Structure Sleuth

Online Collections Investigation

Grade Level	3rd-5th Grade
Activity Length	30-45 Minutes

Grow students' curiousity through the Natural History Museum of Utah's online collections. These collections provide unique access to field notes and research being done by NHMU scientists. Students will review and compare specimens to discover how the different structures can help plants survive in the same habitat.

Using this lesson for Distance Learning Options:

1. Print off the packets either at school or at home.
2. Have students answer questions on another sheet of paper or in a notebook.
3. Have students fill in the PDF on a computer and use SketchPad for online drawings. Note: PDF will often open in browser where regular save function will not work. To save answers students will need to select the Print button and choose the "Save as PDF" option.

Using this lesson in the Classroom:

1. Use classroom computers or tablets for students to complete activity either individually or in small groups.
2. Project the specimen record and images for all students to study together.
3. Print off the specimen record and some pictures for students to study without technology.

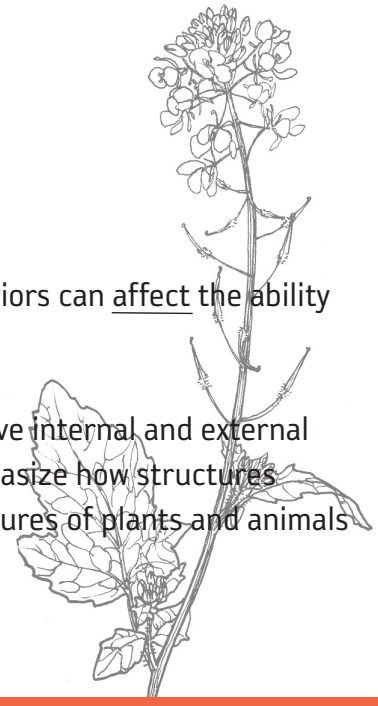
Disciplinary Core Idea:

(LS2) Ecosystems
(LS4) Biological Evolutaion

SEEd Standards:

Standard 3.2.4 Construct an explanation showing how variations in traits and behaviors can affect the ability of an individual to survive and reproduce.

Standard 4.1.1 Construct an explanation from evidence that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. Emphasize how structures support an organism's survival in its environment and how internal and external structures of plants and animals vary within the same and across multiple Utah environments.



Questions? Contact us at fieldtrips@nhmu.utah.edu

Structure Sleuth

Online Collections Investigation

Student Name: _____

The Natural History Museum of Utah provides information about our collections online for researchers all over the world to study. Today, you are one of those researchers!

Researchers often use multiple sources to compare information and learn more. Use both the specimen records from NHMU and BYU to answer the questions on the following pages to explore some plants in the NHMU Herbarium.

Visit the websites below by clicking on the links or copying and pasting the links into your internet browser.

Plant #1 - Rabbitbrush
NHMU Specimen: https://bit.ly/NHMUEricameria
BYU Specimen: https://bit.ly/BYUEricameria

Plant #2 - Golden Prickly Pear
NHMU Specimen: https://bit.ly/NHMUOpuntia
BYU Specimen: https://bit.ly/BYUOpuntia

Plant #1 - Rabbitbrush

Scientific Name of Plant (Taxon): _____

Date Found and Organizations (NHMU or BYU): _____

Habitat: Desert - scrub or woodland.

Draw a line to match the structure with its function.

Structure	Function
Deep Roots	Provide Sun Protection
Tiny Fuzzy Hairs on Leaves and Stems	Minimize Evaporation
Drops Leaves	Soak up Water From Deep Ground

Choose one of the structures and matching functions from above. Why would this help Rabbitbrush survive in the desert?

_____

_____

_____

_____

Field Journal - Rabbitbrush

Researchers keep detailed field journals about the specimens they collect. Ues the space below to sketch the plant in its habitat. Remember, pay attention to details! **Label at least two structures of the plant and how they function to help it survive in the desert.**

Plant #2 - Golden Prickly Pear

Scientific Name of Plant (Taxon): _____

Date Found: _____

Habitat: Desert - Pinyon-juniper woodland, sandy areas, scrubland.

Draw a line to match the structure with its function.

Structure	Function
Shallow Roots	Protect from predators
Fleshy Pads	Soak up lots of water quickly
Spines	Store water

Choose one of the structures and matching functions from above. Why would this help Golden Prickly Pear survive in the desert?

_____

_____

_____

_____

Field Journal - Golden Prickly Pear

Researchers keep detailed field journals about the specimens they collect. Ues the space below to sketch the plant in its habitat. Remember, pay attention to details! **Label at least two structures of the plant and how they function to help it survive in the desert.**

Compare and Contrast

Both the Rabbitbrush and Golden Prickly Pear live in desert habitats but have different types of roots (long roots vs short roots). What would happen to the plants if they switched root structures? Would they survive? Why or why not?

Both plants have structures that help them survive in a desert. If you were a plant which structures would you want to help you survive in the desert? Why?