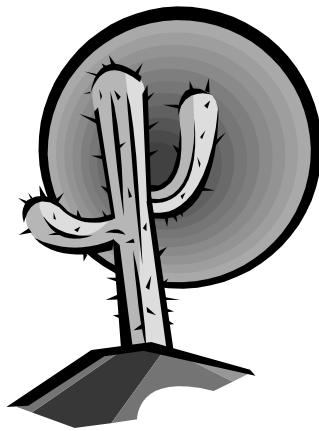


Grade 4

**Self-Guided Tour
Arizona Trail**



Aligns with the following Arizona State Science Standards

S1C2-05
S3C2-01, S3C2-02, S3C3-01, S3C3-02, S3C4-01
S4C1-01, S4C3-01, S4C3-02

This self-guided tour through the Arizona Trail is offered by the Phoenix Zoo as an aid for **fourth grade** teachers planning a visit to the zoo. The tour outlines discussion points for each location on the Arizona Trail. These discussions can be the starting point for further activity in the classroom or a means to reinforce or review concepts already discussed.

I. Arizona Animals

As you visit each exhibit have your students focus on the following questions:

- What kinds of environments/habitats can be found in Arizona?
- How have animals in Arizona adapted to these different environments?
- How do animals in Arizona affect the environments that they live in?

At the end of your trip, have a discussion with the students and see what conclusions they can make about animals in Arizona.

Animals on the Arizona Trail

Black necked stilts	Sonoran mountain kingsnake
Gambel's quail	Southwestern speckled rattlesnake
Inca dove	Burrowing owl
Pyrrholuxia	Desert box turtle
Desert spiny tail	Great Horned Owl
Chuckwalla	Coyote
Sonora desert toad	Collared peccary (javelina)
Mediterranean gecko	Sonoran pronghorn
Southwestern woodhouse toad	Bobcat
Sidewinder	Mountain lion
Coachwip	Thick billed parrots
Diamondback rattlesnake	Mexican gray wolf
Patchnose rattlesnake	Bald eagle
Long nose rattlesnake	Turkey vulture
Tiger rattlesnake	Common raven
Black tailed rattlesnake	Desert pupfish
Gopher snake	Coatimundi
Gila monster	

2. Plants of Arizona

Explore the plants on the Arizona Trail and have your students focus on the following questions:

- How have plants adapted to survive in Arizona?
- How do plants in Arizona affect their environment?

At the end of your trip, have a discussion with the students and see what conclusions they can make about plants in Arizona.

General plant groups on the Arizona Trail

- Succulents – Identified by their thick, waxy skin. Examples: Agave, Prickly pear cactus, Saguaro cactus, Cholla cactus
- Trees – identified by woody bark and a main trunk with a crown (branches come out of the trunk toward the top). Examples: Palm, Palo verde, Eucalyptus, Mesquite
- Wildflowers – a flowering plant without a woody stem
- Shrubs – identified by a woody bark with branches coming out from the base (has no main trunk). Examples: Brittlebush, Desert broom, Creosote

Specific plants that can be found on the Arizona Trail

Brittle bush	Acacia
Desert broom	Creosote
Desert mallow	Palo verde
Cholla cactus	Prickly pear cactus
Saguaro cactus	Yucca
Mesquite	Jojoba

Some additional locations to focus on while exploring the Arizona Trail.

3. Your Wild Backyard

This exhibit demonstrates that some animals are able to live in developed areas (backyards, neighborhood ponds or streams) and disturbed desert habitats; however, there are species of animals that need pristine, virtually untouched habitat in order to survive.

Discuss how human population dynamics and urban sprawl affect the diversity and numbers of animals in Arizona. Space and land are very important resources for human populations as well as animal and plant populations. “Your Wild Backyard” visually displays this concept.

4. Desert wash

In the center of the Arizona Trail is a desert wash. A desert wash is a river bed that is dry most of the year but receives a limited amount of water input from rainfall and runoff from other bodies of water in the area. These washes are formed over time as water running over the soft soil carves out a river-like form. These “rivers” become washes because they don’t have a consistent source of water to fill it. Because of the consistency of the soil the wash is able to maintain a small amount of moisture for a long period of time so many plants and animals thrive at the edges of washes. This particular wash was dug by the Zoo’s horticulture team. While walking through students can see examples of erosion. To stop this erosion, our horticulture team needs to plant a higher amount of vegetation. The roots of the plants hold the soil compact. The removal of plants and trees from a wash or riparian area is one way that erosion is caused. Also on the spot signs discuss that erosion can be caused by water and wind.

5. Riparian area

A riparian habitat can be found right across from coatimundi and behind the desert pupfish pond. These delicate ecosystems have been greatly damaged by the creation of dams. When dams are created the level and rate of water flow through a stream or river is changed. This changes the chemical make up of the water as well as affects the amount of water that is received by the riparian areas on the edge. Plants that have adapted to live in these wet areas of a particular chemical nature can no longer survive. The animals that use those plants often have specialized to use them and have difficulty finding food and nesting space.

6. Mexican wolf

Wolves have always had a negative reputation with humans. They have been thought to be direct threats to the lives of humans as well as competitors because they would eat livestock. Because of this negative view, wolves were greatly over hunted, poisoned, and trapped.

By 1980 wolves were extinct in Arizona. With the top predator missing, the balance of the ecosystem was altered. Coyotes were no longer hunted and their population exploded. Many coyote were starving to death because the environment could not meet the needs of such a large population.

7. Saguaro Garden

The saguaro cactus is a beautiful example of organism interaction. At the beginning of the main trail (just past the aviary) there is a graphic that depicts these relationships. Read the graphic with your students and then look at the saguaro in the area for signs of these types of relationships.