The CREATES Literacy Project
Lesson Title: Biodiversity and Bat Conservation in the Sonoran Desert

Teachers: Patrick Taylor and Caitlin Brenton
Grade Levels: 7th and 8th
Duration of Module: 4 days

<table>
<thead>
<tr>
<th>Learning Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will be able to communicate the importance of bat conservation for preserving Sonoran Desert biodiversity.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vocabulary</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Biodiversity</td>
<td>• Article on bat conservation</td>
</tr>
<tr>
<td>• Conservation</td>
<td>• Seek by iNaturalist App</td>
</tr>
<tr>
<td>• Pollinator</td>
<td>• Tiktok App or other video creation software</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Creative Communication Strategy Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will communicate what they learn about bat conservation and biodiversity of the Sonoran Desert through the creation of a group video.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Literacy Strategy Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Paraphrasing</td>
</tr>
<tr>
<td>• <strong>Summarizing in Science</strong></td>
</tr>
<tr>
<td>• Interactive Read-Alouds</td>
</tr>
<tr>
<td>• Interactive Reading Guides</td>
</tr>
<tr>
<td>• Strategies for Vocabulary Instruction</td>
</tr>
<tr>
<td>• Writing a Scientific Explanation Using the Explanation Tool</td>
</tr>
</tbody>
</table>
### Order of Activity

#### Day 1
- As students enter the classroom, instruct them to answer to the following bellwork questions in their science notebook:
  - What is biodiversity?
  - What plants and animals make the Sonoran Desert a unique, or special, place?
  - List TWO pollinators we can find in the desert.
    - Ask for volunteers to share out their answers to the bellwork questions
- Ask students to raise their hand if they think that bats are pollinators
  - Discuss what characteristics define a pollinator
  - Ask students what kinds of flowers bats are attracted to and the characteristics of these flowers (white, open at night, high off the ground, etc.)
- Show students a **video** of local Sonoran Desert bats
  - Instruct students to write down their answers in their science notebooks to the following questions after watching the video:
    - What are two things you notice about this video?
    - What is one question you have about this video?
- Tell students that today their class will be participating in a bioblitz activity in the school’s outdoor classroom
  - Explain the following procedures before going outside:
    - Have students download the app “Seek by iNaturalist” on their phones
    - Use the app to identify plant and animal species in the outdoor classroom
      - While students are in the outdoor classroom they must take a picture of the plant/animal species and write down in their science notebooks:
        - The name of the plant/animal species
        - Two facts about each plant/animal species
    - The goal of this bioblitz activity is to identify and research as many plants and animals as possible in the outdoor classroom

#### Day 2
- As students enter the classroom, instruct them to answer to the following bellwork questions in their science notebook:
  - What is one plant you identified yesterday?
  - What is one animal you identified yesterday?
  - What are TWO plants you would add to the outdoor classroom to increase pollinators coming to visit?
- Instruct students to read the [article on bat conservation](#) using the literacy strategy **summarizing in science**
  - Explain to students that this task will be broken down into 4 sequential parts:
    1) First, summarize what you read by writing down what is said in the article in your own words
    2) Second, draw a picture on your individual whiteboard that represents your summary
    3) Third, create a class summary of the article
    4) Lastly, draw a group picture on the classroom whiteboard that represents the class summary of the article

#### Day 3
- As students enter the classroom, instruct them to answer to the following bellwork questions in their science notebook:
  - What is the problem with bats?
  - What are some things we can do to help bats?
Why is it important to add plants that grow well in the desert to the outdoor classroom?

- Introduce students to their task for the day: creating a 1-2 minute long TikTok video in their assigned groups
  - The video must include answers to the following questions:
    - What is biodiversity? (Show it with what you found in the outdoor classroom)
    - Why are bats important to the biodiversity in Tucson? (What do bats do)
    - What is happening to the bats? What can we do to help the bats? (Think outdoor classroom, what can we add?)

- Explain to students that they will start by creating a written outline for their video which should include:
  - Who is doing what?
  - Who is filming?
  - Who is in the video?
  - Who is editing the video?
  - What information are you going to include?
  - Do you need to research anything?
  - Do you need to look back at your reading?
  - Do you need to look back at your notes?

- After finishing their written video outline, tell students that the class will go to the outdoor classroom to film their videos

- Finish filming the videos, and explain to students that they will be responsible for editing the videos the following day in class

**Day 4**

- As students enter the classroom, instruct them to answer to the following bellwork questions in their science notebook:
  - What would you like to add to the outdoor classroom that is NOT a plant?
  - What do you think some of the benefits are to making the outdoor classroom a nice place for our school?
  - What do you still need to do to have your video ready to watch in class today?

- Give students 30 minutes to edit their TikTok videos that they recorded the day prior
- Instruct students to upload the final edited version of the video to google classroom
- Tell students that they will be responsible for written peer evaluation of all videos.
  - Instruct students to write down their answers to the following question about each video and to title each peer evaluation with the first names of the group members:
    - What did you like about their video and/or learn from their video?

**Evaluation/Assessment**

Grade and assess the submitted videos for overall effort and effectiveness of science communication.

Modified from the UA Community and School Garden’s Green Academy Lesson Plan Template