

Desert Botanical Garden – Sonoran Desert Adventures Guided Field Trips

Adventure Guide – Biomimicry		
Target Grade(s):	3rd-8 th	Time: 2 Hours, 15 minutes
Theme: By observing nature like a scientist, our observations can inspire a solution/design or new technologies that solve problems.		
Desired Outcomes: Students will be able to –	<ol style="list-style-type: none"> 1. Recognize that they are a scientist/engineer—an every-day problem solver. 2. Define Biomimicry. 3. Utilize the engineering process to propose a viable solution to a problem. 4. Identify the adaptations desert plants utilize to survive in the desert. 5. Identify plants and animals that exist in the local environment. 6. Identify the Sonoran Desert as the ecosystem in which they live and describe the characteristics of a desert environment. 	
Key Vocabulary: adaptation, biomimicry, engineering		
Cross Cutting Concepts: Structure and Function, Systems and System Models	Science and Engineering Practices: Asking questions and defining problems, developing and using models , analyzing and interpreting data, constructing explanations	
Arizona Science Standards:	3.L1U1.5 – Develop and use models to explain that plants and animals have internal and external structures that serve various functions, that aid in growth, survival, behavior and reproduction. 6.L2U1.13 – Develop and use models to demonstrate the interdependence of organisms and their environment, including biotic and abiotic factors.	
Arizona Mathematics Standards:	3.MD.A.2, 3.MD.B.3, 3.MP.1, 3.MP.3 4.MD.A.2, 4.MP.1, 4.MP.3 5.MD.C.4, 5.MP.1, 5.MP.3 6.MP.1, 6.MP.3, 6.MP.4 7.MP.1, 7.MP.3, 7.MP.4 8.MP.1, 8.MP.3, 8.MP.4	

Field Trip Activities:

- Test out what makes agave the best at gathering water and what makes cactus the best at storing water.
- Design, build and test rain barrels based on observations and data collected.

