

<p><b>Essential Question:</b> How do butterflies survive over time in a changing environment?</p> <p><b>Focus Question:</b> What happens to organisms when the environment changes?</p> <p><b>Phenomenon Question:</b> How do long-term changes in an environment affect the organisms that live there?</p>		
<p><b>Objective:</b> Analyze the effects of a long-term change in an environment on the organisms that live there.</p>	<p><b>Materials:</b> Pencil</p>	<p><b>Projected Slides:</b> 351–362</p>

**Share the following items with families in advance of the lesson.**

- Links: Lesson 20b Daily Video, Science Journal Lesson 20b
- Materials list
- Assignment: After watching the video, students answer this question: How could a long-term change in an environment, such as building a parking lot, be harmful or beneficial to the organisms that live there?

**Remote Learning Recommendations**

Type	Pacing	Activity	Notes
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Hybrid (in-class synchronous and remote asynchronous)</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Asynchronous (in Sync)</p>	10–15 minutes	Daily Video	<p>Video description:</p> <p>Students continue to analyze the effects of a long-term change in an environment on the organisms that live there by considering a specific long-term change—the building of a parking lot .</p>
	10 minutes	Assignment	<p>The video asks students to answer this question: How could a long-term change in an environment, such as building a parking lot, be harmful or beneficial to the organisms that live there?</p>
	15 minutes	<p>Virtual Class Meeting (Optional):</p> <p>Science Discourse</p>	<p>Ideally this meeting occurs after students watch the video and complete the assignment:</p> <ul style="list-style-type: none"> <li>• <i>Describe a Changed Environment Remote Alternative</i> Facilitate a discussion about how humans make changes to an environment. Encourage students to give examples from their prior experiences. As students share, guide them to make predictions about how those changes might affect organisms that live in the environment.</li> </ul> <p>Review the sorting activity from the previous lesson, and explain that organisms can only stay in a changed environment if they are suited to survive there. Discuss with the class that organisms may also move into an environment after a change, so the class should add an additional category, Move to, to the current category list. Ask students to identify some organisms that might move into the new environment in the parking lot scenario and to describe ways those organisms are suited to the changed environment.</p> <ul style="list-style-type: none"> <li>• Invite students to share their answers to the question How could a long-term change in an environment, such as building a parking lot, be harmful or beneficial to the organisms that live there?</li> </ul>

**PhD Science in Sync™ Learn Anywhere Plan**

<b>Synchronous</b>	10 minutes	Learn	<p>Refer to Teacher Edition to conduct the lesson Learn (Projected slides 351–355).</p> <ul style="list-style-type: none"> <li>Describe a Changed Environment</li> </ul> <p>Give all students a chance to participate either in-person or virtually.</p>
	7 minutes	Land	<p>Refer to Teacher Edition to conduct the lesson Land (Projected slides 356–362).</p> <ul style="list-style-type: none"> <li>Assign Optional Homework</li> </ul> <p>Give all students a chance to participate either in-person or virtually.</p>

<b>Asynchronous</b>
Remote students using in Sync with optional virtual class meeting

<b>Synchronous</b>
Some students in-class and some remote but all participating live

<b>Hybrid</b>
In-class students are synchronous and remote students asynchronous