used to cut, copy, and move segments of DNA. Characteristics produced by the segments of DNA may be expressed when these segments are inserted into new organisms, such as bacteria.</p> <p>d. Inserting, deleting, or substituting DNA segments can alter genes. An altered gene may be passed on to every cell that develops from it.</p> <p>e. Knowledge of genetics is making possible new fields of health care; for example, finding genes which may have mutations that can cause disease will aid in the development of preventive measures to fight disease. Substances, such as hormones and enzymes, from genetically engineered organisms may reduce</p>	<p>RST.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information</p> <p>WHST.1 Write arguments focused on discipline-specific content. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s)</p>		<p>mapping, problem-solving, section focus</p> <p>Laboratory Manual Chapter 13 lab</p> <p>Biology corner.com DNA Analysis-Simulating Recombination</p> <p>Who Ate the Cheese?</p>		<p>(CR)</p> <p>WHST.2 Lab experiment procedure questions</p> <p>Performance Indicator 2.2 Section assessment 13.2</p>
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		<p>the cost and side effects of replacing missing body chemicals.</p>	<p>and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p> <p>c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>d. Establish and maintain a formal style and objective</p>				
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			<p>tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>e. Provide a concluding statement or section that follows from or supports the argument presented.</p>				
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<p>Theory of Evolution</p> <p>-Charles Darwin</p> <p>-Natural Selection</p> <p>-Evidence for evolution</p> <p>-Population genetics</p> <p>-Types of evolution</p>	12	<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> <p>Key Idea 3 Individual organisms and species change over time.</p> <p>Performance Indicator 3.1 Explain the mechanisms and patterns of evolution.</p> <p>Major Understandings:</p> <p>a. The basic theory of biological evolution states that the Earth's present-day species developed from earlier, distinctly different species.</p> <p>b. New inheritable characteristics can result from new combinations of existing genes or from mutations of genes in reproductive cells.</p> <p>c. Mutation and the sorting and recombining of genes during meiosis and fertilization result in a great variety of possible gene combinations.</p>	<p>RST.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics</p> <p>RST.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or</p>	<p>1. How did Charles Darwin's discoveries lead to the Theory of Evolution?</p> <p>2. How can organisms adapt to their environments?</p> <p>3. What does "Survival of the Fittest" mean?</p> <p>4. How do new species form?</p> <p>5. What role do fossils play in the study of evolution?</p>	<p>Chapter 15 textbook Chapter 15 Sections 15.1, 15.2, textbook notes sheets</p> <p>Chapter 15 vocabulary sheets Vocabulary crossword puzzles</p> <p>Unit 15 Chapter 15 Resources Book: Minilabs, Biolab, Reinforcement/ Study Guide, Concept mapping, problem-solving, section focus</p> <p>Laboratory Manual Chapter 15 lab</p>	<p>Artificial-selection Natural-selection Mimicry Camouflage Homologous-structure Analogous-structure Vestigial-structure Embryo Gene pool Allelic-frequency Genetic-equilibrium Genetic drift Stabilizing-selection Directional-selection Disruptive-selection Speciation Geographic-isolation Reproductive-isolation Polyploidy Gradualism Punctuated-equilibrium</p>	<p><u>RST.1</u> 15.1, 15.2 Section Assessments (CR)</p> <p>Lab activity questions (CR)</p> <p>RST.4 Chapter 15 Vocabulary quizzes</p> <p>Chapter 15 Assessment</p> <p>RST.8 Lab Activity questions (CR)</p> <p>WHST.1 Lab activities analysis and conclusions (CR)</p> <p>WHST.2 Lab experiment procedure questions</p>

TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
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		<p>d. Mutations occur as random chance events. Gene mutations can also be caused by such agents as radiation and chemicals. When they occur in sex cells, the mutations can be passed on to offspring; if they occur in other cells, they can be passed on to other body cells only.</p> <p>e. Natural selection and its evolutionary consequences provide a scientific explanation for the fossil record of ancient life-forms, as well as for the molecular and structural similarities observed among the diverse species of living organisms.</p> <p>f. Species evolve over time. Evolution is the consequence of the interactions of (1) the potential for a species to increase its numbers, (2) the genetic variability of offspring due to mutation and recombination of genes, (3) a finite supply of the resources required for life, and (4) the ensuing selection by the environment of those offspring better able to survive and leave offspring.</p>	challenging conclusions with other sources of information		<p>#91 Natural Selection Lab and Peppered Moth Simulation Experiment Kit</p> <p>NYSED Beaks of Finches Lab</p> <p>Biology corner.com Evolution lab</p>	Adaptive-radiation Divergent-evolution Convergent-evolution	Performance Indicator 3.1 Section assessment 15.2
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TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
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		<p>g. Some characteristics give individuals an advantage over others in surviving and reproducing, and the advantaged offspring, in turn, are more likely than others to survive and reproduce. The proportion of individuals that have advantageous characteristics will increase.</p> <p>h. The variation of organisms within a species increases the likelihood that at least some members of the species will survive under changed environmental conditions.</p> <p>i. Behaviors have evolved through natural selection. The broad patterns of behavior exhibited by organisms are those that have resulted in greater reproductive success.</p> <p>j. 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> <p>k. Evolution does not necessitate long-term progress in some set direction. Evolutionary changes</p>					
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TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
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		<p>appear to be like the growth of a bush: Some branches survive from the beginning with little or no change, many die out altogether, and others branch repeatedly, sometimes giving rise to more complex organisms.</p> <p>1. Extinction of a species occurs when the environment changes and the adaptive characteristics of a species are insufficient to allow its survival. Fossils indicate that many organisms that lived long ago are extinct. Extinction of species is common; most of the species that have lived on Earth no longer exist.</p>					
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TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
Viruses and Bacteria -Viruses and their structures -Virus replication cycles -Types of prokaryotes -Characteristics of bacteria	14	<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> <p>Key Idea 5 Organisms maintain a dynamic equilibrium that sustains life.</p> <p>Performance Indicator 5.2 Explain disease as a failure of homeostasis.</p> <p>Major Understandings:</p> <p>a. Homeostasis in an organism is constantly threatened. Failure to respond effectively can result in disease or death.</p> <p>b. Viruses, bacteria, fungi, and other parasites may infect plants and animals and interfere with normal life functions.</p> <p>c. The immune system protects against antigens associated with pathogenic organisms or foreign substances and some cancer cells.</p>	<p>RST.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics</p> <p>RST.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or</p>	<p>1. How do viruses, bacteria and protists impact our lives in both positive and negative ways?</p> <p>2. Why is a bacteria classified as non-living?</p> <p>3. How are bacteria suited for the environment in which they live?</p> <p>4. How are fungi suited for the environment in which they live?</p>	<p>Chapter 18 textbook Chapter 18 Sections 18.1, 18.2, textbook notes sheets</p> <p>Chapter 18 vocabulary sheets Vocabulary crossword puzzles</p> <p>Unit 18 Chapter 18 Resources Book: Minilabs, Biolab, Reinforcement/ Study Guide, Concept mapping, problem-solving, section focus</p> <p>Laboratory Manual Chapter 18 lab</p>	<p>Virus Host cell Bacteriophage Capsid Lytic cycle Lysogenic cycle Provirus Retrovirus Reverse-transcriptase Prion Viroid Chemiosynthesis Binary fission Conjugation Obligate aerobe Obligate anaerobe Endospore Toxin Nitrogen fixation</p>	<p><u>RST.1</u> 18.1, 18.2 Section Assessments (CR)</p> <p>Lab activity questions (CR)</p> <p>RST.4 Chapter 18 Vocabulary quizzes</p> <p>Chapter 18 Assessment</p> <p>RST.8 Lab Activity questions (CR)</p> <p>WHST.1 Lab activities analysis and conclusions (CR)</p> <p>WHST.2 Lab experiment procedure questions</p>

TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
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		<p>d. Some white blood cells engulf invaders. Others produce antibodies that attack them or mark them for killing. Some specialized white blood cells will remain, able to fight off subsequent invaders of the same kind.</p> <p>e. Vaccinations use weakened microbes (or parts of them) to stimulate the immune system to react. This reaction prepares the body to fight subsequent invasions by the same microbes.</p> <p>f. Some viral diseases, such as AIDS, damage the immune system, leaving the body unable to deal with multiple infectious agents and cancerous cells.</p> <p>g. Some allergic reactions are caused by the body's immune responses to usually harmless environmental substances. Sometimes the immune system may attack some of the body's own cells or transplanted organs.</p> <p>h. Disease may also be caused by inheritance, toxic substances, poor nutrition, organ malfunction, and some</p>	<p>challenging conclusions with other sources of information</p> <p>WHST.1 Write arguments focused on discipline-specific content. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the</p>		<p>Biology corner.com HIV Coloring</p>		<p>Performance Indicator 5.2 Section assessment 18.1</p>
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TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
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		<p>personal behavior. Some effects show up right away; others may not show up for many years.</p> <p>i. Gene mutations in a cell can result in uncontrolled cell division, called cancer. Exposure of cells to certain chemicals and radiation increases mutations and thus increases the chance of cancer.</p> <p>j. Biological research generates knowledge used to design ways of diagnosing, preventing, treating, controlling, or curing diseases of plants and animals.</p>	<p>strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p> <p>c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p>				
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TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
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			e. Provide a concluding statement or section that follows from or supports the argument presented.				
<p>Plant Structure and function</p> <p>-Major types of plant cells</p> <p>-Functions and types of plant tissues</p> <p>-Structures of roots, stems, and leaves</p> <p>-Functions of roots, stems, and leaves</p> <p>-Major types of plant hormones</p> <p>-Different types of plant</p>	20	<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> <p>Key Idea 5 Organisms maintain a dynamic equilibrium that sustains life.</p> <p>Performance Indicator 5.3 Relate processes at the system level to the cellular level in order to explain dynamic equilibrium in multi-celled organisms.</p> <p>Major Understandings:</p> <p>a. Dynamic equilibrium results from detection of and response to stimuli. Organisms detect and respond to change in a variety of</p>	<p>RST.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics</p> <p>RST.8</p>		<p>Chapter 23 textbook Chapter 23 Sections 23.1, 23.2, 23.3 textbook notes sheets</p> <p>Chapter 23 vocabulary sheets Vocabulary crossword puzzles</p> <p>Unit 23 Chapter 23 Resources Book: Minilabs, Biolab, Reinforcement/ Study Guide, Concept</p>	<p>Paranchyma Collenchyma Sclerenchyma Epidermis Stomate Guard cell Trichrome Xylem Tracheid Vessel element Phloem Sieve tube-member Meristem Apical meristem Vascular cambium Cork cambium Cortex Endodermis Pericycle Root cap Sink Translocation</p>	<p><u>RST.1</u> 23.1, 23.2, 23.3 Section Assessments (CR)</p> <p>Lab activity questions (CR)</p> <p>RST.4 Chapter 23 Vocabulary quizzes</p> <p>Chapter 23 Assessment</p> <p>RST.8 Lab Activity questions (CR)</p> <p>WHST.1 Lab activities</p>

TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
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responses		<p>ways both at the cellular level and at the organismal level.</p> <p>b. Feedback mechanisms have evolved that maintain homeostasis. Examples include the changes in heart rate or respiratory rate in response to increased activity in muscle cells, the maintenance of blood sugar levels by insulin from the pancreas, and the changes in openings in the leaves of plants by guard cells to regulate water loss and gas exchange.</p>	<p>Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging</p> <p>WHST.1 Write arguments focused on discipline-specific content. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most</p>		<p>mapping, problem-solving, section focus</p> <p>Laboratory Manual Chapter 23 lab</p> <p>Biology corner.com Leaf Transpiration</p> <p>Comparing Monocots and Dicots</p> <p>Help Wanted-Plant Positions Available</p> <p>Investigation of Leaf Stomata</p> <p>Investigation of Plant Hormones</p>	<p>Petiole Mesophyll Transpiration Hormone Auxin Gibberellin Cytokinin Ethylene Tropism Nastic movement</p>	<p>analysis and conclusions (CR)</p> <p>WHST.2 Lab experiment procedure questions</p> <p>Performance Indicator 5.3 Section assessment 23.3</p>
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TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
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			<p>relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p> <p>c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>d. Establish and maintain a formal style and objective tone while attending to the norms and</p>				
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			conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the argument presented.				
Reproduction and Development -Structures and functions of male and female reproductive systems -Internal feedback control of reproductive hormones -Stages of menstrual cycle -Fertilization and Implantating	20	<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> <p>Key Idea 4 The continuity of life is sustained through reproduction and development.</p> <p>Performance Indicator 4.1 Explain how organisms, including humans, reproduce their own kind.</p> <p>Major Understandings: a. Reproduction and development are necessary for the continuation of any species.</p>	<p>RST.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics</p>	How does life create life?	<p>Chapter 38 textbook Chapter 38 Sections 38.1, 38.2, 38.3 textbook notes sheets</p> <p>Chapter 38 vocabulary sheets Vocabulary crossword puzzles</p> <p>Unit 38 Chapter 38 Resources Book: Minilabs, Biolab, Reinforcement/</p>	scrotum epidymis vas deferens seminal vesicle prostate gland bulbourethral-gland semen puberty oviduct cervix follicle ovulation menstrual cycle corpus luteum implementation umbilical cord labor	<p><u>RST.1</u> 38.1, 38.2, 38.3 Section Assessments (CR)</p> <p>Lab activity questions (CR)</p> <p>RST.4 Chapter 38 Vocabulary quizzes</p> <p>Chapter 38 Assessment</p> <p>RST.8 Lab Activity questions (CR)</p>

TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
<p>-Events during each trimester of pregnancy</p> <p>-Stages of birth</p> <p>-Human developmental stages</p>		<p>b. Some organisms reproduce asexually with all the genetic information coming from one parent. Other organisms reproduce sexually with half the genetic information typically contributed by each parent. Cloning is the production of identical genetic copies.</p> <p>c. The processes of meiosis and fertilization are key to sexual reproduction in a wide variety of organisms. The process of meiosis results in the production of eggs and sperm which each contain half of the genetic information. During fertilization, gametes unite to form a zygote, which contains the complete genetic information for the offspring.</p> <p>d. The zygote may divide by mitosis and differentiate to form the specialized cells, tissues, and organs of multicellular organisms.</p> <p>e. Human reproduction and development are influenced by factors such as gene expression, hormones, and the environment. The reproductive</p>	<p>RST.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information</p> <p>WHST.1 Write arguments focused on discipline-specific content.</p> <p>a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p>		<p>Study Guide, Concept mapping, problem-solving, section focus</p> <p>Laboratory Manual Chapter 38 lab</p> <p>Teachingsexualhealth.ca Sexual Development Handouts-Male and Female</p>		<p>WHST.1 Lab activities analysis and conclusions (CR)</p> <p>WHST.2 Lab experiment procedure questions</p> <p>Performance Indicator 4.1 Section assessment 38.1</p>

TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
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		<p>cycle in both males and females is regulated by hormones such as testosterone, estrogen, and progesterone.</p> <p>f. The structures and functions of the human female reproductive system, as in almost all other mammals, are designed to produce gametes in ovaries, allow for internal fertilization, support the internal development of the embryo and fetus in the uterus, and provide essential materials through the placenta, and nutrition through milk for the newborn.</p> <p>g. The structures and functions of the human male reproductive system, as in other mammals, are designed to produce gametes in testes and make possible the delivery of these gametes for fertilization.</p> <p>h. In humans, the embryonic development of essential organs occurs in early stages of pregnancy. The embryo may encounter risks from faults in its genes and from its mother's exposure to environmental factors such as inadequate diet, use of alcohol/drugs/tobacco, other toxins, or infections throughout her pregnancy.</p>	<p>b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>				
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TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
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			<p>d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>e. Provide a concluding statement or section that follows from or supports the argument presented.</p>				
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<p>Immunity from Disease</p> <p>-Infectious diseases</p> <p>-Robert Koch’s postulates</p> <p>-Transmission of pathogens</p>	14	<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> <p>Key Idea 5 Organisms maintain a dynamic equilibrium that sustains life.</p>	<p>RST.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>RST.4</p>	<p>What does the body do to avoid disease?</p>	<p>Chapter 39 textbook Chapter 39 Sections 39.1, 39.2, textbook notes sheets</p> <p>Chapter 39 vocabulary sheets Vocabulary crossword puzzles</p>	<p>Pathogen Infectious disease Koch’s postulates Endemic disease Epidemic Antibiotic Innate immunity Phagocyte Microphage Pus Interferon Acquired-immunity</p>	<p><u>RST.1</u> 39.1, 39.2 Section Assessment</p> <p>Lab activity questions (CR)</p> <p>RST.4 Chapter 39 Vocabulary quizzes</p>
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TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
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<p>-Causes of symptoms of a diseases</p> <p>-Parts of the immune system</p> <p>-Immune responses</p>		<p>Performance Indicator 5.2 Explain disease as a failure of homeostasis.</p> <p>Major Understandings: a. Homeostasis in an organism is constantly threatened. Failure to respond effectively can result in disease or death.</p> <p>b. Viruses, bacteria, fungi, and other parasites may infect plants and animals and interfere with normal life functions.</p> <p>c. The immune system protects against antigens associated with pathogenic organisms or foreign substances and some cancer cells.</p> <p>d. Some white blood cells engulf invaders. Others produce antibodies that attack them or mark them for killing. Some specialized white blood cells will remain, able to fight off subsequent invaders of the same kind.</p> <p>e. Vaccinations use weakened microbes (or parts of them) to stimulate the immune system to</p>	<p>Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics</p> <p>RST.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information</p> <p>WHST.1 Cite arguments focused on discipline-specific content. a. Introduce precise, knowledgeable claim(s), establish the significance of the</p>		<p>Unit 39 Chapter 39 Resources Book: Minilabs, Biolab, Reinforcement/ Study Guide, Concept mapping, problem- solving, section focus</p> <p>Laboratory Manual Chapter 39 lab</p>	<p>Tissue fluid Lymph Lymph node Lymphocyte T cell B cell Vaccine</p>	<p>Chapter 39 Assessment</p> <p>RST.8 Lab Activity questions (CR)</p> <p>WHST.1 Lab activities analysis and conclusions (CR)</p> <p>WHST.2 Lab experiment procedure questions</p> <p>Performance Indicator 5.2 Section assessment 39.1</p>
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TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
		<p>react. This reaction prepares the body to fight subsequent invasions by the same microbes.</p> <p>f. Some viral diseases, such as AIDS, damage the immune system, leaving the body unable to deal with multiple infectious agents and cancerous cells.</p> <p>g. Some allergic reactions are caused by the body’s immune responses to usually harmless environmental substances. Sometimes the immune system may attack some of the body’s own cells or transplanted organs.</p> <p>h. Disease may also be caused by inheritance, toxic substances, poor nutrition, organ malfunction, and some personal behavior. Some effects show up right away; others may not show up for many years.</p> <p>i. Gene mutations in a cell can result in uncontrolled cell division, called cancer. Exposure of cells to certain chemicals and radiation increases mutations and thus increases the chance of</p>	<p>claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p> <p>c. Use words, phrases, and clauses as well as varied syntax to link the major sections of</p>				

TOPIC	Days	Objectives (New York State Living Environment Core Curriculum)	ELA CCLS	Essential Questions	Resources	Vocabulary	Recommended Assessments
		<p>cancer.</p> <p>j. Biological research generates knowledge used to design ways of diagnosing, preventing, treating, controlling, or curing diseases of plants and animals.</p>	<p>the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.</p> <p>e. Provide a concluding statement or section that follows from or supports the argument presented.</p>				