Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 1 – Biochemistry and Enzymes**	
Pacing	8 days	
Conceptual Understanding	**H.B.2A** The essential functions of a cell involve chemical reactions that take place between many different types of molecules (including carbohydrates, lipids, proteins and nucleic acids) and are catalyzed by enzymes.	
	SC Performance Indicators	**Recommended SEPs for Teaching**
	H.B.2A.1 Construct explanations of how the structures of carbohydrates, lipids, proteins, and nucleic acids (including DNA and RNA) are related to their functions in organisms.	S.1A.2 Develop and use models. S.1A.6 Construct explanations.
	H.B.2A.2 Plan and conduct investigations to determine how various environmental factors (including temperature and pH) affect enzyme activity and the rate of biochemical reactions.	S.1A.3 Plan and carry out investigations. S.1A.4 Analyze and interpret data. S.1A.6 Construct explanations.
Suggested Activities	• Lab – Biochemistry • Demo - Observing Water Transport in Celery • Demo - Polarity Demo • Lab - Catalysis: Decomposition of Hydrogen Peroxide • Lab - There's No Such Thing as Fresh Pineapple Jello • Lab - Enzyme Rate of Reaction of Handase • Lab – Identifying Organic Compounds • Lab – Food Label and Macromolecules • Activity- Toothpickase Enzyme Model	
Textbook Correlation	*Glencoe Biology*	

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 2 – Cell Structure and Function**	
Pacing	9 days	
Conceptual Understanding	**H.B.2B** Organisms and their parts are made of cells. Cells are the structural units of life and have specialized substructures that carry out the essential functions of life. Viruses lack cellular organization and therefore cannot independently carry out all of the essential functions of life. **H.B.2C** Transport processes which move materials into and out of the cell serve to maintain the homeostasis of the cell.	
	SC Performance Indicators	**Recommended SEPs for Teaching**
	H.B.2B.1 Develop and use models to explain how specialized structures within cells (including the nucleus, chromosomes, cytoskeleton, endoplasmic reticulum, ribosomes and Golgi complex) interact to produce, modify, and transport proteins. Models should compare and contrast how prokaryotic cells meet the same life needs as eukaryotic cells without similar structures.	S.1A.2 Develop and use models. S.1A.3 Plan and carry out investigations.
	H.B.2B.2 Collect and interpret descriptive data on cell structure to compare and contrast different types of cells (including prokaryotic versus eukaryotic, and animal versus plant versus fungal).	S.1A.4 Analyze and interpret data. S.1A.8 Obtain, evaluate, and communicate information.
	H.B.2B.3 Obtain information to contrast the structure of viruses with that of cells and to explain, in general, why viruses must use living cells to reproduce.	S.1A.8 Obtain, evaluate, and communicate information.
	H.B.2C.1 Develop and use models to exemplify how the cell membrane serves to maintain homeostasis of the cell through both active and passive transport processes.	S.1A.1 Ask questions. S.1A.2 Develop and use models.

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 2 – Cell Structure and Function**	
Pacing	9 days	
	SC Performance Indicators	**Recommended SEPs for Teaching**
	H.B.2C.2 Ask scientific questions to define the problems that organisms face in maintaining homeostasis within different environments (including water of varying solute concentrations). H.B.2C.3 Analyze and interpret data to explain the movement of molecules (including water) across a membrane.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.1 Ask questions. S.1A.2 Develop and use models.
Suggested Activities	• Lab – Comparing Plant and Animal Cells/Prokaryotes • Activity - Coloring Sheets of Animal and Plant Cells • Textbook - Classzone "Get Through a Cell Membrane" • Lab - Osmosis Across a Chicken Egg Membrane • Lab - Osmosis Lab • Lab - Osmosis Using Elodea • Demo - Potato Osmosis • Lab – Normal and Plasmolyzed Elodea Cells • Lab - The Compound Microscope • Demo – Observing Water Transport in a Celery Stalk • Worksheet – Introduction to Light Microscope	
Textbook Correlation	*Glencoe Biology*	

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 3 – Photosynthesis and Cellular Respiration**	
Pacing	8 days	
Conceptual Understanding	**H.B.3A** Cells transform energy that organisms need to perform essential life functions through a complex sequence of reactions in which chemical energy is transferred from one system of interacting molecules to another.	
	SC Performance Indicators	**Recommended SEPs for Teaching**
	H.B.3A.1 Develop and use models to explain how chemical reactions among ATP, ADP, and inorganic phosphate act to transfer chemical energy within cells.	S.1A.6 Construct explanations.
	H.B.3A.2 Develop and revise models to describe how photosynthesis transforms light energy into stored chemical energy.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.3 Plan and carry out investigations. S.1A.6 Construct explanations.
	H.B.3A.3 Construct scientific arguments to support claims that chemical elements in the sugar molecules produced by photosynthesis may interact with other elements to form amino acids, lipids, nucleic acids or other large organic molecules.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.3 Plan and carry out investigations. S.1A.6 Construct explanations.
	H.B.3A.4 Develop models of the major inputs and outputs of cellular respiration (aerobic and anaerobic) to exemplify the chemical process in which the bonds of molecules are broken, the bonds of new compounds are formed and a net transfer of energy results.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.3 Plan and carry out investigations. S.1A.6 Construct explanations.

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 3 – Photosynthesis and Cellular Respiration**	
Pacing	8 days	
	SC Performance Indicators	**Recommended SEPs for Teaching**
	H.B.3A.5 Plan and conduct scientific investigations or computer simulations to determine the relationship between variables that affect the processes of fermentation and/or cellular respiration in living organisms and interpret the data in terms of real-world phenomena.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.3 Plan and carry out investigations. S.1A.6 Construct explanations.
Suggested Activities	• Lab - Photosynthesis and Plant Pigments • Lab - Examining the Rate of Photosynthesis • Demo - Energy Transfer in Photosynthesis – Chlorophyll Fluorescence • Demo - Chromatography of Plant Pigments • Lab - Wavelengths of Light and Photosynthesis • Demo - Effect of Temperature on Yeast Fermentation • Demo - Yeast Fermentation Demo • Lab – Clothespin Lab	
Textbook Correlation	*Glencoe Biology*	

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 4 – Cell Growth and Division**			
Pacing	10 days			
Conceptual Understanding	**H.B.2D**	The cells of multicellular organisms repeatedly divide to make more cells for growth and repair. During embryonic development, a single cell gives rise to a complex, multicellular organism through the processes of both cell division and differentiation.		
	SC Performance Indicators		**Recommended SEPs for Teaching**	
	H.B.2D.1	Construct models to explain how the processes of cell division and cell differentiation produce and maintain complex multicellular organisms.	S.1A.2 S.1A.6	Develop and use models. Construct explanations.
	H.B.2D.2	Develop and use models to exemplify the changes that occur in a cell during the cell cycle (including changes in cell size, chromosomes, cell membrane/cell wall, and the number of cells produced) and predict, based on the models, what might happen to a cell that does not progress through the cycle correctly.	S.1A.2 S.1A.6	Develop and use models. Construct explanations.
	H.B.2D.3	Construct explanations for how the cell cycle is monitored by check point systems and communicate possible consequences of the continued cycling of abnormal cells.	S.1A.6	Construct explanations.
	B.5.2	Explain how genetic processes result in continuity of life-forms over time.	S.1A.6	Construct explanations.

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	Unit 4 – Cell Growth and Division
Pacing	10 days
Suggested Activities	• Lab - Mitosis WebLab • Activity - Mitosis Flipbook • Lab – Onion Root Tip Mitosis • Activity - Chromosome Simulation BioKit • Textbook - Classzone • University of Arizona Internet Lab on Mitosis – http://www.biology.arizona.edu/cell_bio/activities/cell_cycle/cell_cycle.html
Textbook Correlation	*Glencoe Biology*

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	Unit 5 - Meiosis		
Pacing	3 days		
Conceptual Understanding	**H.B.4A**	Each chromosome consists of a single DNA molecule. Each gene on the chromosome is a particular segment of DNA. The chemical structure of DNA provides a mechanism that ensures that information is preserved and transferred to subsequent generations.	
	H.B.4B	In order for information stored in DNA to direct cellular processes, a gene needs to be transcribed from DNA to RNA and then must be translated by the cellular machinery into a protein or an RNA molecule. The protein and RNA products from these processes determine cellular activities and the unique characteristics of an individual. Modern techniques in biotechnology can manipulate DNA to solve human problems.	
	H.B.4C	Sex cells are formed by a process of cell division in which the number of chromosomes per cell is halved after replication. With the exception of sex chromosomes, for each chromosome in the body cells of a multicellular organism, there is a second similar, but not identical, chromosome. Although these pairs of similar chromosomes can carry the same genes, they may have slightly different alleles. During meiosis the pairs of similar chromosomes may cross and trade pieces. One chromosome from each pair is randomly passed on to form sex cells resulting in a multitude of possible genetic combinations. The cell produced during fertilization has one set of chromosomes from each parent.	
	SC Performance Indicators		**Recommended SEPs for Teaching**
	H.B.4A.1	Develop and use models at different scales to explain the relationship between DNA, genes, and chromosomes in coding the instructions for characteristic traits transferred from parent to offspring.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.6 Construct explanations.
	H.B.4B.1	Develop and use models to describe how the structure of DNA determines the structure of resulting proteins or RNA molecules that carry out the essential functions of life.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.6 Construct explanations.
	H.B.4C.1	Develop and use models of sex cell formation (meiosis) to explain why the DNA of the daughter cells is different from the DNA of the parent cell.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.6 Construct explanations.

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 5 - Meiosis**
Pacing	3 days
Suggested Activities	• Activity – Chromosome Simulation BioKit • Activity - Doing the Meiosis Shuffle • Activity- Mitosis and Meiosis Side/Side Coloring
Textbook Correlation	*Glencoe Biology*

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 6 – Sexual Reproduction and Mendelian Genetics**	
Pacing	6 days	
Conceptual Understanding	**H.B.4A** Each chromosome consists of a single DNA molecule. Each gene on the chromosome is a particular segment of DNA. The chemical structure of DNA provides a mechanism that ensures that information is preserved and transferred to subsequent generations. **H.B.4C** Sex cells are formed by a process of cell division in which the number of chromosomes per cell is halved after replication. With the exception of sex chromosomes, for each chromosome in the body cells of a multicellular organism, there is a second similar, but not identical, chromosome. Although these pairs of similar chromosomes can carry the same genes, they may have slightly different alleles. During meiosis the pairs of similar chromosomes may cross and trade pieces. One chromosome from each pair is randomly passed on to form sex cells resulting in a multitude of possible genetic combinations. The cell produced during fertilization has one set of chromosomes from each parent.	
	SC Performance Indicators	**Recommended SEPs for Teaching**
	H.B.4A.1 Develop and use models at different scales to explain the relationship between DNA, genes, and chromosomes in coding the instructions for characteristic traits transferred from parent to offspring.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.6 Construct explanations.
	H.B.4C.1 Develop and use models of sex cell formation (meiosis) to explain why the DNA of the daughter cells is different from the DNA of the parent cell.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.6 Construct explanations.
	H.B.4C.2 Analyze data on the variation of traits among individual organisms within a population to explain patterns in the data in the context of transmission of genetic information.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.6 Construct explanations.

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 6 – Sexual Reproduction and Mendelian Genetics**	
Pacing	6 days	
	SC Performance Indicators	**Recommended SEPs for Teaching**
	H.B.4C.3 Construct explanations for how meiosis followed by fertilization ensures genetic variation among offspring within the same family and genetic diversity within populations of sexually reproducing organisms.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.6 Construct explanations.
Suggested Activities	• Lab - Probability and Mendelian Genetics • Sponge Bob Genetics - www.sciencespot.net/Media/gen_spbobgenetics.pdf www.sciencespot.net/Media/gen_spbobgenetics2.pdf • Worksheet – The Yeti • Lab - Genetics Corn Lab • Lab - Making A Face-A Genetic Simulation	
Textbook Correlation	*Glencoe Biology*	

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 7 - Genetics**	
Pacing	7 days	
Conceptual Understanding	**H.B.4C** Sex cells are formed by a process of cell division in which the number of chromosomes per cell is halved after replication. With the exception of sex chromosomes, for each chromosome in the body cells of a multicellular organism, there is a second similar, but not identical, chromosome. Although these pairs of similar chromosomes can carry the same genes, they may have slightly different alleles. During meiosis the pairs of similar chromosomes may cross and trade pieces. One chromosome from each pair is randomly passed on to form sex cells resulting in a multitude of possible genetic combinations. The cell produced during fertilization has one set of chromosomes from each parent. **H.B.4D** Imperfect transmission of genetic information may have positive, negative, or no consequences to the organism. DNA replication is tightly regulated and remarkably accurate, but errors do occur and result in mutations which (rarely) are a source of genetic variation.	
	SC Performance Indicators	**Recommended SEPs for Teaching**
	H.B.4C.1 Develop and use models of sex cell formation (meiosis) to explain why the DNA of the daughter cells is different from the DNA of the parent cell.	S.1A.2 Develop and use models. S.1A.4 Analyze and interpret data. S.1A.6 Construct explanations.
	H.B.4C.2 Analyze data on the variation of traits among individual organisms within a population to explain patterns in the data in the context of transmission of genetic information.	S.1A.2 Develop and use models. S.1A.4 Analyze and interpret data. S.1A.6 Construct explanations.
	H.B.4C.3 Construct explanations for how meiosis followed by fertilization ensures genetic variation among offspring within the same family and genetic diversity within populations of sexually reproducing organisms.	S.1A.2 Develop and use models. S.1A.4 Analyze and interpret data. S.1A.6 Construct explanations.

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 7 - Genetics**	
Pacing	7 days	
	SC Performance Indicators	**Recommended SEPs for Teaching**
	H.B.4D.1 Develop and use models to explain how mutations in DNA that occur during replication (1) can affect the proteins that are produced or the traits that result and (2) may or may not be inherited.	S.1A.2 Develop and use models.
Suggested Activities	• Lab - Karyotyping Weblab • Lab - How Can Karyotype Analysis Explain Genetic Disorders • Worksheet - Human Pedigree – Hemophilia • Activity - Cystic Fibrosis Pedigree • Lab - Drosophila Lab #1 • Lab - Drosophila Lab #2 • Lab - Simulated Blood Typing • Worksheet - Exploring Hereditary Traits	
Textbook Correlation	*Glencoe Biology*	

Biology CP – Curriculum Pacing Guide – 2017-2018

<table>
<tr><td>Content Areas</td><td colspan="2">Unit 8 – Protein Synthesis</td></tr>
<tr><td>Pacing</td><td colspan="2">5 days</td></tr>
<tr><td>Conceptual Understanding</td><td colspan="2">H.B.4A Each chromosome consists of a single DNA molecule. Each gene on the chromosome is a particular segment of DNA. The chemical structure of DNA provides a mechanism that ensures that information is preserved and transferred to subsequent generations.

H.B.4B In order for information stored in DNA to direct cellular processes, a gene needs to be transcribed from DNA to RNA and then must be translated by the cellular machinery into a protein or an RNA molecule. The protein and RNA products from these processes determine cellular activities and the unique characteristics of an individual. Modern techniques in biotechnology can manipulate DNA to solve human problems.

H.B.4D Imperfect transmission of genetic information may have positive, negative, or no consequences to the organism. DNA replication is tightly regulated and remarkably accurate, but errors do occur and result in mutations which (rarely) are a source of genetic variation.</td></tr>
<tr><td></td><td>SC Performance Indicators</td><td>Recommended SEPs for Teaching</td></tr>
<tr><td></td><td>H.B.4A.1 Develop and use models at different scales to explain the relationship between DNA, genes, and chromosomes in coding the instructions for characteristic traits transferred from parent to offspring.

H.B.4A.2 Develop and use models to explain how genetic information (DNA) is copied for transmission to subsequent generations of cells (mitosis).

H.B.4B.1 Develop and use models to describe how the structure of DNA determines the structure of resulting proteins or RNA molecules that carry out the essential functions of life.</td><td>S.1A.2 Develop and use models.
S.1A.6 Construct explanations.

S.1A.2 Develop and use models.
S.1A.6 Construct explanations.</td></tr>
</table>

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 8 – Protein Synthesis**	
Pacing	5 days	
	SC Performance Indicators	**Recommended SEPs for Teaching**
	H.B.4B.2 Obtain, evaluate and communicate information on how biotechnology (including gel electrophoresis, plasmid-based transformation and DNA fingerprinting) may be used in the fields of medicine, agriculture, and forensic science.	S.1A.2 Develop and use models. S.1A.6 Construct explanations.
	H.B.4D.1 Develop and use models to explain how mutations in DNA that occur during replication (1) can affect the proteins that are produced or the traits that result and (2) may or may not be inherited.	S.1A.2 Develop and use models. S.1A.6 Construct explanations.
Suggested Activities	• Lab - DNA Extraction from Various Sources • Lab - DNA Extraction from Fruit • Lab - Discovering DNA Structure • Activity - Codon Bingo • Lab - Internet Protein Synthesis Lab #1 and #2 • Lab - Sci Fly Mutation Lab • Lab - Protein Synthesis Modeling	
Textbook Correlation	*Glencoe Biology*	

Biology CP – Curriculum Pacing Guide – 2017-2018

<table>
<tr><td>Content Areas</td><td colspan="2">Unit 9 - Biotechnology</td></tr>
<tr><td>Pacing</td><td colspan="2">4 days</td></tr>
<tr><td>Conceptual Understanding</td><td colspan="2">H.B.2D The cells of multicellular organisms repeatedly divide to make more cells for growth and repair. During embryonic development, a single cell gives rise to a complex, multicellular organism through the processes of both cell division and differentiation.

H.B.4B In order for information stored in DNA to direct cellular processes, a gene needs to be transcribed from DNA to RNA and then must be translated by the cellular machinery into a protein or an RNA molecule. The protein and RNA products from these processes determine cellular activities and the unique characteristics of an individual. Modern techniques in biotechnology can manipulate DNA to solve human problems.</td></tr>
<tr><td></td><td>SC Performance Indicators</td><td>Recommended SEPs for Teaching</td></tr>
<tr><td></td><td>H.B.2D.4 Construct scientific arguments to support the pros and cons of biotechnological applications of stem cells using examples from both plants and animals.

H.B.4B.2 Obtain, evaluate and communicate information on how biotechnology (including gel electrophoresis, plasmid-based transformation and DNA fingerprinting) may be used in the fields of medicine, agriculture, and forensic science.</td><td>S.1A.1 Ask questions.
S.1A.8 Obtain, evaluate, and communicate information.

S.1A.7 Engage in scientific argument from evidence.</td></tr>
<tr><td>Suggested Activities</td><td colspan="2">• Project - Biotechnology Research Paper
• Activity - The Great Cake Heist
• Activity - Forensic Science: A Paternal Case
• Project - GMO Research</td></tr>
<tr><td>Textbook Correlation</td><td colspan="2">Glencoe Biology</td></tr>
</table>

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 10 – Biological Evolution**	
Pacing	10 days	
Conceptual Understanding	**B.5** The student will demonstrate an understanding of biological evolution and the diversity of life	
	SC Performance Indicators	**Recommended SEPs for Teaching**
	B-5.1 Summarize the process of natural selection. B-5.2 Explain how genetic processes result in the continuity of life-forms over time. B-5.3 Explain how diversity within a species increases the chances of its survival. B-5.4 Explain how genetic variability and environmental factors lead to biological evolution.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.3 Plan and carry out investigations. S.1A.4 Analyze and interpret data. S.1A.5 Use mathematics and conceptual thinking. S.1A.6 Construct explanations.
	B-5.5 Exemplify scientific evidence in the fields of anatomy, embryology, biochemistry, and paleontology that underlies the theory of biological evolution.	S.1A.2 Develop and use models. S.1A.5 Use mathematics and conceptual thinking. S.1A.6 Construct explanations.
	B-5.6 Summarize ways that scientists use data from a variety of sources to investigate and critically analyze aspects of evolutionary theory.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.3 Plan and carry out investigations. S.1A.4 Analyze and interpret data. S.1A.6 Construct explanations.
	B-5.7 Use a phylogenetic tree to identify the evolutionary relationships among different groups of organisms.	S.1A.1 Ask questions. S.1A.2 Develop and use models. S.1A.3 Plan and carry out investigations. S.1A.4 Analyze and interpret data.

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 10 – Biological Evolution**
Pacing	10 days
Suggested Activities	• Activity – Natural Selection in Teddy Grahams • Lab - The NERD Lab • Lab - Jelly Belly Jelly Beans and Evolutionary Principles in the Classroom • Activity - Monster Classification • Activity Button Classification Using a Dichotomous Key • Activity - Making Cladograms • Lab - Island Biogeography and Evolution: Solving a Phylogenetic Puzzle Using Molecular Genetics • Activity - Evolution: The Molecular Connection
Textbook Correlation	*Glencoe Biology*

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	**Unit 11 - Ecology**	
Pacing	7 days	
Conceptual Understanding	**H.B.6A** Ecosystems have carrying capacities, which are limits to the numbers of organisms and populations they can support. Limiting factors include the availability of biotic and abiotic resources and challenges such as predation, competition, and disease. **H.B.6B** Photosynthesis and cellular respiration are important components of the carbon cycle, in which carbon is exchanged between the biosphere, atmosphere, oceans, and geosphere through chemical, physical, geological, and biological processes. **H.B.6C** A complex set of interactions within an ecosystem can keep its numbers and types of organisms relatively stable over long periods of time. Fluctuations in conditions can challenge the functioning of ecosystems in terms of resource and habitat availability.	
	SC Performance Indicators	**Recommended SEPs for Teaching**
	H.B.6A.1 Analyze and interpret data that depict changes in the abiotic and biotic components of an ecosystem over time or space (such as percent change, average change, correlation and proportionality) and propose hypotheses about possible relationships, between the changes in the abiotic components and the biotic components of the environment.	
	H.B.6A.2 Use mathematical and computational thinking to support claims that limiting factors affect the number of individuals that an ecosystem can support.	S.1A.5 Use mathematics and conceptual thinking.

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	Unit 11 - Ecology	
Pacing	7 days	
	SC Performance Indicators	**Recommended SEPs for Teaching**
	H.B.6B.1 Develop and use models of the carbon cycle, which include the interactions between photosynthesis, cellular respiration and other processes that release carbon dioxide, to evaluate the effects of increasing atmospheric carbon dioxide on natural and agricultural ecosystems.	S.1A.2 Develop and use models.
	H.B.6B.2 Analyze and interpret quantitative data to construct an explanation for the effects of greenhouse gases (such as carbon dioxide and methane) on the carbon cycle and global climate.	
	H.B.6C.1 Construct scientific arguments to support claims that the changes in the biotic and abiotic components of various ecosystems over time affect the ability of an ecosystem to maintain homeostasis.	S.1A.4 Analyze and interpret data. S.1A.6 Construct explanations. S.1B.1 Construct devices or design solutions.

Biology CP – Curriculum Pacing Guide – 2017-2018

Content Areas	Unit 11 - Ecology
Pacing	7 days
Suggested Activities	• Lab - Food Web Weblab • Activity - Arctic Hare Food Web • Activity - Killer Whale Food Web Game • Activity - Nitrogen Cycle Jigsaw Cycles Presentations • Activity – The Lorax • Activity - Ecosystem Scavenger Hunt • Lab - Gene Frequencies and Sickle Cell Anemia • Lab - Establishing Hardy-Weinberg Equilibrium • Lab - Lynx Eats the Hare Lab • Lab - Fish Fight • Activity - Good Buddies • Textbook - Classzone Activities
Textbook Correlation	*Glencoe Biology*