

Managed Curriculum



Biology

2011-2012 School Year



John White, RSD Superintendent

Biology High School



The 2011-2012 Managed Curriculum

Opening of School Introductory Unit

Focus on Pacing

There is a natural tendency, when using new materials, to begin more slowly. However, because there is so much mathematics content to review and teach in the course of a year, it is expected that you set the pace at the beginning of the school year. Students generally adjust to the pace of the teacher. This will ensure that *ALL* of the concepts will be covered prior to testing (GLEs).

There may be times when it will seem difficult to maintain the pace. But it is important to understand that a slow pace can make it too easy to lose perspective and difficult to relate ideas. If you spend too much time on certain lessons, you will find that your slowest students may have learned more by having gone through content slowly, but the other students may have learned less. The wise teacher strikes a balance, goes quickly enough to keep things interesting but slowly enough to have time for explanations. Make adjustments for students with special needs: individualized lessons, learner center activities, additional homework and/or extended day/week/year opportunities.

Teachers should use this unit to:

- develop classroom culture and establish classroom routines
- administer Pre test to determine students' strengths and weaknesses
- practice and use test taking strategies
- discuss , model and reinforce *Science Safety*

Teaching NOTE: *It is expected that Benchmark Assessments will provide feedback regarding students' understanding and/or mastery of required concepts. This information should be utilized for re teaching and provide input to make ongoing adjustments to lesson plans.*

Suggested Resources

- CHAMP Module 4
- Review science safety contract
- Review Test Taking Strategies
- Louisiana Guide to Statewide Assessment

Note: Differentiated instruction activities for students who are advanced, Tier II, Tier III, or English Language Learners can be found in the wrap-around text of the Teacher's Edition on the text pages indicated.

Unit 1: The Cell

Unit Description This unit introduces the students to basic structure of cells and their differences, stressing the comparison of plant and animal cells, the differences between prokaryotic and eukaryotic cells, transport mechanisms, the role of enzymes, and the characteristics used define life.

Student Understandings

The major understandings include the structure of cells (prokaryotic and eukaryotic) and their functions with regard to components of plants and animals, their ability to transport water and other substances, their enzymatic properties, and their ability to be defined as living organisms.

Guiding Questions

Can students...

- describe the difference between eukaryotic and prokaryotic cells?
- identify cell organelles and describe the function(s) of each?
- describe how cells are affected by varying concentrations of solutions?
- differentiate among the forms of cell transport?
- describe the function of an enzyme in a chemical reaction? Can students provide an example?
- arrange the levels of life from most simple to most complex?

Teaching Objectives	GLEs	Recommended LCC Activities	Suggested Resources
<p>Students will:</p> <ul style="list-style-type: none"> • identify appropriate safety measures. • compare prokaryotic and eukaryotic cells. • identify and describe differences among organelles. 	<p>SI: 1, 6, 8, 10*, 11</p> <p>LS: 1*, 2*</p>	<p>LCC Activity 1</p> <p>LCC Activity 2</p> <p>LCC Activity 3</p> <p>LCC Activity 4</p>	<p>Glencoe – Biology p. 1107-1109</p> <p><i>Rules of Lab Conduct BLM</i></p> <p><i>Student Safety Contract BLM</i></p> <p><i>What is Life? BLM</i></p> <p>Glencoe – Biology p. 171-187</p> <p>EPIC - Biology Module 3 - Lessons 1, 2, 5 & 6</p> <p>http://Bdol.glencoe.com</p> <p>(This website has connections for each section and chapter)</p> <p>EPIC Biology Module 2 – Lessons 1, 2, 3, 4, 5, & 6</p>
<p>Students will:</p> <ul style="list-style-type: none"> • compare active and passive cellular transport. • analyze the movement of water across cell membranes in hypotonic, isotonic, and hypertonic solutions. • investigate and describe the role of enzymes in the function of the cell. • compare the levels of organization in the biosphere. 	<p>SI: 1, 4, 5, 9, 10</p> <p>LS: 3*, 4*, 5*, 31*</p>	<p>LCC Activity 5</p> <p>LCC Activity 6</p> <p>LCC Activity 7</p> <p>LCC Activity 8</p>	<p>Glencoe – Biology p. 195-200</p> <p>EPIC – Biology Module 3 – Lessons 3, 4</p> <p>Glencoe – Biology p. 162, 211-213, 36-41</p> <p><i>Experimental Design Assessment Rubric</i></p>

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Teacher Reflection on Content Coverage

Can students...

- describe the difference between eukaryotic and prokaryotic cells?
- identify cell organelles and describe the function(s) of each?
- describe how cells are affected by varying concentrations of solutions?
- differentiate among the forms of cell transport?
- describe the function of an enzyme in a chemical reaction? Can students provide an example?
- arrange the levels of life from most simple to most complex?

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Unit 2: Reproduction and Genetics

Unit Description

The unit is designed to incorporate tasks that will introduce students to the basics of cellular reproduction and inheritance.

Student Understandings

Starting with the specialization of cells for growth and reproduction, the study involves the concepts of mitosis and meiosis. In addition, basic embryological development is examined. With DNA and chromosomes as the bases for inheritance, the unit introduces students to biogenetics, how traits and genes are traced within a population and the prediction of specified crosses using genotypes and phenotypes.

Guiding Questions

Can students ...

- compare and contrast the processes of mitosis and meiosis?
- predict the number of chromosomes in a cell before and after mitosis, and after meiosis? Can they explain the difference in number of chromosomes in meiosis?
- differentiate between reproduction and growth?
- explain the relationship between genes, chromosomes, and proteins?
- determine the function and chemical composition of DNA and RNA?
- replicate a DNA molecule using the correct chemical compounds and sequence of bases?
- describe the roles of DNA and RNA in the synthesis of proteins?
- explain the relationship between DNA and proteins and explain the importance of proteins in the function of living organisms?
- draw and label the developmental stages of a fertilized cell, beginning with a fertilized animal egg (zygote) through the gastrula phase?
- differentiate between the terms *genotype* and *phenotype*? Can the students provide examples?
- complete a simple Punnett square to predict the genotypic and phenotypic ratios in the offspring using genes for a dominant-recessive trait?
- describe the difference between a monohybrid and a dihybrid cross?
- read and interpret a pedigree chart? Can the students discern when the pedigree is the most useful tool for identifying patterns of inheritance?
- cite examples of artificial hybrids, such as ones created via genetic engineering?
- provide ten examples of useful products, organisms, or processes currently being produced by or used in bioengineering?
- describe positive and negative aspects of bioengineering?

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Teaching Objectives	GLEs	Recommended LCC Activities	Suggested Resources
<p>Students will:</p> <ul style="list-style-type: none"> compare mitosis and meiosis. predict the number of chromosomes in a cell before and after mitosis and meiosis. differentiate between reproduction and growth. identify the basic structure and function of nucleic acids. determine the relationship between genes, chromosomes, and proteins. replicate a DNA molecule using the correct chemical compounds and sequence of bases. describe the roles of DNA and RNA in the synthesis of proteins. explain the relationship between DNA and proteins. 	<p>SI: 7, 11, 13, 14, 16</p> <p>LS: 7*, 9*</p>	<p>LCC Activity 1 LCC Activity 2</p> <p>LCC Activity 3</p> <p>LCC Activity 4 LCC Activity 5</p>	<p>Glencoe – Biology p. 201-210, 263-273 <i>Word Grid for Comparison of Mitosis and Meiosis BLM</i> http://science.nhmccd.edu/biol/biolint.htm</p> <p>EPIC – Biology Module 2 – Lessons 3, 4 & 5 Module 3 – Lessons 4, 5, 6 Module 4 – Lesson 3 Glencoe – Biology p. 281-307 EPIC Biology Module 2 – Lesson 4 <i>Molecular Structure of Nucleic Acids BLM</i> EPIC Biology Module 2 – Lesson 5</p>
<p>Students will:</p> <ul style="list-style-type: none"> analyze a diagram of a developing zygote compare the embryological development of animals analyze pedigrees to identify patterns of inheritance for common genetic disorders calculate the probability of genotypes & phenotypes of offspring describe the processes used in genetic engineering 	<p>SI: 5,7</p> <p>LS: 6,10, 11, 12, 13, 17</p>	<p>LCC Activity 6 LCC Activity 7</p> <p>LCC Activity 8 LCC Activity 9</p>	<p>Glencoe – Biology p. 309-335, 341-353 Glencoe – Biology p. 676-679, 633-634, 1005-1011 EPIC – Biology Module 3 – Lesson 2, 5, 6 Module 1 – Lesson 4</p> <p>EPIC – Biology B – Module 1 – all lessons</p>
<p>Teacher Reflection on Content Coverage Can students ...</p> <ul style="list-style-type: none"> compare and contrast the processes of mitosis and meiosis? predict the number of chromosomes in a cell before and after mitosis, and after meiosis? Can they explain the difference in number of chromosomes in meiosis? differentiate between reproduction and growth? explain the relationship between genes, chromosomes, and proteins? determine the function and chemical composition of DNA and RNA? replicate a DNA molecule using the correct chemical compounds and sequence of bases? describe the roles of DNA and RNA in the synthesis of proteins? explain the relationship between DNA and proteins and explain the importance of proteins in the function of living organisms? draw and label the developmental stages of a fertilized cell, beginning with a fertilized animal egg (zygote) through the gastrula phase? differentiate between the terms <i>genotype</i> and <i>phenotype</i>? Can the students provide examples? complete a simple Punnett square to predict the genotypic and phenotypic ratios in the offspring using genes for a dominant-recessive trait? describe the difference between a monohybrid and a dihybrid cross? read and interpret a pedigree chart? Can the students discern when the pedigree is the most useful tool for identifying patterns of inheritance? cite examples of artificial hybrids, such as ones created via genetic engineering? provide ten examples of useful products, organisms, or processes currently being produced by or used in bioengineering? describe positive and negative aspects of bioengineering? 			

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Unit 3: Traits and Classification of Life

Unit Description

This unit involves students in identifying the characteristics used to define life, as we know it, on planet Earth and the systems used to organize these life forms into various groups (classifications)

Student Understandings

This unit centers on the characteristics of all forms of life. With this information, students should identify similarities and differences in life forms and classify examples according to identifiable traits and place them in the proper taxonomic categories.

Guiding Questions

Can students...

- differentiate among the terms *taxonomy*, *classification*, and *nomenclature*?
- list and describe six kingdoms of organisms?
- define the term *trait*?
- list five easily identifiable traits of human beings (*Homo sapiens*)?
- define and describe a dichotomous key?

Teaching Objectives	GLEs	Recommended LCC Activities	Suggested Resources
<p>Students will:</p> <ul style="list-style-type: none"> • classify organisms from different kingdoms at several taxonomic levels, using a dichotomous key. • compare characteristics of the major kingdoms. • analyze differences in life cycles of selected organisms in each of the kingdoms. • differentiate among the terms <i>taxonomy</i>, <i>classification</i>, and <i>nomenclature</i>. • list and describe six kingdoms of organisms. • define the term <i>trait</i>. 	<p>SI: 2, 6, 7</p> <p>LS: 18*, 19*, 20*</p>	<p>LCC Activity 1</p> <p>LCC Activity 2</p> <p>LCC Activity 3</p>	<p>EPIC – Biology Module 1 – Lesson 1 Module 5 – Lesson 1 Glencoe – Biology p. 443-449</p> <p>Glencoe – Biology p. 450-471 <i>Classification of Organisms BLM</i></p> <p>Glencoe – Biology pgs. 460-461</p>
<p>Teacher Reflection on Content Coverage</p> <p>Can students...</p> <ul style="list-style-type: none"> • differentiate among the terms <i>taxonomy</i>, <i>classification</i>, and <i>nomenclature</i>? • list and describe six kingdoms of organisms? • define the term <i>trait</i>? • list five easily identifiable traits of human beings (<i>Homo sapiens</i>)? • define and describe a dichotomous key? 			

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Unit 4: Changes Over Time

Unit Description

The unit introduces students to the basic concepts behind the processes involved in evolution, including natural selection and adaptations.

Student Understandings

Students should develop an understanding of how to examine fossil evidence and other specimens to explain evolutionary patterns. Given a trait or characteristic, students examine how it evolved to its current status (structure and function). This might include considering the analogous structures, such as arms, flippers, and wings; the scales of reptiles and feathers of birds; the shapes and colorations of flowers or leaves; and heart chambers.

Guiding Questions

Can students...

- identify Charles Darwin and what he contributed to the understanding of science?
- describe two major ideas Darwin put forth in the *Origin of Species*?
- discern why fossils are important to the understanding of evolution?
- name one example from the fossil record that supports that evolution has occurred?
- describe radioactive dating? Can students relate how is it used to determine the age of a fossil?
- describe how DNA and proteins can be used as evidence to support the theory of evolution?
- provide some examples and explain how natural selection occurs?
- explain whether or not the antibiotic resistance of microbes is evidence for evolution?

Teaching Objectives	GLEs	Recommended LCC Activities	Suggested Resources
<p>Students will:</p> <ul style="list-style-type: none"> • analyze evidence on biological evolution. • explain how DNA evidence and the fossil record support Darwin's theory. • compare structure to function of organs in various organisms. • determine relative ages of rock layers. • use data from radioactive dating techniques to estimate the age of earth materials. • analyze data related to a variety of natural processes to determine the time frame of the changes. • analyze evidence on biological evolution utilizing descriptions of existing investigations, computer models, and fossil records 	<p>SI: 6, 7, 8, 11, 13</p> <p>LS: 14*, 16*, 33*</p> <p>ESS: 17*, 18*, 22*</p>	<p>LCC Activity 1 LCC Activity 2 LCC Activity 3 LCC Activity 4</p>	<p>EPIC – Biology</p> <p>Module 1 – Lessons 1 & 4 Module 2 – Lessons 3 & 4 Module 3 – Lesson 5 Module 5 – Lesson 6</p> <p>Glencoe – Biology p. 369-419 Glencoe – Biology p. 420-441</p>

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Unit 5: Balance in Nature

Unit Description

This unit engages students in exploring the importance of biogeocycles in the environment. The significance of maintaining balance within these cycles will be emphasized. The activities explored in this unit will be limited to the cycling of oxygen, carbon dioxide, and adenosine triphosphate (ATP) during photosynthesis, and the carbon cycle. Other cycles that should be explored include the water, nitrogen, and phosphorous cycles (e.g., the effects of too much salt in a stream and the critical balance needed in an estuary).

Student Understandings

Students should be able to understand the dynamics of the process of maintaining a balance (homeostasis) and the role chemical processes (photosynthesis and cellular respiration) play in this regard. Students are expected to have a general understanding about various cycles (e.g., water, energy, ATP) and how they function around a continuing effort to achieve and maintain equilibrium. Students are also expected to understand food and energy hierarchy within an ecosystem.

Guiding Questions

Can students...

- illustrate the flow of carbon and oxygen in these cycles?
- analyze balanced equations of photosynthesis and aerobic respiration to explain the relationship between these two processes?
- diagram the ATP cycle and explain its function in the cells of living organisms?
- analyze a food web in order to trace the flow of energy in the ecosystem shown?
- interpret a food and energy pyramid and explain why there is less biomass at each level from the base to the top of the food pyramid?
- explain why the Sun is vital to all ecosystems?
- explain homeostasis and provide examples while relating it to processes in living organisms?
- recognize the dynamics of a population and analyze the consequences of the loss of organisms in its food supply or the impact of the loss of one of its predators?

Teaching Objectives	GLEs	Recommended LCC Activities	Suggested Resources
<p>Students will:</p> <ul style="list-style-type: none"> • trace the flow of heat energy in the water cycle . • describe the effect of natural insulation on energy transfer. • identify the sun-driven processes that move substances at or near earth's surface. • illustrate the flow of carbon, nitrogen, and water through an ecosystem. • explain why ecosystems require a continuous input of energy from the sun. • use balanced equations to analyze the relationship between photosynthesis and cell respiration. • explain the role of atp in a cell. • explain how stable elements and atoms are recycled during natural geologic processes. • analyze the dynamics of a population with and without limiting factors. • analyze positive and negative effects of humans on ecosystems. 	<p>SI: 1, 3, 4, 5, 6, 7, 9, 15</p> <p>ESS: 2*, 3*, 13*, 15*</p> <p>LS: 23*, 26*, 27, 28*, 29*, 30*</p>	<p>LCC Activity 1 LCC Activity 2 LCC Activity 3</p>	<p>EPIC – Biology</p> <p>Module 5 – Lessons 1, 3, 4, 5, 6</p> <p>Module 6 – Lessons 1, 2, 3, 5, 6</p> <p>Glencoe – Biology p. 48-57, 152-163 Glencoe – Biology p. 221 - 243</p>

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Teacher Reflection on Content Coverage

Can students...

- illustrate the flow of carbon and oxygen in these cycles?
- analyze balanced equations of photosynthesis and aerobic respiration to explain the relationship between these two processes?
- diagram the ATP cycle and explain its function in the cells of living organisms?
- analyze a food web in order to trace the flow of energy in the ecosystem shown?
- interpret a food and energy pyramid and explain why there is less biomass at each level from the base to the top of the food pyramid?
- explain why the Sun is vital to all ecosystems?
- explain homeostasis and provide examples while relating it to processes in living organisms?
- recognize the dynamics of a population and analyze the consequences of the loss of organisms in its food supply or the impact of the loss of one of its predators?

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Teaching Objectives	GLEs	Recommended LCC Activities	Suggested Resources
<p>Students will:</p> <ul style="list-style-type: none"> • analyze food webs. • evaluate the efficiency of the flow of energy through a food chain/pyramid. • analyze positive and negative effects of humans on ecosystems. • explain why ecosystems require a continuous input of energy from the sun. 	<p>SI: 2, 7, 9</p> <p>LS: 24*, 25*, 26, 27*, 28*</p>	<p>LCC Activity 4 LCC Activity 5 LCC Activity 6</p>	<p>EPIC Biology</p> <p>Module 6 – Lesson 1 Glencoe – Biology p. 46 – 51,</p>

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Unit 6: The Human Body—Its Structures, Systems, Balance, and Health

Unit Description

This unit introduces students to the structure and systems of the human body. This unit will examine the interaction of the various systems, how a balance (homeostasis) is maintained within the systems, and factors that affect the health of the systems (e.g., drugs, alcohol, disease organisms).

Student Understandings

The human body is understood as a living organism, and students should be provided information and experiences that will enable them to explain the structure and function of the body systems, major organs, and processes that maintain life. Connections are to be made between the system, diseases and conditions of that system, and the importance of health maintenance.

Guiding Questions

Can students...

- describe the functions of the human body systems?
- identify and locate the major organs of each body system?
- describe the functions of the major organs of the body systems?
- describe how the various systems of the human body interact?
- describe mechanisms that maintain the balance, called *homeostasis*, within each system? Can students provide some specific examples?
- name and describe the functions of the components of the human immune system?
- explain the difference between active and passive immunity?
- explain how vaccinations and immunity are related?
- explain how fitness and health maintenance might affect each of the systems studied and how they might result in a longer life span?

Teaching Objectives	GLEs	Recommended LCC Activities	Suggested Resources
Students will: <ul style="list-style-type: none"> • use technology to enhance laboratory investigations. 	SI: 6, 7*, 10	LCC Activity 1	EPIC – Biology Part B – Module 6, Lesson 2 Glencoe – Biology Chapter 34 – Section 1
Students will: <ul style="list-style-type: none"> • analyze the interrelationships of organs in major systems. • compare structure to function of organs. • explain how body systems maintain homeostasis. 	SI: 2, 6, 7, 10, 14 LS : 32*, 33*, 34*	LCC Activity 2 LCC Activity 3 LCC Activity 4 LCC Activity 5	EPIC – Biology Part B – Module 6, Lessons 1, 4 Glencoe – Biology Chapter 35 – section 3 Glencoe – Biology Chapter 34 – Section 2
Students will: <ul style="list-style-type: none"> • analyze the interrelationships of organs in major systems (respiratory, circulatory, and digestive). • compare structure to function of organs (respiratory, circulatory, and digestive). 	SI: 6, 7, 10, 14 LS: 32*, 33*	LCC Activity 9 LCC Activity 10 LCC Activity 11	EPIC – Biology Part B – Module 6, Lesson 6 Glencoe – Biology Chapter 35 – section 1 & 2 Glencoe – Biology Chapter 37

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Teaching Objectives	GLEs	Recommended LCC Activities	Suggested Resources
<p>Students will:</p> <ul style="list-style-type: none"> analyze the interrelationships of organs in major systems (excretory, reproductive, and immune). compare structure to function of organs (excretory, reproductive, and immune). 	<p>SI: 6, 7, 14</p> <p>LS: 32*, 33*, 34*, 39*, 40*</p>	<p>LCC Activity 12 LCC Activity 13 LCC Activity 14 LCC Activity 15</p>	<p>EPIC – Biology Part B – Module 6, Lesson 2 Glencoe – Biology Chapter 38, section 1 & 2 Glencoe – Biology Chapter 39, section 2 Glencoe – Biology Chapter 37, section 3</p>
<p>Teacher Reflection on Content Coverage Can students...</p> <ul style="list-style-type: none"> describe the functions of the human body systems? identify and locate the major organs of each body system? describe the functions of the major organs of the body systems? describe how the various systems of the human body interact? describe mechanisms that maintain the balance, called <i>homeostasis</i>, within each system? Can students provide some specific examples? name and describe the functions of the components of the human immune system? explain the difference between active and passive immunity? explain how vaccinations and immunity are related? explain how fitness and health maintenance might affect each of the systems studied and how they might result in a longer life span? 			
Teaching Objectives	GLEs	Recommended LCC Activities	Suggested Resources
<p>Students will:</p> <ul style="list-style-type: none"> write and defend a conclusion based on logical analysis of experimental data. analyze the conclusion from an investigation by using data to determine validity. explain how selected organisms respond to a variety of stimuli. explain how behavior affects the survival of a species. 	<p>SI: 1, 3, 4, 9*, 10, 15*</p> <p>LS: 35, 36</p>	<p>LCC Activity 1 LCC Activity 2</p>	<p>EPIC – Biology Part A– Module 5, Lesson 2</p>
<p>Students will:</p> <ul style="list-style-type: none"> explain how behavior affects the survival of a species. cite evidence that scientific investigations are conducted for many different reasons. 	<p>SI: 4, 6, 9, 10, 12</p> <p>LS: 35, 36, 41*, 21*, 38*</p>	<p>LCC Activity 3 LCC Activity 4</p> <p>LCC Activity 1 LCC Activity 2</p>	<p>EPIC – Biology Part B, Module 3, Lesson 5</p>

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Unit 7: Health and Disease

Unit Description

In this unit the student will explore areas related to maintaining good health (e.g., proper nutrition, exercise), as well as organisms such as viruses, bacteria, fungi, and protozoa that can disrupt the health of a human being.

Student Understandings

Good health is dependent on the proper care and attention to the needs of the body. Students' understanding of pathogenic organisms, prevention, symptoms of infection, and proper treatment will be addressed in the activities. Students should recognize that technological advances have improved diagnosis and treatment.

Guiding Questions

Can students...

- describe what is meant by the term *sexually transmitted diseases*? Can students list five of the most common ones?
- describe viruses?
- discern if antibiotics are effective for treatment of viral infections? Can students explain why a physician might prescribe an antibiotic, knowing that the patient has a viral infection?
- explain what MRSA represents in relation to antibiotics? Can students explain why this is a problem?
- define the term *germ theory*? Can students provide examples?

Teaching Objectives	GLEs	Recommended LCC Activities	Suggested Resources
<p>Students will:</p> <ul style="list-style-type: none"> • describe the role of viruses in causing diseases and conditions. • discuss mechanisms of disease transmission and processes of infection. • compare the functions of the basic components of the human immune system. • describe causes, symptoms, treatments, and preventions of major communicable diseases. 	<p>LS: 22*, 38*,39*,41*, 42*</p>	<p>LCC Activity 3 LCC Activity 4</p>	<p>EPIC – Biology Part B, Module 6, Lesson 3 Glencoe – Biology Chapter 18</p>
<p>Students will:</p> <ul style="list-style-type: none"> • discuss mechanisms of disease transmission and processes of infection. • compare the functions of the basic components of the human immune system. • describe causes, symptoms, treatments, and preventions of major communicable diseases. 	<p>SI: 1, 2, 3, 6, 9,12</p> <p>LS: 37, 38*, 41*, 42*</p>	<p>LCC Activity 5 LCC Activity 6</p>	<p>Glencoe – Biology Chapter 39, section 1</p>

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Unit 8: Patterns of Behavior

Unit Description

This unit will focus on the effects various stimuli can have on organism behavior. Both plants and animals will be included, particularly as to how such responses relate to the survival of the species.

Student Understandings

Organisms (plants and animals) react to stimuli in different ways and in varying amounts. Students will investigate behaviors of living organisms that protect themselves, defend their young, and seek and capture food.

Guiding Questions

Can students...

- differentiate between innate behavior and learned behavior?
- define the term, pheromones? Can students describe the role they play in animal behavior? Can students provide examples?
- explain why a bird will ignore a rabbit in its territory, but aggressively attempt to discourage a member of its own species?
- cite the advantages and disadvantages of social living? Can students provide some examples?
- describe examples of behaviors that enable organisms to survive?

Teaching Objectives	GLEs	Recommended LCC Activities	Suggested Resources
Students will: <ul style="list-style-type: none"> • write and defend a conclusion based on logical analysis of experimental data. • analyze the conclusion from an investigation by using data to determine validity. • explain how selected organisms respond to a variety of stimuli. • explain how behavior affects the survival of a species. 	SI: 1, 3, 4, 9*, 10, 15* LS: 35, 36	LCC Activity 1 LCC Activity 2	EPIC – Biology Part A– Module 5, Lesson 2
Students will: <ul style="list-style-type: none"> • explain how behavior affects the survival of a species. • cite evidence that scientific investigations are conducted for many different reasons. 	SI: 4, 6, 9, 10, 12 LS: 35, 36, 41*, 21*, 38*	LCC Activity 3 LCC Activity 4 LCC Activity 1 LCC Activity 2	EPIC – Biology Part B, Module 3, Lesson 5
Teacher Reflection on Content Coverage Can students... <ul style="list-style-type: none"> • differentiate between innate behavior and learned behavior? • define the term, pheromones? Can students describe the role they play in animal behavior? Can students provide examples? • explain why a bird will ignore a rabbit in its territory, but aggressively attempt to discourage a member of its own species? • cite the advantages and disadvantages of social living? Can students provide some examples? • describe examples of behaviors that enable organisms to survive? 			
Students will: <ul style="list-style-type: none"> • review biology concepts for final exam (Use Benchmark results) 	ALL Previous GLEs		

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