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

**Challenge**

In the Lift-Off Task, you saw that bee populations are drastically decreasing. We are seeing these kinds of changes in organisms around the world—changes in population size and even in behavior and in traits. Why is this happening and what can we do about it?

Your task is to pick a plant or animal harmed by global warming and design a method to monitor and minimize this impact. You have likely seen images or videos depicting very sad stories of animals affected by climate change. While it is certainly sad, there is still hope! As a group, create an advocacy video that describes the human impact on your organism and gives a potential solution, thus replacing the sad and hopeless type of video we usually see. Individually, you will then compare and evaluate all the different solutions amongst your classmates. You may present your evaluation in the format of your choice (report, poster, powerpoint, video, podcast, etc.)

**List of Organisms to Choose From**

* Magpie Lark
* Shorebird
* Finnish Farm Bird
* Salmon
* Whooping Crane
* Hummingbird
* Caribou
* Lilac
* Spider Orchid
* Glacier Lily

**Group Project Criteria for Success**

Your advocacy video should include:

* A description of the problem
  + How is your chosen plant/animal affected by global warming, and why is it a problem?
  + What are the criteria for solving this problem?
  + What are some constraints in solving this problem?
* An explanation of your method to monitor or minimize the impact on your plant/animal
* The pros and cons of your solution
  + How does it meet the criteria and constraints of the problem?
  + What are some challenges in meeting the criteria and constraints?
* Quality Video Structure
  + Grabs the audience’s attention
  + Is organized logically
  + Includes relevant visuals
  + Persuades your audience

**Individual Project Criteria for Success**

Your solutions evaluation should include:

* A description of the problem facing all of the organisms, including:
  + The criteria and constraints for solving this problem for all of the organisms
* Scientific background to help your audience understand the problem, including:
  + The cause of the problem and the evidence that supports this cause-and-effect relationship
  + Whether you think this problem was caused by a sudden change or gradual changes that have accumulated over time and why
* An argument for why global warming poses a threat to organisms, including:
  + How all the organisms’ behaviors or structures affect their probability for successful reproduction, and
  + How these behaviors or structures are being affected by rising temperatures
  + For both bullets above, remember to include descriptions of examples from other groups’ projects as evidence
* An explanation of your method to monitor or minimize the impact on your plant/animal
* An evaluation of solutions:
  + Which solution do you think will have the most impact (best meets the criteria)? Why?
  + Which solution seems to be the most feasible (best meets the constraints)? Why?
  + Based on your evaluation, which solution would you recommend and why?

**Solutions Evaluation Peer Review Feedback**

Complete after you have a full first draft of your Solutions Evaluation.

|  |  |
| --- | --- |
| Evaluation Owner’s Name |  |
| Evaluation Reviewer’s Name |  |

**Review the following sections of the Solutions Evaluation:**

* A description of the problem facing all of the organisms, including:
  + The criteria and constraints for solving this problem for all of the organisms
* Positive Comment:
* Constructive Comment:
* Scientific background to help your audience understand the problem, including:
  + The cause of the problem and the evidence that supports this cause-and-effect relationship
  + Whether you think this problem was caused by a sudden change or gradual changes that have accumulated over time and why
* Positive Comment:
* Constructive Comment:
* An argument for why global warming poses a threat to organisms, including:
  + How all the organisms’ behaviors or structures affect their probability for successful reproduction, and
  + How these behaviors or structures are being affected by rising temperatures
  + For both bullets above, remember to include descriptions of examples from other groups’ projects as evidence
* Positive Comment:
* Constructive Comment:
* An explanation of your method to monitor or minimize the impact on your plant/animal
* Positive Comment:
* Constructive Comment:
* An evaluation of solutions:
  + Which solution do you think will have the most impact (best meets the criteria)? Why?
  + Which solution seems to be the most feasible (best meets the constraints)? Why?
  + Based on your evaluation, which solution would you recommend and why?
* Positive Comment:
* Constructive Comment: