



## 3rd Grade, Unit 3: Bits and Pieces in the Sonoran Desert Lesson Plan

**Driving Question:** How do living things survive in the Sonoran Desert?

### Standard(s):

- 3.L1U1.5-Develop and use models to explain that plants and animals (including humans) have internal and external structures that serve various functions that aid in growth, survival, behavior, and reproduction.

### Materials:

- Japanese toothpicks for each student in class (these are the toothpicks that have grooves at the top)
- Video link of Japanese toothpicks
- One set of structure and function cards
- Copy of Teacher answer key
- Copies of student handout #1
- Copies of student handout #2

- Copies of student handout #3 (this handout is multiple pages that covers all the steps in the evaluate sessions)
- Blank paper
- Colored pencils or crayons
- Variety of craft materials (i.e. paper, cups, straws, toothpicks, modeling clay, paper plates, googly eyes, pipe cleaners, clay, etc.)

**Engage:** *Time: 10-15 minutes*

Give each student a toothpick with grooves. Allow them to make some observations, discuss if they look similar or different from other toothpicks they have seen, and why they think they may look this way. Then show the video to describe how the structure helps the function of this toothpick. You will teach the students the definition of structure and function after the video so they understand what those words mean. You can then let students play with the toothpicks and break off the end like in the video.

**Explore:** *Time: 30 minutes*

Students will be matching structures and function cards with the animals and plants they have been learning about. Pass out the Picture and Structure/Function Cards to the students. Be sure to select enough matched pairs

of Picture and Structure/Function Cards ahead of time so that each student in your class has a card that has a pair. One half will have the picture and the other half will have a definition.

- The students holding the picture cards make one line and then the students holding definition cards make a line facing the picture card students.
- Students with the picture card will hold it facing the definition card student. You will give students a set amount of time to read the definition card and discuss if they are a match.
- If students find their match, have them head back to their desk with a slate and list the structures that allow them to survive and grow in the desert and their functions.
- If the students are not lined up with their match, they will do another round. Have the definition line move down one space to the right and the student at the end can walk down to match up with the student on the other end.
- Continue this until all students have found their partner.

Once students have listed the structures of their living thing, have a group discussion about the different structures they listed and what purpose they serve. Do the structures serve functions in growth, survival, or other behaviors? Ask students if any of the plants or animals share similar structures. You can record all the different structures you discussed from today's lesson on a chart

and what the function is for students to refer back to in the next lesson.

**Explain:** *Time: 30 minutes*

Pass out student handout #1. Play the video clip about the Desert Tortoise. Students should write down any of the structures talked about in the video. They do not need to record the function yet. After watching, go over what internal and external structures are and discuss the structures of the tortoise. Students can fill in the functions of these structures as you discuss them. Look at the structures of a javelina and then the structures of the saguaro. Have students think back to the structures they had on their cards during the explore session. On the bottom of the student handout #1, students can work in groups to make a list of the different structures plants and animals in the desert might have. You can display the list they brainstormed in the previous lesson. They will use this handout as a resource in the evaluate session.

**Elaborate:** *Time: 25 minutes*

During this session students will be comparing the structures of a desert plant or animal to a plant or animal from a different ecosystem. Students can brainstorm a list of Sonoran Desert plants and animals to choose from.

Student handout #1 will be helpful for them to reference the specific structures discussed. They will use a Venn Diagram on student handout #2 to compare and contrast the structures. If they choose a Sonoran Desert animal then they need to choose another animal that may be similar from another ecosystem, and if they choose a plant, they must compare it to another plant. For example, a Desert Tortoise to a Sea Turtle or a Mesquite Tree to an Oak tree. Students can use chrome books to do additional research for their Venn Diagram, or you can have them use what they already know. You may want to have a list of options for students who can't come up with something. If you have an early finisher, they could complete another Venn Diagram comparing a different species set than the first time. (i.e. if they compared plants the first time, they could compare plants the second time or if they compared two different birds the first time, they could compare two reptiles the second time.)

**Evaluate:** *Time: Two sessions of 30 minutes*

Following this experience, students can take the list of structures and functions to create the Ultimate Sonoran Desert Plant or Animal. Students will use student handout #3. There are multiple pages in this handout, so you can decide if you want to give them all at once, or spread it out over the different steps. Students will create their own

plant or animal that could survive in the desert, and they must include three structures that have been discussed in class. They will first draw a quick sketch of their living thing, then they will use the materials you provide to create a model of it. Next they will draw a diagram with labels for the different structures, and last they will write a paragraph describing their Ultimate Sonoran Desert plant or animal, specifically the structures they have and the functions they serve. If time allows, students will present their plants or animals to the class. The student models can then be displayed in the classroom or outside the classroom for others to see. There is a grading sheet on the last page of student handout #3 if you would like to use this as your grading tool. The presentation section could be optional.

**Probe-Revisit:** *Time: 15 minutes*

You will revisit the probe from the beginning of the module. Have students look at the picture they first drew. You can either have students add to their first drawing or they can make a new drawing. Use the first drawing and this drawing to assess how some of their understanding of what lives in the Sonoran Desert has changed.