

Climate Change Connections Lesson Plan

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Lesson Title:	<i>Climate Change Connections</i>	
Lesson Topic:	<i>Climate Change effects in Puerto Rico and Indiana</i>	
Context		
Grade Level, Course	<i>Appropriate for grades 8 through 12. Suitable for students taking courses such as: Biology, Earth & Space Sciences, and/or Ocean Sciences.</i>	
Anticipated timeline	<p>4-5 class periods (assuming one class period is equivalent to 50 minutes).</p> <ul style="list-style-type: none"> • Day 1: Discussion of climate change as a general concept and its impact globally, introduce anchoring phenomenon. • Day 2/3: Focus on the specific impact climate change has on Puerto Rico and Indiana, with students working together to make connections between both environments. • Day 4: Introduce the project and allow students to begin planning and research. • <i>Another class period dedicated to a student workday is recommended but is ultimately up to the teacher.</i> • Day 5: Students present their connections and findings to their classmates through a poster. <i>Students should be able to complete their posters within 7-10 days of being assigned the project. The next unit could be started while students work outside of class.</i> 	
Learning Goals and Assessments		
Anchoring Phenomenon or Problem	<i>Climate change affects many things, but students will most likely be familiar with its impact on weather patterns. Changes in weather have many side effects, but agriculture is the one we most commonly think of. Pointing out how students' favorite foods could be affected is a good way to get them invested in the lesson. A problem that both Puerto Rico and Indiana are faced with are more intense hurricanes, with Puerto Rico being hit directly and Indiana getting the after-effects through storms and rain. Rising temperatures also impact both Puerto Rico and Indiana, in varying ways.</i>	
Performance Expectation	<p>Successful learners will...</p> <ul style="list-style-type: none"> • Students will be able to explain the effects on the environment caused by climate change in both Puerto Rico and Indiana. • Students will be able to take the knowledge they gained through this lesson, form connections, explain them to their peers, and defend these conclusions with evidence. 	<p>How will you assess this objective?</p> <ul style="list-style-type: none"> • Listening and observing the students as they discuss in groups and as a class. • A poster presentation done individually or in small groups.

Standards alignment	Practices <ul style="list-style-type: none"> • <i>Asking questions and defining problems</i> • <i>Planning and carrying out investigations</i> • <i>Constructing explanations and designing solutions</i> • <i>Engaging in argument from evidence</i> • <i>Obtaining, evaluating, and communicating information</i> 	Disciplinary Core Ideas <ul style="list-style-type: none"> • <i>ESS2.D: Earth's Systems; Weather and Climate</i> • <i>ESS3.C: Earth and Human Activity; Human Impacts on Earth Systems</i> • <i>ESS3.D: Earth and Human Activity; Global Climate Change</i>
		Crosscutting Concepts <ul style="list-style-type: none"> • <i>Patterns</i> • <i>Cause and Effect</i> • <i>Stability and Change</i>

Daily Activity Details		
What will you DO and USE during this lesson?	<p><i>Teacher instructions:</i></p> <p><i>Go over climate change as the big picture in the beginning to form a base knowledge for the students to build from. Introduce the more specific impacts for Puerto Rico before talking about Indiana to allow students to take the broad concept, narrow it down to a specific region, and continue narrowing it down to their own environment and eventually to themselves. Have students collaborate and make connections between issues in Puerto Rico and Indiana. For example, coral bleaching and agriculture losses are different problems that stem from the same impact of climate change, rising temperatures. When introducing the project, emphasize the importance of making connections between</i></p>	<p><i>Materials and Supplies</i></p> <ul style="list-style-type: none"> • <i>Poster boards</i> • <i>Construction paper</i> • <i>Scissors & glue</i> • <i>Markers & colored pencils</i>

	<p><i>themselves, the environment in Indiana, and the environment in Puerto Rico. As the students start their research, point them to the NOAA, EPA, and ISER Caribe websites listed below.</i></p>	
	<p><i>Student Handouts – list here, attach files to lesson plan</i></p> <p><i>See Appendix A for Climate Change Connections Project Student Handout</i></p>	<p><i>List student products for assessment</i></p> <p><i>See Appendix B for Climate Change Connections Project Rubric</i></p>

Good websites for students to start research!

[NOAA Climate Change Impacts](#)

[EPA What Climate Change Means for Indiana](#)

[EPA Puerto Rico Resources](#)

[ISER Caribe](#)

APPENDIX A

Handouts

[Climate Change Connections Project Student Handout.docx](#)

For better function of the document, open the link and download a copy.

APPENDIX B

Assessment Instruments

[Climate Change Connections Project Rubric.docx](#)

For better function of the document, open the link and download a copy.