



DESERT INDOORS®

Environmental Education Activities for Students at Home

(This activity was created in accordance with shelter-in-place. Remember to practice social distancing and stay local.)

Module: *You Can Become a Citizen Scientist!*

Topic: Citizen Science

Objective/Learning Goal: Children will be able to understand how they can become Citizen Scientists and participate in real conservation science projects. They will be able to observe, photograph, and upload data into different data collection applications.

Glossary:

- **BioBlitz** - An intense period of biological surveying to record all the living species within a designated area.
- **Citizen Science** - The collection and analysis of data relating to the natural world by members of the general public, typically as part of a collaborative project with professional scientists.
- **Climatology** - The scientific study of the climate.
- **Fauna** - The animals of a particular region, habitat, or geological period.
- **Flora** - The plants of a particular region, habitat, or geological period.
- **Habitat** - The natural home or environment of an animal, plant, or other organism.
- **Migratory** - Denoting that an animal migrates (moves seasonally from one region to another).
- **Phenology** - The study of plant and animal life cycle events and how the cycles are influenced by seasonal and annual variations in climate, as well as habitat factors like elevation.

Materials: *eBird* or *Merlin Bird ID* application, *iNaturalist* application, paper or notebook, pencil, access to internet or Wi-Fi.

Indoor and/or Outdoor Activity:

Build Background Knowledge - Ask your kids what they already know about Citizen Science: Who can become a *Citizen Scientist*? How do you go about participating in a project? What kind of projects can children participate?

Have your kids use an internet search engine to look for common “California desert birds.” The website <https://ebird.org/home> has a great list; after approximately 10 minutes of looking at bird species, have them switch to a website search of native desert plants. The website <https://calscape.org/> is a great resource; spend about 10 minutes looking at the different desert plant species.

Get ready to go outside! Explain that today you are all going to conduct a *BioBlitz* and become a real Citizen Scientist. From your yard or nearby open space, look for birds that are both *migratory* and yearlong residents. They are going to study *Phenology* and *Climatology* through the data they capture during the *BioBlitz*.

Spend approximately 15 minutes (or longer if you would like) looking for birds, writing and notating their locations, species, and behavior. For example: Pigeon, walking on ground, pecking at soil. Red-tailed hawk, soaring. Children can continue to write any information they observe about the birds in their area, including looking for nests, pairs, or flocks.

After you have looked for and recorded bird activities, have children switch to identifying plants or other organisms (butterflies, ants, etc.) in the area. Record the types of *flora* and *fauna* found for an additional 15 minutes (again, you can spend longer outside if you would like). Then head back inside.

Once back inside you can have your kids compile the data and upload it to the appropriate application. They are now real scientists!! You have helped the scientific community understand more about the desert *habitat* in your area!

Follow-up/ Discussion - *What did you learn? How do you feel about participating in a project that helps track plants and animals? How do you feel about putting in real data that can be used by scientists to track patterns and climate changes' effects on the natural world?*

Kids can then take time to draw or illustrate their favorite plant, animal, or bird. Alternatively, they can depict themselves as the scientists they now are.

Additionally, children and adults can participate in a variety of other Citizen Science projects. Here are some examples:

- a. You can monitor night sky light pollution in your area using the application *Loss of the Night*, visit <https://scistarter.org/loss-of-the-night> for more information.

- b. You can help monitor noise pollution during a walk around your neighborhood or backyard using the *Noise Tube* application, visit <http://www.noisetube.net/index.html#&panel1-1> for more information.
- c. You can always visit: <https://www.citizenscience.gov/catalog/#> for more ways to participate in a Citizen Science project or find a project that is more interesting to you or your children.

We would love to hear how your citizen science projects went and to have you share your findings as scientists?