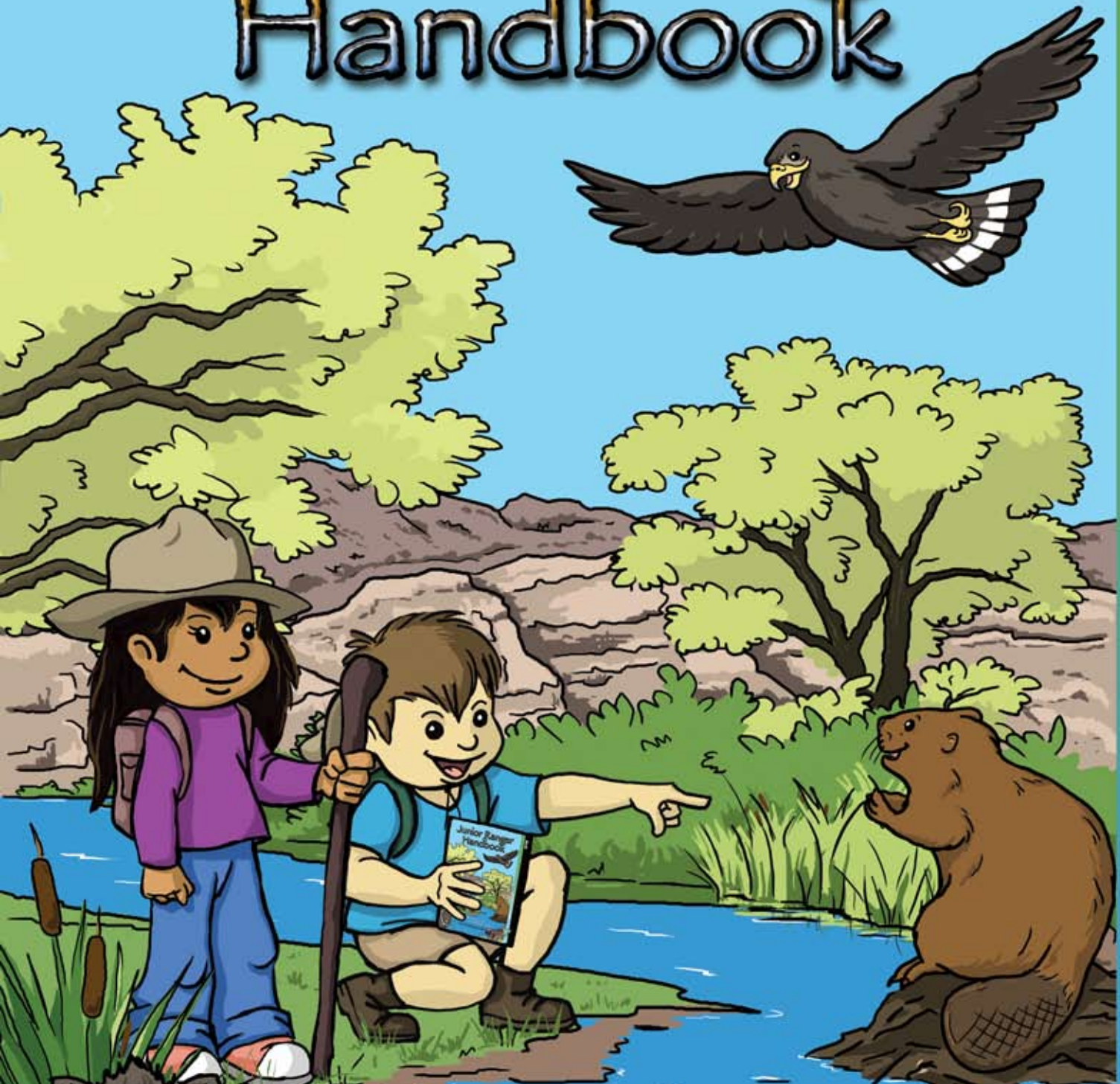


Junior Ranger Handbook

BLM



ARIZONA • SAFFORD FIELD OFFICE

Gila Box Riparian
National Conservation Area

Activity Guide



Become a Junior Ranger!

What is a Junior Ranger?

A Junior Ranger explores the environment around them.
A Junior Ranger cares for plants, animals, and the land.
A Junior Ranger encourages others to care for the land
and its inhabitants.

How to earn your badge

Complete six or more of the activities in this book in the
Gila Box Riparian National Conservation Area,
at home, or at a local park. Then to receive your Junior Ranger
badge and signed certificate ...

... bring your booklet (or mail it) to:
Bureau of Land Management
Safford Field Office
711 14th Avenue
Safford, AZ 85546



GILA BOX

Riparian National Conservation Area

Congress designated this special place in 1990 to conserve and protect its natural (plants, animals, and water) and cultural (archeology and history) resources for future generations. The Gila Box gets its name from the Gila River, which starts in New Mexico and flows into Arizona where it enters the deep canyon of the Gila Box.

Cottonwood trees grow along the perennial (flows year-round) Gila River forming green riparian (habitats along streams) areas. Cactus and ocotillo grow on xeric (drier) hillsides away from the water, and mesquite woodlands are found between these two areas.

The presence of water is what attracted many people to the area. One such group was the Hohokam. The Hohokam lived along the Gila River in villages where they grew crops until around 1400 AD.

In 1846, General Stephen Watts Kearny and his soldiers camped here along the Gila River. Kearny's visit resulted in a map and a report that described the Southwest to the rest of the world.

A stone cabin, now known as Serna Cabin, is located next to Bonita Creek and tells the story of American and Mexican efforts to homestead the area.

Clinging to steep canyon walls, sure-footed bighorn sheep can often be seen eating plants.



Raptors (birds of prey), such as zone-tailed hawks and peregrine falcons, rule the skies.

Roadrunners can be seen darting across the road and herds of javelina can be seen running along hillsides.

We invite you to get outdoors and explore the Gila Box. Have a picnic or enjoy a hike. Look for interesting flowers and wildlife. Certain insects like moths and butterflies are very beneficial and pollinate wildflowers. If you are lucky you may see a colorful Gila monster basking in the sun! Listen for birds and buzzing insects. Learn about the history of this area. When you get to know the Gila Box, you will want to conserve and protect this wonderful place too.



A World of Adaptations

The Gila Box is home to many aquatic and terrestrial animals and plants. Some, like the coyote, can live almost anywhere; but others, like the Sonora mud turtle, live in a specific place or habitat. Adaptations are characteristics that give a plant or animal an increased ability to survive in a habitat. Adaptations can be behaviors like a raccoon that nests in trees and is mostly nocturnal (active at night) or physical like the Gila monster, a lizard that is able to survive for months without food because it stores fat in its large tail.

Draw a line

from the.....

Adaptation

to the.....

Animal



This animal uses its tongue to taste the air and has a heat sensor between the eye and mouth to detect prey items.

This animal's musky odor allows it to be recognized by herd members.

Longfin Dace

This animal can rotate each of its wings in a figure eight to fly forwards, backwards, up, down, sideways or hover.



Bighorn Sheep

This animal can survive in a dry stream by living in moist mats of algae.



Bobcat

Concaved hooves provide traction for this animal allowing it to climb rocky terrain.

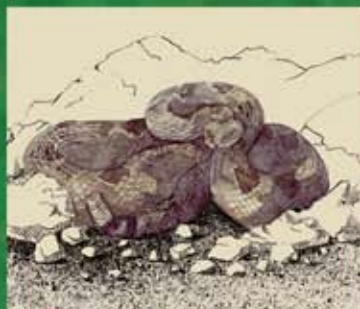


Coatimundi



Javelina

Small tufts of hair on the ears act as antennae, allowing greater hearing.



Rattlesnake

This animal uses its long tail for balance.



Rufous Hummingbird

Help the Beaver Find His Home

The beaver (*Castor canadensis*) is North America's largest semi-aquatic rodent.

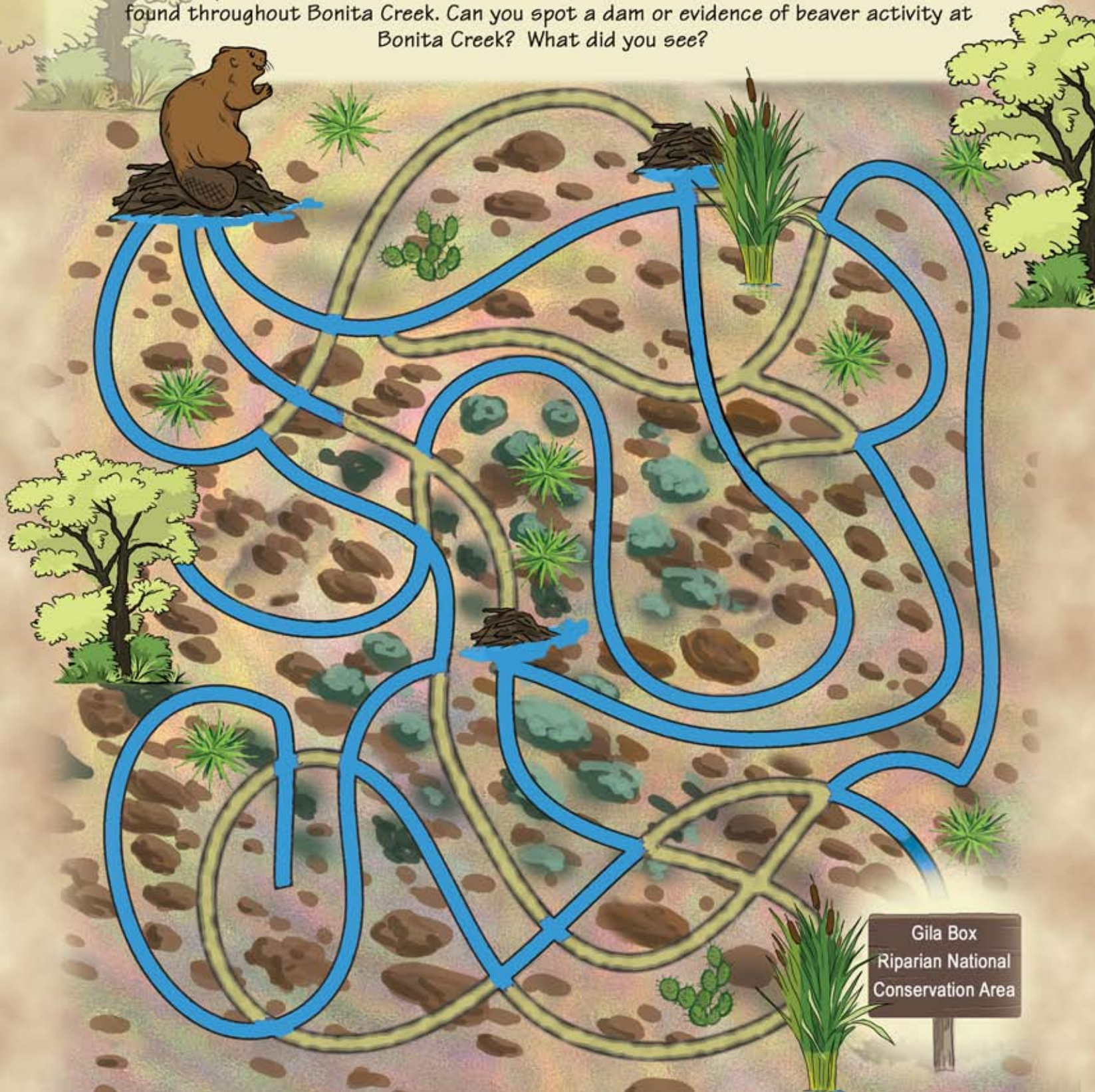
Adults can be up to four feet long and weigh over 60 pounds.

Beavers build lodges and dams out of sticks, rocks, and mud alongside perennial streams that support riparian vegetation. Their lodges are dome-shaped and built in water.

Beavers cut down trees using their strong teeth, which continue to grow throughout their entire life. Beavers are herbivores (plant-eaters). They eat tree bark, leaves, roots, twigs, and water plants. Ponds and wetlands that are formed by beaver dams provide habitat for other wildlife species and filter sediment from the stream. Beavers and their dams can be found throughout Bonita Creek. Can you spot a dam or evidence of beaver activity at Bonita Creek? What did you see?



Gila Box
Riparian National
Conservation Area



NATIVE FISH

WORD SEARCH

These native fish live in Bonita Creek and the Gila River. Find their names in the puzzle list. They can be forward, backward, or diagonal.

A D F C D E S E R T F I S H D P
D E S E R T S U C K E R S P S E
P S U C K L O A C H M I N N O W
Q E L A D O B I O L O G I S N C
S R M D L N G E B Y T S I M O E
P T B E U G I Z U S H A S Q R E
L P A S C F A Z H L O O D S A C
N U T E Y I L H C B E U R T S E
O P F R H N I S A B E L L A U E
N F E C A D D E L K C E P S C P
E I S T D A N E I I L L A C K E
V S H F U C A C G P U F P H E A
I H E I J E F F D F H P J G R R
T G I L A T O P M I N N O W O L
A R D S T A C G O D W O L L E Y
N A W H F S I S P I K E D A C E



Desert Sucker



Gila Chub



Gila Topminnow



Longfin Dace



Speckled Dace



Spikedace



Sonora Sucker



Loach Minnow

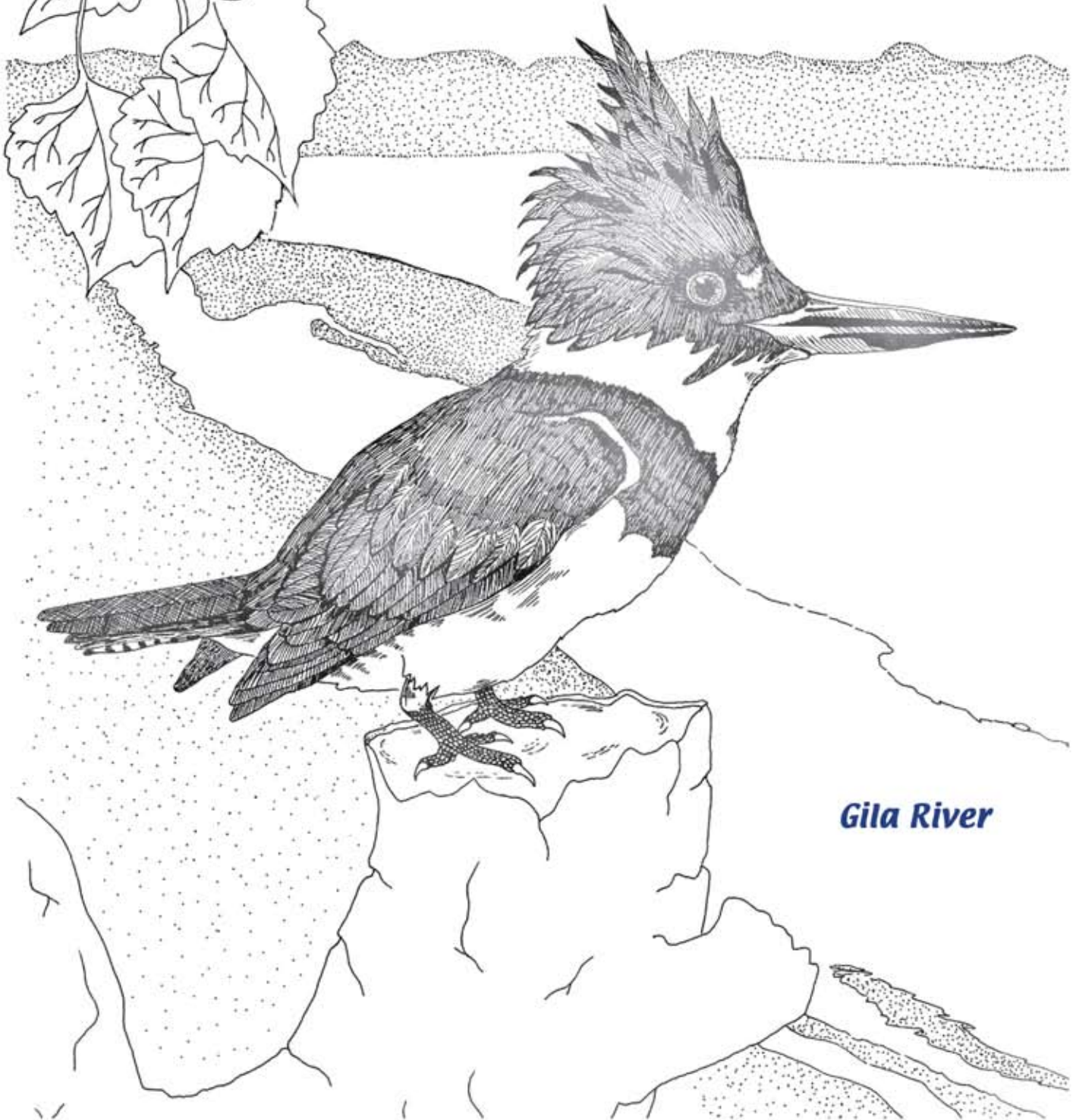


Desert Pupfish

NATIVE FISH

KINGFISHER

The **Belted Kingfisher** is a medium-sized blue and white bird that is seen along rivers and streams. Its **habitat** is tied to **perennial** water since its diet consists of fish. It dives from a perch, such as a low-hanging **cottonwood** tree branch, to surprise its prey.



Gila Box Word Search

Finish the words in the sentences below and then find the words in the puzzle.
Words may go up, down, forward, or backward.

_____ have built many dams along Bonita Creek.
Always carry plenty of _____ when you are hiking.
If you're lucky you might see a _____ sheep along the cliffs.
_____ are often seen darting across roads in the Gila Box.
The _____ River flows for 23 miles through the Gila Box RNCA.
In the evening, small _____ can be seen swooping across the skies.
Be careful to watch for _____, but do not harm them!
Large _____ trees provide shade for picnics and shelter for birds.
Great horned _____ nest in large sycamore trees.
Ocotillo plants drop their _____ to conserve water when the weather is dry.
Gila _____ are one of nine native fish species in Bonita Creek.
General Stephen Watts _____ and his soldiers camped along the Gila River in 1846.
Peregrine _____ nest on steep cliffs along the Gila River.
The Gila monster is a large _____.
Hummingbirds, bats, butterflies and _____ pollinate wildflowers.
Vehicles should stay on _____ to protect plants and wildlife.



I SPY

How to be a Wildlife Detective

Explore the wildlife around you while visiting the Gila Box. You will need to be patient and careful because most animals will run, fly, swim away, or hide from you. They may also remain very still and camouflaged against their background to avoid being spotted.

Wildlife detectives must hunt for the clues that living things leave behind.

How to detect wildlife:

- Use your ears.

Stand or sit very still. Listen to the noises that are around you. You may hear birds singing, insects buzzing, animals moving through the undergrowth, or fish breaking the surface of water.

Write down the sounds that you hear and think about what makes them.

- Use your nose.

All mammals have a smell and many plants also give off strong odors.

- Use your eyes.

You may not see an animal, but look for signs it has left behind such as tracks, feathers or scat (poop).

And remember:

- Always be safe.
- Leave all living things in their habitat.

Have fun!

A naturalist is someone who studies living things in the outdoors. You can be a naturalist by observing wildlife and plants in the forest, desert, or even in your

BACKYARD!



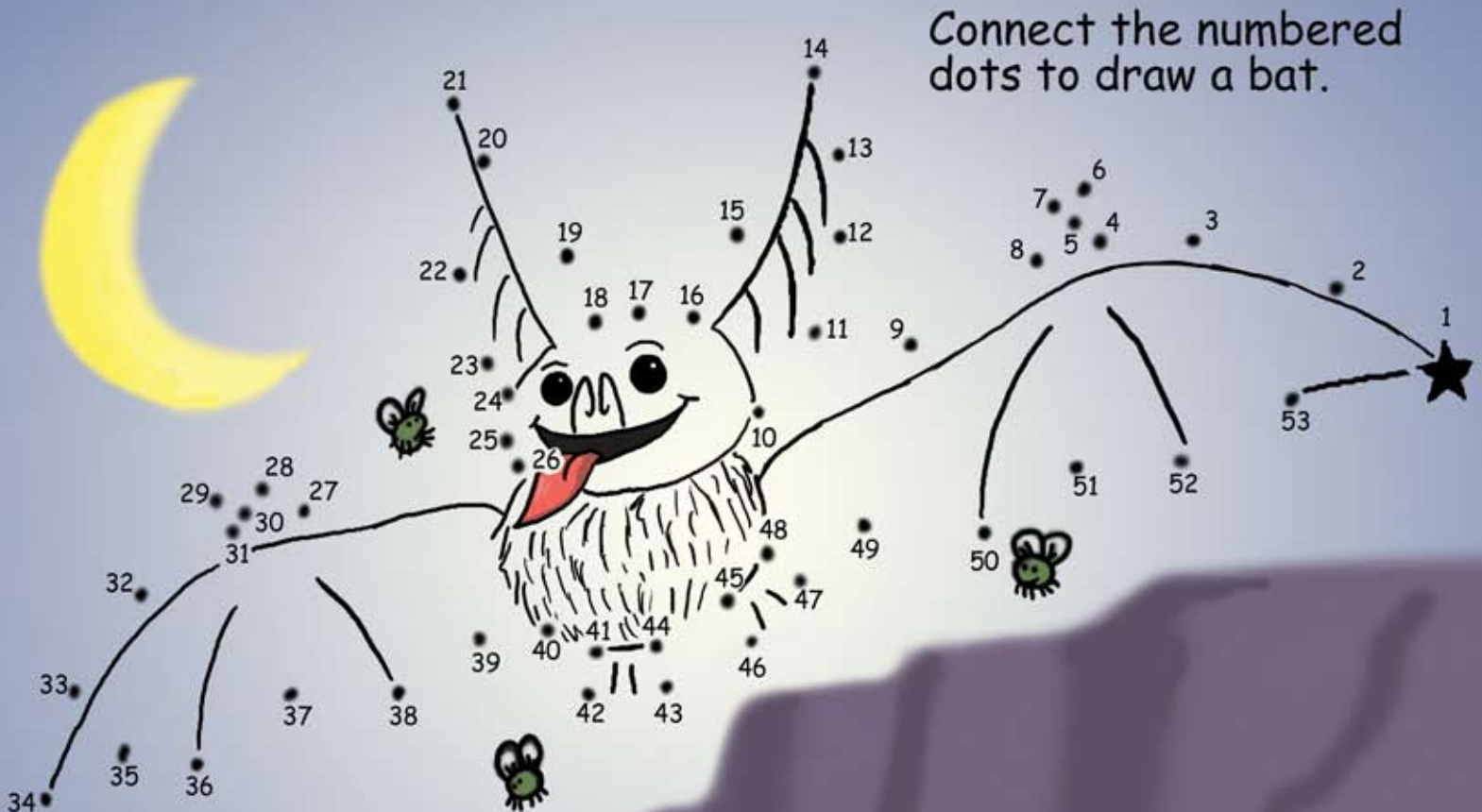
Home Sweet Cave

Bats spend daylight hours sleeping in caves, crevices or trees until night, when they emerge to hunt insects.

Once people thought bats were birds without feathers. Now we know bats are mammals because:

1. Bats are warm blooded
2. Bats nurse their babies with milk
3. Bats have fur

Bats are the only mammals that can fly. Their wings are made of two thin layers of skin stretched over their arms and long fingers. If we had fingers like a bat they would be longer than our legs! The scary stories about bats are not true. When you see a bat, say "Thank you, friend." Bats eat hundreds of insects each hour. Without bats we would be swatting at more bugs!

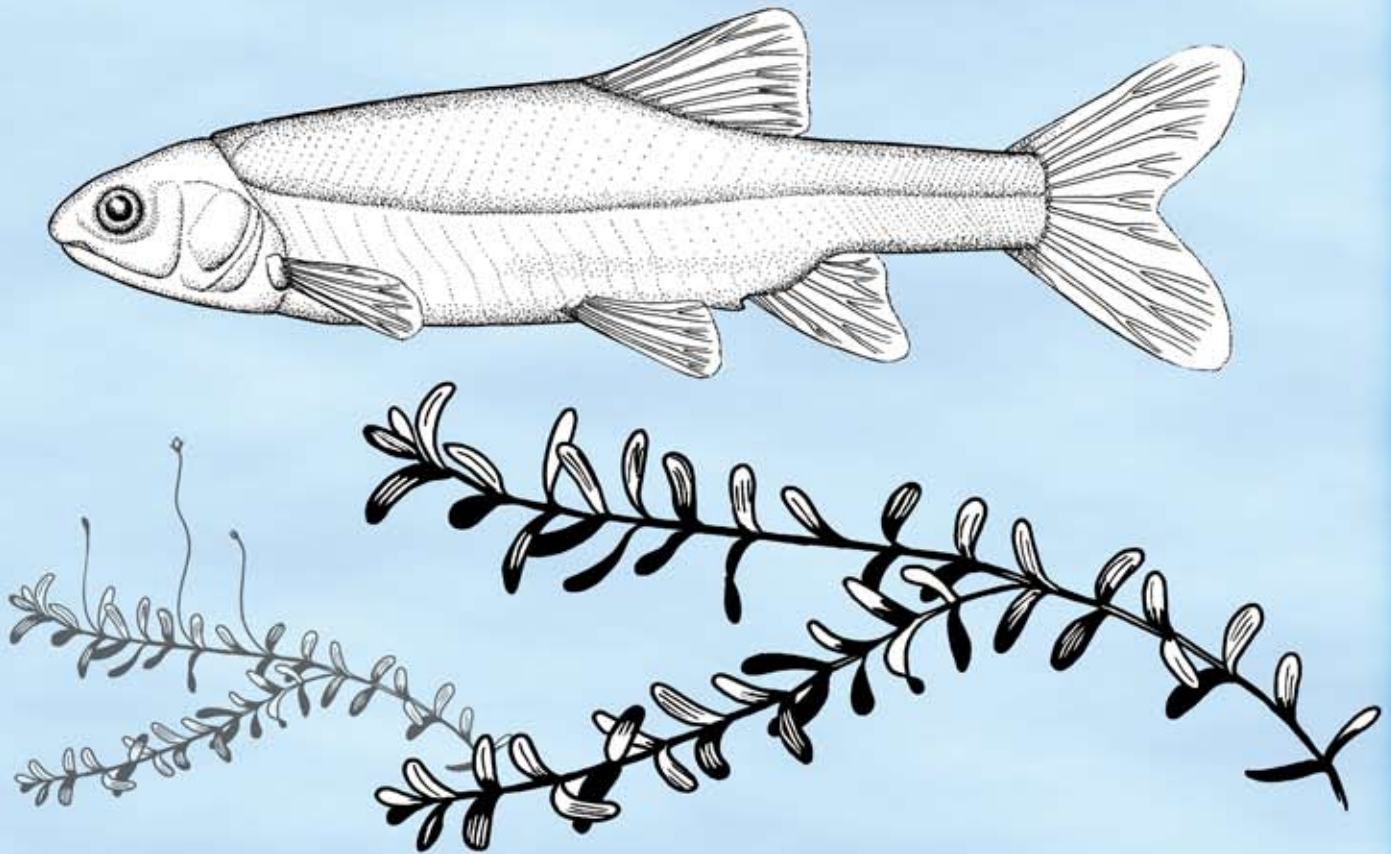


Now you can be "batty" for bats!

Longfin Dace

Agosia chrysogaster

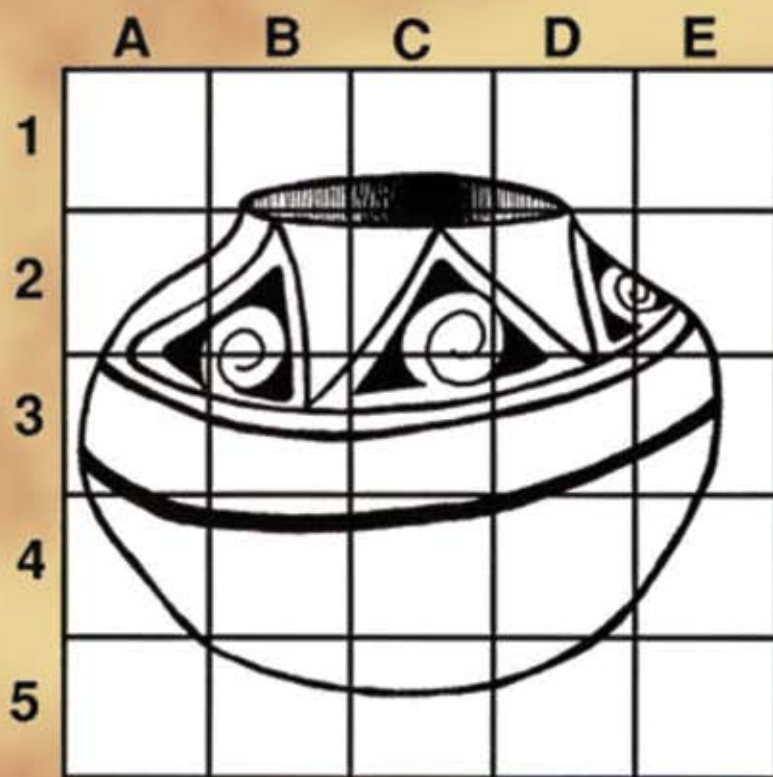
There are nine native fish species that call the Gila Box home, including the longfin dace. The longfin dace is a small (less than four inches long), short-lived (around 3 years), and hardy fish that is **native** (naturally occurring in an area) to Arizona. The longfin dace is found throughout the Gila Box where it occupies a wide variety of small-stream habitats. This species feeds on algae and aquatic invertebrates and constructs saucer-shaped depressions in sandy-bottomed, shallow pools where they lay their eggs. If you look closely in the water you may see their nests. Loss of habitat and the presence of **nonnative** (not naturally occurring in area) fish threaten the survival of the longfin dace and other native fish species.



What did we learn about the dace?

1. Is this animal a bird, mammal, reptile or fish? _____
2. What is its common name? _____
3. What does native mean? _____
4. Is it a predator, prey, or both? _____

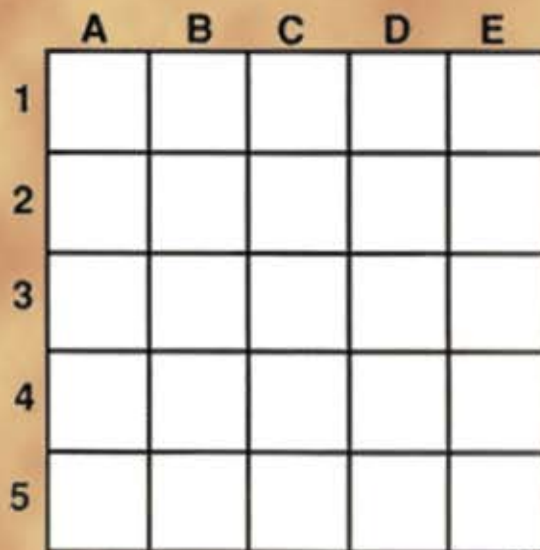
Exploring Ancient Civilizations



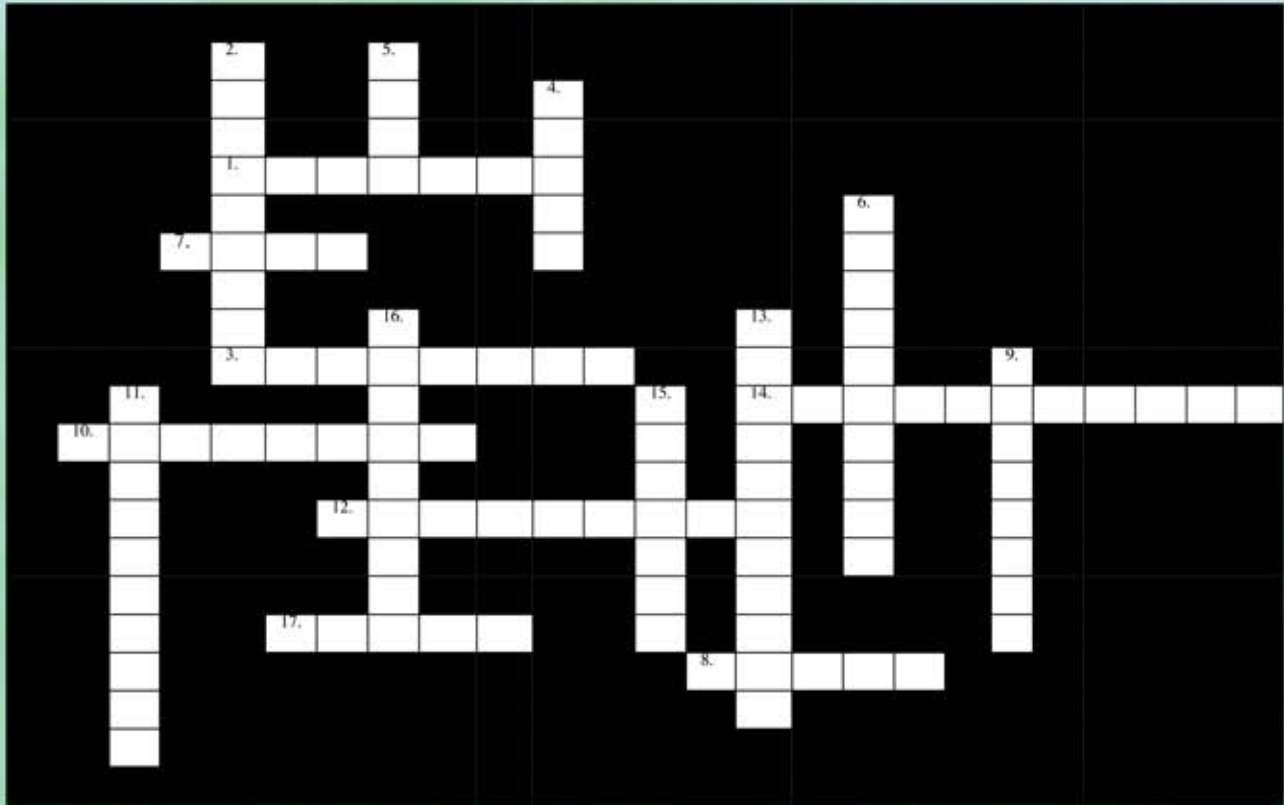
Archeologists often draw pictures to record what they have discovered in the field. You can practice being an archeologist. Try to draw the pot above in the smaller grid below. Use the squares to help guide you.



You can also help archeologists by not moving or disturbing any sites or artifacts you find. Leave them as you found them so that others can enjoy!



Riparian and Aquatic Crossword



ACROSS

1. The state in which the Gila Box is located.
3. The type of vegetation community that grows along the Gila River.
7. The number of native fish found in the Gila Box.
8. Adapted to a dry environment.
10. This tree forms woodlands along portions of the Gila River.
12. State where the Gila River gets its start.
14. Small minnow that constructs nests in sandy stream bottoms.
17. Stone cabin in the Gila Box.

DOWN

2. River where the Gila Box occurs.
4. I will pick up _____ that I see.
5. The humming of insects.
6. An important tree that grows along the Gila River.
9. The Hohokam lived in _____ along the Gila River.
11. Plant-eating animals.
13. If you are lucky you may see a _____ basking in the sun.
15. Where the animals live.
16. An invasive tree on the river.

Answers:
1. Arizona, 2. Gila River, 3. Riparian, 4. Trash, 5. Buzz, 6. Cottonwood, 7. Nine, 8. Xeric, 9. Villages, 10. Mesquite, 11. Herbivores, 12. New Mexico, 13. Gila monster, 14. Longfin dace, 15. Cottonwood, 16. Salt cedar, 17. Serna

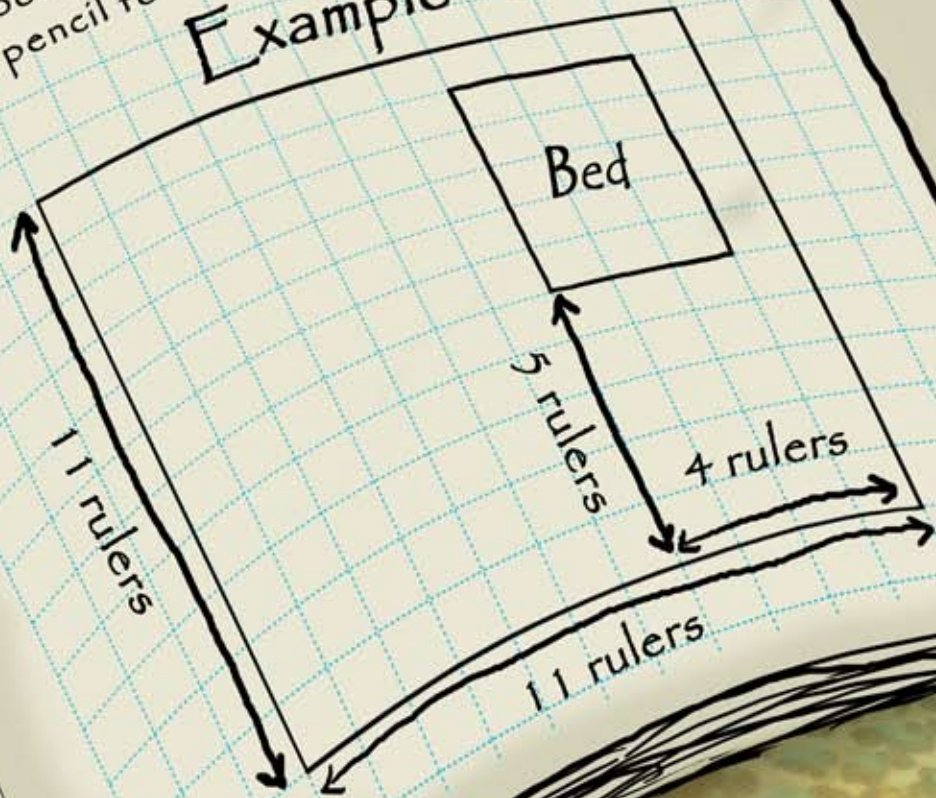
Hello Archeologists.

Archeologists (ar-key-ah-low-jists) study artifacts and features to learn where, when, and how people from the past lived.

To learn about the way people lived, archeologists need to know where artifacts and features are found. To do this, they make detailed maps of the houses and the artifacts inside.

Make an archeologist's map of your bedroom. You will need a 12-inch ruler and pencil for this activity

Example



Artifacts are objects that can be moved like tools or clothing.

Features are objects that can't be moved like houses and petroglyphs.

YOUR ROOM

Step 1:

Measure each wall in your bedroom. Count how many ruler lengths it takes to get from one corner of each wall to the next.

Step 2:

On the grid draw all four walls of your room. Each square is one ruler length long. If you counted 13 ruler lengths on one wall then you would count 13 squares.

Step 3:

Now, map the location of your bed. Start at one corner of your bed. Count how many ruler lengths it takes to reach the closest wall. Now, turn toward the next nearest wall and count ruler lengths. Do this for each corner of your bed and each piece of furniture you want to map. You now have a scale drawing of your room (feature) and your furniture (artifacts).

Who Are the Hohokam?

A Native American cultural group, the Hohokam, migrated from Mexico to the Gila River. They lived in the Gila Box area from A.D. 1 - 1400 – that's a long time!



The Hohokam lived in a series of small villages along the river. The river was a very important resource for them. Water was vital to grow their crops, which included corn, beans, squash, agave and cotton.



WORD SCRAMBLER:

Use what you have learned to unscramble these words!

The Hohokam made beautiful red ceramics for cooking, storing food and for other uses as well.

The pottery and jewelry they created were plain or decorated with geometric designs as well as drawings of animals and birds.

AKHOOHM= _____

TRYETOP= _____

LGIA VERIR= _____

CTNOTO= _____

More Places to Play and Learn!!!

on the
NATIONAL LANDSCAPE CONSERVATION SYSTEM



Illustrators:

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Coloring pages - Longfin dace, Rachel Ivanyi; Kingfisher, Diane Drobka

Color images of native fish - Randall D.Babb, Arizona Game and Fish Department

Junior Ranger images: Mark Swan



Junior Ranger Oath

I promise to help protect the Gila Box Riparian National Conservation Area, public lands, my community, and the earth by being an active and responsible steward of the environment.

I promise that I will not feed wild animals.

I promise to leave rocks, plants and historic objects as I find them for everyone to enjoy.

I promise to continue to explore, learn about, and respect the world wherever I go.

I promise I will share what I learn with others.

Signed _____

Date _____

