**Unit Essential Question:** *How do humans impact organisms around the world and what can we do about it?*

**Engage**

In the last task, you saw evidence of rising global temperatures and the factors causing them. Why does a rise in global temperatures matter? How might this impact the Earth and its organisms? Before we can explore these questions, we first need to understand what actually affects the survival of organisms on Earth. In this task, you will explore examples of different animal behaviors and plant structures that allow organisms to successfully survive and reproduce.



In the Lift-Off, you learned that the bee population is declining. Scientists say that bees and flowering plants heavily rely on each other, so this could be a huge concern.

In partners, use your prior knowledge of bees and flowers to discuss and try to answer the following: What do you think scientists mean when they say bees and flowering plants rely on each other?

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**Explore**

To explain this statement from scientists, we need more evidence about how animal behaviors and plant structures help organisms, like bees and flowering plants, to survive and reproduce. In groups, visit the stations and record your evidence in the table below:

|  |  |  |
| --- | --- | --- |
| **Characteristic** | **What Organisms Do/Have This?** | **Explain how this helps survival and/or reproduction.** |
| Nesting  *Animal Behavior* |  |  |
| Migration  *Animal Behavior* |  |  |
| Bright Flowers  *Plant Structure* |  |  |
| Sex Pheromones  *Plant Structure* |  |  |

*Discuss: In what examples did animal behaviors and plant structures seem related? Explain.*

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**Explain**

**Engaging in Argument From Evidence:** Now that you have seen the different characteristics that help plants and animals survive and reproduce and how these are related, let’s return to the *Engage* scenario: Scientists say that bees and flowering plants heavily rely on each other. Individually, write an argument that supports or refutes this statement using evidence from the *Explore* stations and your own scientific reasoning.

|  |
| --- |
|  |

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**Elaborate**

## **Cause and Effect**: You know from the Lift-Off that the bee population is declining. What do you think is likely to happen to plants if the bee population continues to decline? Discuss with a partner and record your prediction and reasoning below:

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**Evaluate: Connecting to the Culminating Project**

You have been asked to create an advocacy video that describes the human impact on an organism and gives a potential solution. Consider your chosen organism and do additional research, as necessary:

* What specialized structures OR behaviors does your organism have that help it survive and reproduce? Describe how these characteristics specifically help with survival and/or reproduction.

This should be individually in your Project Organizer.

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**Reflection**

Individually reflect on Task 2, using the questions provided:

1. At the beginning of this task, you were asked to explain what you thought scientists mean when they say plants and bees rely on each other. Look back at your responses in the *Engage* and your argument in the *Explain*. How has your thinking changed or remained the same over the course of this task?
2. In this task, we focused on the crosscutting concept of:

* **Cause and Effect**: Phenomena may have more than one cause and sometimes relationships can only be described using probability.

Where do you see examples of **Cause and Effect** in this task?

1. Now that you have learned more about the characteristics that affect organisms’ survival and reproduction, what questions do you still have?