

# HOWL-ing Habitats

**Topic:** Behavioral Enrichment

## Overview

At the Phoenix Zoo, we HOWL, which stands for Help Out Wildlife! The purpose of this self-guided field trip packet is to help students understand the importance of creating habitats for zoo animals that provides not only for their basic needs but also helps them thrive. After all, the Zoo is their home!

In the pre-visit activity, students will learn about what behavioral enrichment (BE for short) is and how BE is used at the Phoenix Zoo by watching videos of our animals interacting with their BE. During the field trip, students will observe their favorite animals in their habitat, making note of the animal's behavior, adaptations, the BE in the habitat and how behavioral enrichment is intentionally created for each animal based on their behaviors and adaptations. In the post-visit activity, students will pick their favorite animal, research the animal's behavior and adaptations and design a zoo habitat for the animal that includes BE items.

### Here are some tips to make your field trip experience even more successful:

- **Prepare students for the trip.** This packet contains an activity you can do with your students before your field trip.
- **Prepare chaperones for the trip.** The activities are designed to be led by chaperones with varying experience levels. We recommend you have the chaperones familiarize themselves with the materials before the field trip.
- **Bring it all back together.** After your field trip, reinforce the concepts the students learned by completing the final activity in the packet.
- **Don't forget to look for Zoo volunteers throughout your field trip.** They have a wealth of knowledge and are always happy to answer questions and share their love of the Zoo and our animals.

### Audience:

This activity is written for a third through fifth grade audience. However, it is designed to be modified to suit other grade levels.

### Objectives: **Students will be able to:**

- Observe and ask questions about animal behavior within a zoo habitat and how the animal interacts with the habitat.
- Identify behavioral enrichment items in zoo animal habitats.
- Understand the function and importance of behavioral enrichment in zoo animal habitats.
- Create a habitat for an animal of their choosing that incorporates BE into the design.

### Arizona State Science Standards Alignment:

Each of the activities in this self-guided field trip activity packet addresses certain components of the Arizona State Science Standards at various grade levels.

## First Grade

- **1.L2U2.7** Develop and use models about how living things use resources to grow and survive; design and evaluate habitats for organisms using earth materials.
- **1.L2U1.8** Construct an explanation describing how organisms obtain resources from the environment including materials that are used again by other organisms.

## Second Grade

- **2.L2U1.9** Obtain, analyze, and communicate evidence that organisms need a source of energy, air, water, and certain temperature conditions to survive.

## Third Grade

- **3.L1U1.6** Plan and carry out investigations to demonstrate ways plants and animals react to stimuli.
- **3.L2U1.8** Construct an argument from evidence that organisms are interdependent.

## Fourth Grade

- **4.L54U1.11** Analyze and interpret environmental data to demonstrate that species either adapt and survive or go extinct over time.

## Fifth Grade

- **5.L4U3.11** Obtain, evaluate, and communicate evidence about how natural and human-caused changes to habitats or climate can impact populations.
- **5.L4U3.12** Construct an argument based on evidence that inherited characteristics can be affected by behavior and/or environmental conditions.

## Sixth Grade

- **6.L2U3.11** Use evidence to construct an argument regarding the impact of human activities on the environment and how they positively and negatively affect the competition for energy and resources in ecosystems.
- **6.L2U1.13** Develop and use models to demonstrate the interdependence of organisms and their environment including biotic and abiotic factors.

## Seventh Grade

- **7.L1U1.11** Construct an explanation for how organisms maintain internal stability and evaluate the effect of the external factors on organisms' internal stability.

## Vocabulary:

Much of this vocabulary is not used or defined in the written student pages, but the concepts behind them are used. If you want students to learn some or all these terms, you can say them out loud during instruction or edit this document to include them, depending on your grade level and students. You can also practice "Say it like a scientist, say it like a kid" with your class.

## Vocabulary Words:

| Say It Like a Scientist | Say It Like a Kid                                                            |
|-------------------------|------------------------------------------------------------------------------|
| Habitat                 | An animal's home                                                             |
| Behavioral enrichment   | Brain games or fun challenges that help animals act like they do in the wild |
| Adaptation              | Something (an action or body part) that helps an animal survive              |
| Behavior                | What an animal does                                                          |
| Foraging                | Looking for food                                                             |
| Exploration             | Checking things out                                                          |
| Stimulation             | Keeps the brain and body busy and thinking                                   |
| Observe/Observation     | Watch closely                                                                |
| Predict                 | Make a smart guess                                                           |
| Shelter                 | A safe place to hide or rest                                                 |
| Environment             | Everything around the animal                                                 |
| Resources               | Things animals need (food, water, space)                                     |
| Structural adaptation   | A body part that helps the animal survive                                    |
| Behavioural adaptation  | An action the animal does to survive                                         |
| Biotic factors          | Living things                                                                |
| Abiotic factors         | Non-living things                                                            |

## Pre-Visit Activity – Paws-itive Enrichment:

- The Phoenix Zoo website states that “Behavioral enrichment is the environmental enhancement of the lives of animals in a managed setting by providing them with mental and physical stimulation to increase natural and healthy behavior. In other words, adding a little creativity, fun and stimulation to our animals’ lives! Behavioral enrichment should be random, interesting and novel. The goals of enrichment are to offer a sense of control by allowing animals to make choices and to stimulate species-appropriate behaviors while interpreting these behaviors to our guests.”
- “Animal behavioral enrichment directly supports the Phoenix Zoo’s conservation efforts by preparing captive animals for release into the wild, fostering reproductive success in breeding programs and increasing public empathy for endangered species. By stimulating natural behaviors — such as hunting, foraging, and problem-solving — it enhances physical health, mental wellbeing and essential survival skills.”
- There is a description for kids in the student pages found on pages six through 11 of this guide.
- There are videos available on the Phoenix Zoo website at [phoenixzoo.org/blog/behavioral-enrichment/b-e-madness](http://phoenixzoo.org/blog/behavioral-enrichment/b-e-madness) for 17 different animals (listed below) interacting with their BE.

- |                  |                        |                            |
|------------------|------------------------|----------------------------|
| • Armadillo      | • Stingray             | • Greater one-horned rhino |
| • Tiger          | • Miniature Jersey cow | • Coyote                   |
| • Arabian oryx   | • Orangutan            | • Porcupine                |
| • Giant anteater | • Woodhouse’s toad     | • Horse                    |
| • King vulture   | • Chicken              | • <a href="#">Jaguar</a>   |
| • Mountain lion  | • Miniature zebu       |                            |

- Distribute the student pages for Paws-itive Enrichment. Read the information about behavioral enrichment together or independently.
- Watch one or two videos together with the class and discuss what students notice about what the animal’s body is like, what the animal is doing, what they see in the habitat, what the BE might be and how the animal is using it.
- Guide students through filling out the chart on the student pages with the animal name, what the animal is doing, what BE the animal is interacting with and how they think the BE helps the animal. **You can use this chart as an extension where students can research how the BE helps the animal to see how it matches up with what they thought.**

| Animal | What is the animal doing? | What is the BE? | How do you think the BE helps the animal? |
|--------|---------------------------|-----------------|-------------------------------------------|
|        |                           |                 |                                           |

- Once the students are comfortable with the process, allow students to watch the videos from BE Madness and fill out the remainder of the chart. This can be done independently if enough devices are available, in small groups, as a jigsaw activity, students can watch videos for all the animals, or each student or group can focus on a few then share with peers; whatever works best for your class.

## At the Zoo Activity – Creature Comforts:

- As you tour the Zoo, pick some of your favorite animals to observe. Watch them for three to five minutes. We suggest looking at the [Phoenix Zoo map](#) and picking the animals in advance so the groups have a clear mission before exploring the Zoo. You can also [explore our trails](#) and the [animals we have at the Zoo](#).
- Students fill in the chart for the animals they observe. There is room in the chart for five animals.

| Animal | What is the animal doing? | What is the BE? | How do you think the BE helps the animal? |
|--------|---------------------------|-----------------|-------------------------------------------|
|        |                           |                 |                                           |

- Again, here is a possible extension after the field trip to have students research how the BE helps each animal they observed and compare what they saw with what they thought before visiting the Zoo.
- The questions in the student pages are written for a third to fifth grade audience. If you are teaching higher grades, the following is a bank of questions (or research prompts) you could include.
  - What are the behaviors, social or physical needs of the animal?
  - What BE items do you see in the habitat that meets these needs? How do you think the animal uses that BE? What BE items is the animal using while you are observing?
  - What is the animal doing? Why do you think the animal is doing that?
  - What characteristics or adaptations of the animal inspired the type of BE in the habitat?
  - How does the animal move?
  - If there is more than one animal in the habitat, how do they interact with each other?
  - What do you, as a scientist, notice about this animal?
  - What are you wondering about this animal?
  - Find a habitat that has both plants and animals. How are the animals using the plants or how could they? How do you think plants act as BE for animals?
  - What plants or other animals are provided in zoo habitats to allow this interdependence to play out?

## Post-Visit Activity – HOWL-ing Habitats:

- At school, have students design a BE item for an animal of their choosing.
- Pick your favorite animal and research its adaptations and habitat requirements. Draw an exhibit or create one out of recyclable materials like a shoe box, paper towel tubes and bottle caps. Create and identify behavioral enrichment items you have placed in the animal's habitat. You should be able to explain the function of the BE and how it meets the needs of the animal. You can also create a slide, deck, video, written description or another artifact that explains the BE placed through the habitat.

## Paws-itive Enrichment

Researcher (Student) Name(s): \_\_\_\_\_ Date: \_\_\_\_\_

### What is Behavioral Enrichment?

Have you ever felt really bored because you didn't have anything fun to play with?

At the Phoenix Zoo, we work hard to make sure our animals are happy and healthy by giving them fun and interesting things to do. This is called behavioral enrichment, or BE for short.

Animal behavioral enrichment is like giving zoo animals "brain games" and fun puzzles to keep them happy, active and healthy. It involves adding new scents, toys or tricky ways to find food. This encourages them to act, climb and play just like they would in the wild, which prevents boredom and keeps their minds and bodies healthy.

Creating BE for every animal helps them practice the same skills they would use in the wild, like finding food and solving problems. The Zoo wants the animals in our care to stay strong, think clearly and even have babies in special programs that protect endangered animals. When people see animals being active and curious, it helps them care more about protecting them. What are some things you do to keep your body and brain healthy?



### Instructions

Before coming to the Zoo, observe these animals at the Phoenix Zoo using their behavioral enrichment. Watch the videos at [phoenixzoo.org/blog/behavioral-enrichment/b-e-madness/](http://phoenixzoo.org/blog/behavioral-enrichment/b-e-madness/) and be sure to read the video descriptions.

| Animal         | What is the animal doing? | What is the BE? | How do you think the BE helps the animal? |
|----------------|---------------------------|-----------------|-------------------------------------------|
| Armadillo      |                           |                 |                                           |
| Tiger          |                           |                 |                                           |
| Arabian oryx   |                           |                 |                                           |
| Giant anteater |                           |                 |                                           |

| Animal                        | What is the animal doing? | What is the BE? | How do you think the BE helps the animal? |
|-------------------------------|---------------------------|-----------------|-------------------------------------------|
| King vulture                  |                           |                 |                                           |
| Mountain lion                 |                           |                 |                                           |
| Stingray                      |                           |                 |                                           |
| Miniature Jersey cow          |                           |                 |                                           |
| Orangutan                     |                           |                 |                                           |
| Woodhouse's toad              |                           |                 |                                           |
| Chicken                       |                           |                 |                                           |
| Miniature zebu                |                           |                 |                                           |
| Greater one-horned rhinoceros |                           |                 |                                           |
| Coyote                        |                           |                 |                                           |
| Porcupine                     |                           |                 |                                           |
| <a href="#">Jaguar</a>        |                           |                 |                                           |

Share what you noticed with a classmate. Remember these animals and their behavioral enrichment. When you come to the Zoo, you will get to do an activity where you will look for animal behavioral enrichment.

## Creature Comforts

### Finding Behavioral Enrichment (BE) at the Phoenix Zoo

Researcher (Student) Name(s): \_\_\_\_\_ Date: \_\_\_\_\_

As you walk around the Zoo, pick a few of your favorite animals to watch. Observe each animal for three to five minutes. What do you notice?



| Animal | What BE do you see? | How is the animal using BE in their habitat? | How do you think the BE helps the animal? |
|--------|---------------------|----------------------------------------------|-------------------------------------------|
|        |                     |                                              |                                           |
|        |                     |                                              |                                           |
|        |                     |                                              |                                           |
|        |                     |                                              |                                           |
|        |                     |                                              |                                           |

**Questions to think and write about:**

1. Pick one animal from your chart. What is the animal doing?

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2. How is enrichment helping the animal?

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3. How does the animal move or act? (Examples: climbing, digging, resting, playing)

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4. Do you see more than one animal? How do they act with each other?

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5. What are you wondering about this animal, their habitat, or behavioral enrichment?

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6. Look at the plants in the habitat. How are animals using the plants or how could they use the plants?

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7. At the Phoenix Zoo, we HOWL (Help Out Wildlife). How does enrichment help animals?

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## HOWL-ing Habitats

Researcher (Student) Name(s): \_\_\_\_\_ Date: \_\_\_\_\_

At the Phoenix Zoo, we HOWL:  
**Help Out Wildlife!**

Now it's your turn to help an animal.

### Your Challenge

Create a habitat with enrichment  
for your favorite animal.

### Steps

1. Pick an animal.
2. Learn about your animal:
  - What does it eat?
  - How does it move?
  - Where does it live?
3. Build or draw a habitat. You can use:
  - Paper
  - A shoebox
  - Recycled materials
4. Add enrichment items, such as things that help the animal play, explore or find food
5. Be ready to explain:
  - What does your animal need?
  - How does your enrichment help?
6. Use the planning sheet on the back of this page to plan your habitat and BE.



## Planning Sheet

My animal is \_\_\_\_\_.

What does my animal do? (run, climb, dig, swim, etc.)

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What does my animal need? (toys, hiding food, climbing, digging, etc.)

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My enrichment ideas (toys, hiding food, climbing, digging, etc.)

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Draw a rough draft of your habitat below. Be sure to label your enrichment!