

<p><b>Theme/Unit:</b> Experimental Design/ Scientific Method</p> <p><b>Enduring Understandings:</b> The science program must emphasize the skills necessary to allow students to construct and test their proposed explanations of natural phenomena by using the conventional techniques and procedures of scientists.</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Reading Outcomes</b></p>	<p><b>Standards-Based Essential Skills to be Targeted Throughout the Unit</b></p>	<p><b>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</b></p>	<p><b>Instructional Resources</b></p>	
<p><b>Assessments:</b></p> <p><b>Formative – During Unit:</b> Worksheets, Vocabulary Quiz, Unit Quiz, Graphing Quiz</p> <p><b>Summative – End of Unit:</b> Unit Test and Laboratory Worksheets</p> <p><b>Presentation:</b></p>		<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Writing Outcomes</b></p>	<ul style="list-style-type: none"> <li>• Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</li> <li>• Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.</li> <li>• Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force</i>, <i>friction</i>, <i>reaction force</i>, <i>energy</i>).</li> <li>• Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.</li> </ul>	<p><b>Targeted Skills:</b></p> <ul style="list-style-type: none"> <li>• Uses a compound microscope/stereoscope effectively to see specimens clearly, using different magnifications</li> <li>• Makes observations of biological processes</li> <li>• Dissects plant and / or animal specimens to expose and identify internal</li> <li>• Structures</li> <li>• Follows directions to correctly sue and interpret indicators.</li> <li>• Uses chromatography and /or electrophoresis to separate molecules</li> </ul> <p>Students must be able to design a controlled experiment. They must identify control group, experimental group, dependent/independent variables, and controlled variables/constants. Write a hypothesis or testable statement. Construct a data table, provide fictitious data and interpret this data. Make conclusions from the experiment and provide methods for improvement of reliability of data.</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Literature</b></p>
<p><b>Notes:</b> Provided via Cornell Method</p> <p><b>Review:</b> Unit 1 practice test Embedded questions in notes Knowledge objective questions</p> <p><b>Websites:</b> Castle learning assignment <a href="http://corp.castlelearning.com/">corp.castlelearning.com/</a></p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Language/Listening and Speaking</b></p>		<ul style="list-style-type: none"> <li>• Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.</li> <li>• Assess the extent to which the reasoning and evidence from their experiment, supporting their claim or a recommendation for solving a scientific or technical problem in the written discussion section of lab reports.</li> </ul>	<p><b>Literature Based Writing:</b></p> <p><b>Informational Writing:</b></p>	
		<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Focus Vocabulary</b></p>			<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Focus Vocabulary</b></p>

<b>Theme/Unit:</b> Plants & Photosynthesis		<b>Standards-Based Essential Skills to be Targeted Throughout the Unit</b>	<b>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</b>	<b><u>Instructional Resources</u></b>	
<p><b>Enduring Understandings:</b> Organisms maintain a dynamic equilibrium that sustains life. Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring. The continuity of life is sustained through reproduction and development.</p>	<b><u>Reading Outcomes</u></b>	<ul style="list-style-type: none"> <li>• Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</li> <li>• Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.</li> <li>• Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force</i>, <i>friction</i>, <i>reaction force</i>, <i>energy</i>).</li> <li>• Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.</li> </ul>	<p><b>Targeted Skills:</b></p> <ul style="list-style-type: none"> <li>• Uses a compound microscope/stereoscope effectively to see specimens clearly, using different magnifications</li> <li>• Makes observations of biological processes</li> <li>• <input type="checkbox"/> Dissects plant and / or animal specimens to expose and identify internal</li> <li>• Structures</li> <li>• Follows directions to correctly sue and interpret indicators.</li> <li>• <input type="checkbox"/> Uses chromatography and /or electrophoresis to separate molecules</li> </ul>	<b><u>Literature</u></b>	New York State Living Environment, Miller & Levine, p. 224-245, 632-725
<p><b>Assessments:</b></p> <p><b>Formative – During Unit:</b> Worksheets, Vocabulary Quiz, Unit Quiz, Graphing Quiz</p> <p><b>Summative – End of Unit:</b> Unit Test and Laboratory Worksheets</p>	<b><u>Writing Outcomes</u></b>	<ul style="list-style-type: none"> <li>• Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.</li> <li>• Assess the extent to which the reasoning and evidence from their experiment, supporting their claim or a recommendation for solving a scientific or technical problem in the written discussion section of lab reports.</li> </ul>	<p><b>Literature Based Writing:</b></p> <p><b>Informational Writing:</b></p>	<b><u>Informational</u></b>	
<p><b>Notes:</b> Provided via Cornell Method</p> <p><b>Review:</b> Unit 2 practice test Review on graphing Embedded questions in note packets Knowledge objective questions</p> <p><b>Websites:</b> Castle learning assignment <a href="http://corp.castlelearning.com/">corp.castlelearning.com/</a></p>	<b><u>Language/Listening and Speaking</u></b>			<b><u>Focus Vocabulary</u></b>	<p><b>Academic/Content Vocabulary:</b> chloroplasts, chlorophyll, solar energy, carbon dioxide, glucose, energy-rich, reactants, products</p>

<p><b>Theme/Unit:</b> Cells</p> <p><b>Enduring Understandings:</b> Living things are both similar to and different from each other and from nonliving things.</p>	<u>Reading Outcomes</u>	<p style="text-align: center;"><b>Standards-Based Essential Skills to be Targeted Throughout the Unit</b></p> <ul style="list-style-type: none"> <li>• Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</li> <li>• Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.</li> <li>• Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force</i>, <i>friction</i>, <i>reaction force</i>, <i>energy</i>).</li> <li>• Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.</li> </ul>	<p style="text-align: center;"><b>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</b></p> <p><b>Targeted Skills:</b> <b>Students will know and be able to develop proficiency in certain laboratory or technical skills in order to successfully conduct investigations in biological science.</b></p> <ul style="list-style-type: none"> <li>• <input type="checkbox"/> Uses a compound microscope effectively to see specimens clearly, using different magnifications</li> <li>• Identifies and compares parts of a variety of cells</li> <li>• Compares relative sizes of cells and organelles</li> <li>• Prepares wet- mount slides and uses appropriate staining techniques</li> <li>• <input type="checkbox"/> Follows directions to correctly use and interpret chemical indicators.</li> </ul> <p>Recognize and identify the subunits of the cell membrane. (lipids and proteins) Using a diagram, showing movement of molecules across a cell membrane, identify the direction of movement and the type of transport (active or passive). Understand the impact of molecule size on its ability to pass through the cell membrane. Recognize and identify nerve cells as well receptors on cells. Interpret diagrams of receptor molecules to identify movement molecule such as hormones based on the shape of the receptors. (Specificity) Match cell organelles and their functions to similar functioning organs and systems of the human body.</p>	<p style="text-align: center;"><b>Instructional Resources</b></p> <p style="text-align: center; vertical-align: middle;"><u>Literature</u></p> <p>New York State Living Environment, Miller &amp; Levine, p. 187-304</p>
<p><b>Assessments:</b></p> <p><b>Formative – During Unit:</b> Worksheets, Vocabulary Quiz, Unit Quiz, Graphing Quiz</p> <p><b>Summative – End of Unit:</b> Unit Test and Laboratory Worksheets</p> <p><b>Project:</b> Cells project</p>	<u>Writing Outcomes</u>	<ul style="list-style-type: none"> <li>• Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.</li> <li>• Assess the extent to which the reasoning and evidence from their experiment, supporting their claim or a recommendation for solving a scientific or technical problem in the written discussion section of lab reports.</li> </ul>	<p><b>Literature Based Writing:</b></p> <p><b>Informational Writing:</b></p>	<p style="text-align: center; vertical-align: middle;"><u>Informational</u></p>

<p><b>Notes:</b>          Provided via Cornell Method</p> <p><b>Review:</b>          Unit 3 practice test          Embedded questions in note packets          Knowledge objective questions</p> <p><b>Websites:</b>          Castle learning assignment  <i>corp.castlelearning.com/</i>          Youtube.com Crash course biology</p>	<u>Language/Listening and Speaking</u>			<u>Focus Vocabulary</u>	<p><b>Academic/Content Vocabulary:</b>          cell/plasma membrane, molecules, chemical signals, diffusion/passive transport, active transport, equilibrium, concentration, receptor, cellular communication, endocrine, hormone, nerve cell, protein, mitochondria, ribosome, nucleus, amino acid, starch, glucose/simple sugar, active transport, diffusion, homeostasis, organelle, chloroplast          cell, tissue, organ, organ system, organism, cytoplasm, vacuole, passive transport, osmosis, organic, inorganic, chemical reaction, building blocks, synthesis, digest, compounds, multicellular, single celled, lipids/fats, metabolism,</p>
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<p><b>Theme/Unit:</b> Photosynthesis and cellular respiration</p> <p><b>Enduring Understandings:</b> Organisms maintain a dynamic equilibrium that sustains life.</p>	<u>Reading Outcomes</u>	<p style="text-align: center;"><b>Standards-Based Essential Skills to be Targeted Throughout the Unit</b></p> <ul style="list-style-type: none"> <li>• Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</li> <li>• Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.</li> <li>• Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force</i>, <i>friction</i>, <i>reaction force</i>, <i>energy</i>).</li> <li>• Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.</li> </ul>	<p style="text-align: center;"><b>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</b></p> <p><b>Targeted Skills:</b></p> <ul style="list-style-type: none"> <li>• Students will be able to define Cellular respiration</li> <li>• They will be able to tell that anaerobic respiration is without oxygen and aerobic is using oxygen</li> <li>• Students will be able to identify all the products and reactants for cellular respiration to occur</li> <li>• Students will be able to discuss the steps needed for anaerobic respiration: glycolysis AND Aerobic respiration: glycolysis, Krebs cycle and the electron transport chain</li> <li>• Students will be able to determine the products of anaerobic respiration: lactic acid and ethyl alcohol</li> <li>• Students will be able to discuss the effects of lactic acid build up in muscles causing muscle fatigue.</li> <li>• Students will be able to define autotrophs as an organism that can make it's own food and a heterotroph as an organism that gets it's food from other sources.</li> <li>• Students will be able to classify organisms based on their nutrition requirements</li> <li>• Students will be able to identify the parts of a leaf as well as the major functions of each part</li> <li>• Students will be able to identify the parts of a chloroplast as well as the major functions of each part.</li> <li>• Students will be able to write out the equation for photosynthesis</li> <li>• Students will be able to identify the reactants and products involved in photosynthesis</li> <li>• Students will be exposed to the intricate processes involved in photosynthesis and be able to recognize the steps</li> </ul>	<u>Literature</u>	<p>New York State Living Environment, Miller &amp; Levine, p. 226-265</p>
<p><b>Assessments:</b></p> <p><b>Formative – During Unit:</b> Worksheets, Vocabulary Quiz, Unit Quiz</p> <p><b>Summative – End of Unit:</b> Unit 4 Test and Laboratory Worksheets</p>	<u>Writing Outcomes</u>	<ul style="list-style-type: none"> <li>• Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.</li> <li>• Assess the extent to which the reasoning and evidence from their experiment, supporting their claim or a recommendation for solving a scientific or technical problem in the written discussion section of lab reports.</li> </ul>	<p><b>Literature Based Writing:</b></p> <p><b>Informational Writing:</b></p>	<u>Informational</u>	
<p><b>Notes:</b> Provided via Cornell Method</p> <p><b>Review:</b> Unit 4 practice test Embedded questions in notes Knowledge objective questions</p> <p><b>Websites:</b></p>	<u>Language/Listening and Speaking</u>			<u>Focus Vocabulary</u>	<p><b>Academic/Content Vocabulary:</b> ATP/ADP Cycle, cellular respiration, fermentation, by-product, waste product, metabolic waste biochemical processes, aerobic, anaerobic, lactic acid, mitochondria, oxygen, carbon dioxide</p>

Castle learning assignment <i>corp.castlelearning.com/</i>					
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<b>Theme/Unit:</b> Biochemistry (acids/Bases and enzymes)		<b>Standards-Based Essential Skills to be Targeted Throughout the Unit</b>	<b>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</b>	<b><u>Instructional Resources</u></b>	
<p><b>Enduring Understandings:</b> Living things are both similar to and different from each other and from nonliving things. Organisms maintain a dynamic equilibrium that sustains life.</p>	<b><u>Reading Outcomes</u></b>	<ul style="list-style-type: none"> <li>• Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</li> <li>• Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.</li> <li>• Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force</i>, <i>friction</i>, <i>reaction force</i>, <i>energy</i>).</li> <li>• Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.</li> </ul>	<p><b>Targeted Skills:</b> Understand and interpret graphs involving enzymes.</p>	<b><u>Literature</u></b>	New York Living Environment; Biology. Miller & Levine 250-268
<p><b>Assessments:</b></p> <p><b>Formative – During Unit:</b> Worksheets, Vocabulary Quiz, Unit Quiz</p> <p><b>Summative – End of Unit:</b> Unit 5 Test and Laboratory Worksheets</p>	<b><u>Writing Outcomes</u></b>	<ul style="list-style-type: none"> <li>• Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.</li> <li>• Assess the extent to which the reasoning and evidence from their experiment, supporting their claim or a recommendation for solving a scientific or technical problem in the written discussion section of lab reports.</li> </ul>	<p><b>Literature Based Writing:</b></p> <p><b>Informational Writing:</b></p>	<b><u>Informational</u></b>	
<p><b>Notes:</b> Provided via Cornell Method</p> <p><b>Review:</b> Unit 5 practice test Embedded questions in notes Knowledge objective questions</p> <p><b>Websites:</b> Castle learning assignment <a href="http://corp.castlelearning.com/">corp.castlelearning.com/</a></p>	<b><u>Language/Listening and Speaking</u></b>			<b><u>Focus Vocabulary</u></b>	<p><b>Academic/Content Vocabulary:</b> Concentration of substrate and enzyme, pH, acid, base, biochemical processes, aerobic, temperature, salinity</p>

<p><b>Theme/Unit:</b> Reproduction and Development</p> <p><b>Enduring Understandings:</b> The continuity of life is sustained through reproduction and development</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Reading Outcomes</b></p>	<p><b>Standards-Based Essential Skills to be Targeted Throughout the Unit</b></p>	<p><b>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</b></p>	<p><b>Instructional Resources</b></p>	
<p><b>Assessments:</b></p> <p><b>Formative – During Unit:</b> Worksheets, Vocabulary Quiz, and Unit Quiz</p> <p><b>Summative – End of Unit:</b> Unit Test and Laboratory Worksheets</p>		<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Writing Outcomes</b></p>	<ul style="list-style-type: none"> <li>• Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</li> <li>• Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.</li> <li>• Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force</i>, <i>friction</i>, <i>reaction force</i>, <i>energy</i>).</li> <li>• Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.</li> </ul>	<p><b>Targeted Skills:</b></p> <ul style="list-style-type: none"> <li>• Understand benefits and consequences of cloning and uses of.</li> <li>• Understand why risky behavior is so harmful in the early stages of pregnancy.</li> </ul>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Literature</b></p>
<p><b>Notes:</b> Provided via Cornell Method</p> <p><b>Review:</b> Unit 6 practice test Embedded questions in note packet Knowledge objective questions</p> <p><b>Websites:</b> Castle learning assignment <a href="http://corp.castlelearning.com/">corp.castlelearning.com/</a></p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Language/Listening and Speaking</b></p>		<ul style="list-style-type: none"> <li>• Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.</li> <li>• Assess the extent to which the reasoning and evidence from their experiment, supporting their claim or a recommendation for solving a scientific or technical problem in the written discussion section of lab reports.</li> </ul>	<p><b>Literature Based Writing:</b></p> <p><b>Informational Writing:</b></p>	



<p><b>Theme/Unit:</b> Genetics</p> <p><b>Enduring Understandings:</b> Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring</p>	<u>Reading Outcomes</u>	<p><b>Standards-Based Essential Skills to be Targeted Throughout the Unit</b></p> <ul style="list-style-type: none"> <li>• Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</li> <li>• Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.</li> <li>• Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force</i>, <i>friction</i>, <i>reaction force</i>, <i>energy</i>).</li> <li>• Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.</li> </ul>	<p><b>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</b></p> <p><b>Targeted Skills:</b></p> <ul style="list-style-type: none"> <li>• Apply the steps of scientific inquiry</li> <li>• Organize (tables &amp; graphs) and analyze data</li> <li>• Be able to identify a DNA molecule and the subunits of nucleotides</li> <li>• Be able to explain the process of DNA replication and it's relationship in Cell division (mitosis)</li> <li>• Be able to explain the process of protein synthesis and the implications of "errors" on the function of the body.</li> <li>• Be able to explain its relationship to gene expression.</li> <li>• Be able to explain the processes of Recombinant DNA, Gene splicing, Genetic Engineering, etc. (Enzymes)</li> <li>• Be able to explain its relationship to human insulin production.</li> </ul>	<u>Literature</u>	<p><b>Instructional Resources</b></p> <p>New York Living Environment; Biology. Miller &amp; Levine, 988-995</p>
<p><b>Assessments:</b></p> <p><b>Formative – During Unit:</b> Worksheets, Vocabulary Quiz, Unit Quiz</p> <p><b>Summative – End of Unit:</b> Unit 7 Test and Laboratory Worksheets</p> <p><b>Presentation:</b></p>	<u>Writing Outcomes</u>	<ul style="list-style-type: none"> <li>• Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.</li> <li>• Assess the extent to which the reasoning and evidence from their experiment, supporting their claim or a recommendation for solving a scientific or technical problem in the written discussion section of lab reports.</li> </ul>	<p><b>Literature Based Writing:</b></p> <p><b>Informational Writing:</b></p>	<u>Informational</u>	
<p><b>Notes:</b> Provided via Cornell Method</p> <p><b>Review:</b> Unit 7 practice test Embedded questions in notes Knowledge objective questions</p> <p><b>Websites:</b> Castle learning assignment <a href="http://corp.castlelearning.com/">corp.castlelearning.com/</a></p>	<u>Language/Listening and Speaking</u>			<u>Focus Vocabulary</u>	<p><b>Academic/Content Vocabulary:</b> DNA, chromosome, gene, trait, RNA, protein, amino acids, triplet codon, ribosome, enzyme (organic catalyst), plasmid, recombinant DNA, mutation, mutagens, biotechnology, genetic engineering, selective breeding, clone, heredity, nucleus, expression, transcription, translation, stem cell, genome, allele, gametes, meiosis, crossing over</p>

<b>Theme/Unit:</b> Homeostasis and Human Systems	<b>Standards-Based Essential Skills to be Targeted Throughout the Unit</b>		<b>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</b>	<b>Instructional Resources</b>	
<p><b>Enduring Understandings:</b> Living things are both similar to and different from each other and from nonliving things. Organisms maintain a dynamic equilibrium that sustains life.</p>	<b>Reading Outcomes</b>	<ul style="list-style-type: none"> <li>• Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</li> <li>• Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.</li> <li>• Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force</i>, <i>friction</i>, <i>reaction force</i>, <i>energy</i>).</li> <li>• Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.</li> </ul>	<p><b>Targeted Skills:</b></p> <ul style="list-style-type: none"> <li>• Understand and explain the immune response.</li> <li>• Understand passive and active immunity and how a vaccine is made.</li> <li>• Focus on system interaction. Specifically, be able to explain the following: gas exchange and cells involved, nephron function, and heart/lung circulation.</li> <li>• Explain how all body systems contribute to homeostasis of the human body.</li> </ul>	<b>Literature</b>	New York State Living Environment, Miller & Levine, p. 859-1034
<p><b>Assessments:</b></p> <p><b>Formative – During Unit:</b> Worksheets, Vocabulary Quiz, Unit Quiz</p> <p><b>Summative – End of Unit:</b> Unit 8 Test and Laboratory Worksheets</p> <p><b>Presentation:</b></p>	<b>Writing Outcomes</b>	<ul style="list-style-type: none"> <li>• Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.</li> <li>• Assess the extent to which the reasoning and evidence from their experiment, supporting their claim or a recommendation for solving a scientific or technical problem in the written discussion section of lab reports.</li> </ul>	<p><b>Literature Based Writing:</b></p> <p><b>Informational Writing:</b></p>	<b>Informational</b>	
<p><b>Notes:</b> Provided via Cornell Method</p> <p><b>Review:</b> Unit 8 practice test Embedded questions in note packet Knowledge objective questions</p> <p><b>Websites:</b> Castle learning assignment <a href="http://corp.castlelearning.com/">corp.castlelearning.com/</a></p>	<b>Language/Listening and Speaking</b>			<b>Focus Vocabulary</b>	<p><b>Academic/Content Vocabulary:</b> immune system, antigen, pathogen, cancer, virus, bacteria, fungus, antibody, white blood cells, engulf, foreign invader, immune response, infectious agent, vaccinations, microbes, acquired immunity, HIV, AIDS, viral disease, homeostasis, stimulus, homeostasis, negative feedback, life functions/process/activities, corrective actions, deviations, diagnose</p>

<b>Theme/Unit:</b> Evolution  <b>Enduring Understandings:</b> Individual organisms and species change over time.	<u>Reading Outcomes</u>	<b>Standards-Based Essential Skills to be Targeted Throughout the Unit</b>	<b>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</b>	<b><u>Instructional Resources</u></b>	
			<ul style="list-style-type: none"> <li>• Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</li> <li>• Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.</li> <li>• Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force</i>, <i>friction</i>, <i>reaction force</i>, <i>energy</i>).</li> <li>• Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.</li> </ul>	<b>Targeted Skills:</b> <ul style="list-style-type: none"> <li>• Apply the steps of scientific inquiry</li> <li>• Organize and analyze data</li> <li>• Read tree diagrams (cladograms)               <ul style="list-style-type: none"> <li>○ Identify organisms that went extinct</li> <li>○ Identify common ancestors</li> </ul> </li> </ul>	<u>Literature</u>
<b>Assessments:</b>  <b>Formative – During Unit:</b> Worksheets, Vocabulary Quiz, Unit Quiz, Graphing Quiz <b>Summative – End of Unit:</b> Unit Test and Laboratory Worksheets  <b>Presentation:</b>	<u>Writing Outcomes</u>	<ul style="list-style-type: none"> <li>• Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.</li> <li>• Assess the extent to which the reasoning and evidence from their experiment, supporting their claim or a recommendation for solving a scientific or technical problem in the written discussion section of lab reports.</li> <li>•</li> </ul>	<b>Literature Based Writing:</b>  <b>Informational Writing:</b>	<u>Informational</u>	
<b>Notes:</b> Provided via Cornell Method  <b>Review:</b> Unit 1 practice test Embedded questions in notes Knowledge objective questions  <b>Websites:</b> Castle learning assignment <i>corp.castlelearning.com/</i> Understanding Evolution, <a href="http://evolution.berkeley.edu/">http://evolution.berkeley.edu/</a> Endangered Species, <a href="http://bagheera.com/">http://bagheera.com/</a> Evolution, PBS, <a href="http://www.pbs.org/wgbh/evolution/">http://www.pbs.org/wgbh/evolution/</a>	<u>Language/Listening and Speaking</u>			<u>Focus Vocabulary</u>	<b><u>Academic/Content Vocabulary:</u></b> overproduction, genetic variation, competition, survival of fitness, reproduction, fossil record, adapt, adaption, extinct, species, population, environment (nature), mutation, meiosis, crossing over, finite resources, relationship

<p><b>Theme/Unit:</b> Ecology/ Human Impact on the Ecosystem</p> <p><b>Enduring Understandings:</b> Plants and animals depend on each other and their physical environment.</p> <p>Human decisions and activities have had a profound impact on the physical and living environment.</p>	<u>Reading Outcomes</u>	<p style="text-align: center;"><b>Standards-Based Essential Skills to be Targeted Throughout the Unit</b></p> <ul style="list-style-type: none"> <li>• Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</li> <li>• Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.</li> <li>• Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force</i>, <i>friction</i>, <i>reaction force</i>, <i>energy</i>).</li> <li>• Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.</li> </ul>	<p style="text-align: center;"><b>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</b></p> <p><b>Targeted Skills:</b></p> <ul style="list-style-type: none"> <li>• Construct and interpret population graphs. Understand the impact of limiting factors (biotic and abiotic) on population size.</li> <li>• Understand symbiotic relationships (mutualism, commensalism, parasitism).</li> <li>• Describe and recognize between autotrophs and heterotrophs. Construct/understand/interpret food chains, food webs and energy pyramids.</li> <li>• Interpret the impact of populations increasing and decreasing within food webs.</li> <li>• Understand how the elements cycle between biotic and abiotic components of an ecosystem. (water cycle, nitrogen cycle, carbon/oxygen cycle)</li> <li>• Understand phases of succession from pioneer organisms to climax community.</li> <li>• Explain the impact competition has on the organisms in the ecosystem.</li> <li>• Understand and explain the cause and effect relationships between human activities and the environment. (Global warming, acid rain, deforestation, ozone depletion, etc.)</li> <li>• Name and describe the impact of an invasive species. (purple loosestrife, zebra mussel, round goby, etc.)</li> <li>• Understand alternative energy sources (solar, wind, water, nuclear, etc.)</li> <li>• Understand the concept of education and legislation pertaining to environmental issues.</li> </ul>	<p><b>Instructional Resources</b></p> <p style="text-align: center;"><u>Literature</u></p> <p>New York State Living Environment, Miller &amp; Levine, p. 60 - 185</p>	
<p><b>Assessments:</b></p> <p><b>Formative – During Unit:</b> Worksheets, Vocabulary Quiz, Unit Quiz</p> <p><b>Summative – End of Unit:</b> Unit 10 Test and Laboratory Worksheets</p> <p><b>Presentation:</b></p>	<u>Writing Outcomes</u>	<ul style="list-style-type: none"> <li>• Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.</li> <li>• Assess the extent to which the reasoning and evidence from their experiment, supporting their claim or a recommendation for solving a scientific or technical problem in the written discussion section of lab reports.</li> </ul>	<p><b>Literature Based Writing:</b></p> <p><b>Informational Writing:</b></p>	<p style="text-align: center;"><u>Informational</u></p>	

<p><b>Notes:</b>          Provided via Cornell Method</p> <p><b>Review:</b>          Unit 10 practice test          Embedded review questions in notes</p> <p><b>Websites:</b>          Castle learning assignment  <a href="http://corp.castlelearning.com/">corp.castlelearning.com/</a></p>	<u>Language/Listening and Speaking</u>			<p style="text-align: center;"><b>Focus Vocabulary</b></p> <p><b>Academic/Content Vocabulary:</b> abiotic, biotic, photosynthesis, habitat, carrying capacity, minerals, recycle, producer, consumer, predator, prey, parasite, parasitism, mutualism, commensalism, autotroph, heterotroph, host, scavenger, algae, herbivores, carnivores, decomposers, food chain, food web, primary/secondary consumer, ecosystem, population, community, niche, habitat, competition, carbon, hydrogen, nitrogen, biosphere, energy pyramid, ecological succession, ecological community, pioneer species, climax community, lichen, species, environment, diversity, equilibrium, cyclic changes, ecosystem stability, interdependence, finite, infinite., chemical composition, deforestation, global warming/climate change, ozone depletion, acid rain, biodiversity, loss of biodiversity, invasive species, fossil fuel, nuclear, solar, hydro, wind, renewable, nonrenewable, atmosphere, population growth, direct harvesting, global stability, risks, economic benefit, monetary</p>
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