

Species Affected by Global Climate Change Lesson Plan

	Name: Jessica Holes	
	Subject: Environmental Science	Level: High School
State Standards Covered	ENV.GP.3: Climate change ENV.GP.4: Sustainability	
Learning Targets	<p>I can recognize that climate change affects different areas of the world differently.</p> <p>I can identify how various organisms are affected by climate change globally.</p> <p>I can identify why organisms in different areas of the world are afflicted by different issues in regards to climate change.</p>	
Key Vocab.	Climate Change Endangered Species Habitat Sensitivity Adaptive Capacity Exposure	
Notes to Teachers	<p>This project can be assigned during any point of a climate change unit. Students should have a surface level understanding of what climate change is.</p> <p>Before the project, students must know how the species vulnerability was determined. This can be seen on the overview of any report, so if students are motivated to read, just instruct them to do so. If they are not, then you should have a discussion about how theses reports are made. The criteria for determining species vulnerability is listed below.</p> <p>Determining species vulnerability</p> <p>The study identified the key vulnerabilities of a species based on four factors:</p> <p>Sensitivity: the inability of the species to persist, as is, under changing climatic conditions.</p> <p>Adaptive capacity: the ability of the species to respond to changes in climate.</p>	

	<p>Exposure: the extent of climatic change and variation that the species encounters and is projected to encounter.</p> <p>Other threats: any other relevant threats, as well as the human responses to climate change that exacerbate these threats.</p> <p>Students will make an advertising campaign to persuade individuals of the world to take steps to save the organism(s) of their choice. The ad can be in the form of a news article, a video, or an infographic.</p> <p>Students are limited to studying options from the article, Animals Affected by Climate Change, which was published in Fall of 2015.</p> <p>Polar Bear Snow Leopard Giant Panda Monarch butterfly African Elephant Mountain Gorilla Asian Elephant</p> <p>There is an accompanying informational site that goes into more detail about many of the Animals listed in the article, but not all of them. On the informational site pages, there is an option to download an assessment like this one for the giant panda. There are other options in the differentiation section.</p>
<p>Rubric</p>	<p>rubric</p>
<p>Instructional Procedures</p>	<ol style="list-style-type: none"> 1. Go over necessary background information about climate change. 2. Show students the way the species vulnerability reports are created. 3. Pass out the project description and rubric to the students. 4. Go over expectations of the project, answering any student questions as you assign the project. 5. Provide assistance to students as they navigate the research. Provide sufficient scaffolding. 6. When students submit their projects, grade the projects using the rubric.
<p>Materials</p>	<p>Generate a QR Code here Generate an infographic here Create a video using animoto here</p> <p>Video options:</p> <p>Climate Change Explained video</p>

How Does Climate Change Affect Animals? [video](#)

Websites:

Plants, Animals, and Ecosystems | A Student's Guide to Global Climate Change

(<https://archive.epa.gov/climatechange/kids/impacts/effects/ecosystems.html>)

EPA's website for students.

The Effects of Climate Change | World Wildlife Fund

(<https://www.wwf.org.uk/effectsofclimatechange>)

Wildlife and Climate Change

(<https://www.fs.usda.gov/ccrc/index.php?q=topics/wildlife>)

From the USDA Forest Service

Effects of climate change on terrestrial animals

(https://en.wikipedia.org/wiki/Effects_of_climate_change_on_terrestrial_animals)

Animals at Risk from Climate Change - The Global Education Project

(<https://www.theglobaleducationproject.org/climate-change/>)

Some additional resources for creating digital posters

To create infographics:

<https://www.canva.com>

www.spark.adobe.com

www.piktochart.com

www.docs.google.com

www.docs.google.com/drawings

To create videos:

www.animoto.com

<https://spark.adobe.com/make/video-maker/>

www.biteable.com

<https://www.worldwildlife.org/magazine/issues/fall-2015/articles/animals-affected-by-climate-change>

	https://www.worldwildlife.org/initiatives/wildlife-and-climate-change
Assessments	The rubric will be the assessment instrument for the project.
Differentiation	If your students are more advanced, have good media skills, and have access to the right equipment, have them make a video for their campaign ad instead of a poster. You can also have the students make google slides, and infographic, a video using animoto, or a pamphlet with the information.
Extensions	<p>How are people affected by the change in climate in that area/region/biome?</p> <p>Is it a keystone species?</p> <p>Where does this organism fit into the food web/food chain?</p>