

Standard(s)	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.
Learning Targets/I Can Statements	<p>1) I can explain the role organisms have in recycling carbon from one form to another.</p> <p>2) I develop models of the carbon cycle to evaluate the effects of atmospheric carbon dioxide on natural and agricultural ecosystems.</p> <p>3) I can use models of the carbon cycle to evaluate the effects of atmospheric carbon dioxide on natural and agricultural ecosystems.</p>
Essential Question(s)	<p>1) What are the processes responsible for life's unity and diversity?</p> <p>2) How and why do organisms change over time?</p> <p>3) How are organisms structured to ensure efficiency and survival?</p>
Resources	<p>Wifi</p> <p>District issued laptop or personal computer</p> <p>Gizmo-Carbon Cycle- Teachers will launch this in your Gizmos class or sign in with the following class code:</p> <p>Step 1: Go to https://www.explorellearning.com</p> <p>Step 2: Click on the "Enroll in a Class" button in the upper right hand corner of the web page.</p> <p>Step 3: Type in your teacher's class code: VHV7XM Click "Continue" and follow the directions on the site to complete your enrollment.</p>
Learning Activities or Experiences	<p>Begin by calculating your carbon footprint here</p> <p>How does your carbon footprint compare to others?</p> <p>Log into the Carbon Cycle Gizmo</p> <p>Complete the Gizmo Student Handout and submit it.</p>

**This lesson does not encompass the full intent of this indicator.*

March 23rd and 24th 3rd A day and 3rd B day

Standards	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.
Learning Targets/I Can Statements	I can develop and use models to explain why the daughter cells in meiosis are different than the parent cell.
Essential Question(s)	<ol style="list-style-type: none"> 1) Why is the DNA of parent and daughter cells different? 2) How is the DNA of parent and daughter cells different? 3) What would happen if the DNA of parent and daughter cells were identical?
Resources	<p>Wifi District issued laptop or personal computer Meiosis Gizmos- Teachers will launch this in your Gizmos class or sign in with the following class code:</p> <p>Step 1: Go to https://www.explorellearning.com</p> <p>Step 2: Click on the "Enroll in a Class" button in the upper right hand corner of the web page.</p> <p>Step 3: Type in your teacher's class code: VHV7XM Click "Continue" and follow the directions on the site to complete your enrollment.</p> <p>Meiosis Review Quizlet</p>
Learning Activities or Experiences	<ol style="list-style-type: none"> 1) Complete the meiosis Gizmos Steps and Experiment 2) Complete the Gizmos Assessment 3) Draw the model of meiosis in your notebooks. 4) Please complete the Meiosis Review

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March 25th and 26th 4th A DAY AND 4 B DAY Biology Mr. David Hunter

<p>Standards</p>	<p>H.B.4B.1 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.</p>
<p>Learning Targets/I Can Statements</p>	<ul style="list-style-type: none"> • Describe how CRISPR-Cas9 was used to explore the genetic basis of coloration and spot formation in butterfly wings. • Interpret the results of CRISPR-Cas9 experiments by annotating figures from the results section of a scientific paper. • Interpret the experimental design used in a CRISPR-Cas9 experiment.
<p>Essential Question(s)</p>	<p>How was CRISPR-Cas9 used to explore the genetic basis of coloration and spot formation in butterfly wings?</p>
<p>Resources</p>	<p>Wifi District issued laptop or personal computer Winging It: Analyzing a Scientific Paper Scientists Can Now Repaint Butterfly Wings</p>
<p>Learning Activities or Experiences</p>	<p>Background information: In this activity, you will analyze aspects of a scientific paper that investigates genes involved in the colors and patterns of butterfly wings.</p> <p>This paper shows how biologist Robert Reed and his colleagues used the biotechnology tool CRISPR-Cas9 to inactivate a number of butterfly genes and determine their functions.</p> <p>Watch: CRISPR In A Nutshell</p> <p>Read and complete - Winging It: Analyzing a Scientific Paper</p>

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March 27th and March 30th 5 A day and 5th B day Biology Mr. David Hunter

Standards	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
Learning Targets/ Can Statements	I can use mathematical thinking to demonstrate the impact of limiting factors on the number of individuals that an ecosystem can support
Essential Question(s)	What factors can influence how populations change over time? What is the difference between exponential and logistic growth? How can we apply population models to real data? What inferences can we make about the human population? How do limiting factors impact the number of individuals that an ecosystem can support?
Resources	Wifi District issued laptop or personal computer Fields of Fuel
Learning Activities or Experiences	Please view and complete the attached presentation .

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