The Bio/Diversity Project

Lesson Title: **Importance of Biodiversity within the Sonoran Desert**

Teacher: *Alexandra Salido Almada and Nicole Granados*

Grade Level: *6th*

Time: *30 minutes + 10 minute pre-assignment*

*Adapted from:* [*The Sonoran Desert*](https://geoalliance.asu.edu/sites/default/files/LessonFiles/Haile/Sonoran/HaileSonoranT.pdf)

[*Science will save the world!*](https://www.youtube.com/watch?v=Nw-fQTWCTD0)

[*https://www.nps.gov/im/sodn/ecosystems.htm*](https://www.nps.gov/im/sodn/ecosystems.htm)

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| **AZ State Science Standard:** | *6.L2U3.12:*   * *Engage in argument from evidence to support a claim about the factors that cause species to change and how humans can impact those factors.* |
| **Learning Objective:** | * Students will identify the Sonoran Desert, its location, biodiversity, as well as ways plants and animals adapt to live there. * Students will depict characteristics of each biome within a sky island in the Sonoran Desert * Students will demonstrate the important role that biodiversity plays in the Sonoran Desert. |
| **Language Objective:** (Optional) | N/A |
| **Scientist of the Week:** | Scientist of the Week: Mario J. Molina    * Mexican-American chemist * Born March 19. 1943 in Mexico City * During the 1970s, he did research about the destruction of the ozone layer due to industrial gases being released into the air. This led to a major decrease of CFC gas from being released into the air. * Mario J. Molina studied how human activity can harm our surrounding environments. |

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| **Vocabulary** | | | **Materials** | | |
| * *Biome: An area of the planet that can be classified according to the plants and animals that live in it* * *Sky Island: isolated mountains surrounded by radically different lowland environments* | | | [Sonoran Desert Map](https://geoalliance.asu.edu/sites/default/files/maps/Sonoran_Desert.pdf)  [*Slides*](https://biodiversityproject.arizona.edu/sites/default/files/biomes%20sonoran%20desert%20lesson%202%20slides%20%282%29.pptx)  [*Lesson guide*](https://biodiversityproject.arizona.edu/sites/default/files/BIOME%20video%20transcript%20%281%29.docx) | | |
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| **Seasonality:** No specific seasonality is required | | | | | |
| *Monsoons*  July-Sept. | *Autumn*  Oct.-Nov. | *Winter*  Dec.- Feb. | | *Spring*  Mar.-Apr. | *Dry Summer*  May-June |
| **Guiding Questions:**   * What is a sky island? * What kind of biomes can we find in the Sonoran Desert? | | | | | |

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| **5E Steps** | **Teacher Strategies** | **Student Behavior** |
| **Engagement/Introductory Activity:** | Have students write in the Zoom chat what they believe lives in the Sonoran Desert. Tell them to Type their answer in the zoom chat, but don’t send it yet! Countdown for a Zoom bomb.  Present the Slide with the Question:  “What lives in the Sonoran Desert?”  Review the students’ answers and talk about what they think lives in the Sonoran desert.. | Students will answer questions through a zoom bomb and engage verbally in the conversation of what they think lives within the Sonoran Desert. |
| **Exploratory Activity:** | Project a picture of the Sonoran Desert.  Ask students to describe verbally what they see.  Inform students that they are looking at a region of the world called the Sonoran Desert. Tell them part of this desert is found in Arizona and that Tucson is part of the Sonoran Desert.  Explain: “So here in Tucson, AZ it’s a desert outside, and what that means is it’s really hot and dry, as we’ll show you in a second.  It also means there’s very special weather and very special ways the climate works to make things different, as you go higher. | Students will describe verbally what they see. |
| **Explain:** | [Sonoran Desert Map](https://geoalliance.asu.edu/sites/default/files/maps/Sonoran_Desert.pdf)  [*Slides*](https://biodiversityproject.arizona.edu/sites/default/files/biomes%20sonoran%20desert%20lesson%202%20slides%20%282%29.pptx)  Explain the Sonoran Desert characteristics.(Location and climate slides)  Reinforce the concept of lesson #1 content by asking: Ask: what is biodiversity?  Biodiversity is a word used to describe the variety of plants and animals in an environment.  Explain that During the summer, the Sonoran Desert has a monsoon season. Monsoon rains are caused by a change in wind that creates thunder and rainstorms. Oftentimes, it rains so hard and fast that the streets flood and cars get swept away!  Introduce and Explain the following concepts:  Biome:  Sky Island | Students will answer and participate verbally |
| **Extension Activity/Questions:** | [*Slides*](https://biodiversityproject.arizona.edu/sites/default/files/biomes%20sonoran%20desert%20lesson%202%20slides%20%282%29.pptx)  Lead a virtual sky island trip and explain each biome including vegetation and animals. [*Lesson guide*](https://biodiversityproject.arizona.edu/sites/default/files/BIOME%20video%20transcript%20%281%29.docx)  Have the students draw a mountain on a piece of paper and tell them to draw each biome of “our Arizona sky island” depicting an animal and a plant in each different biome.  BIOME #1 - DESERT  .  BIOME #2 – GRASSLAND    BIOME #3 – MADREAN WOODLAND  BIOME #4 – CHAPARRAL  .  BIOME #5 – TEMPERATE FOREST | Students will listen to each Biome’s characteristics and draw a sky island on a piece of paper.  Students will depict characteristics of each biome in their drawings. |
| **Evaluation Activity:** | Ask students to show their drawings in order to evaluate their comprehension of biomes and sky islands. Ask them about what it means to be on a sky island and to describe Which Biome is their favorite and why. | Students will show their drawings and will answer the questions via zoom chat or verbally. |