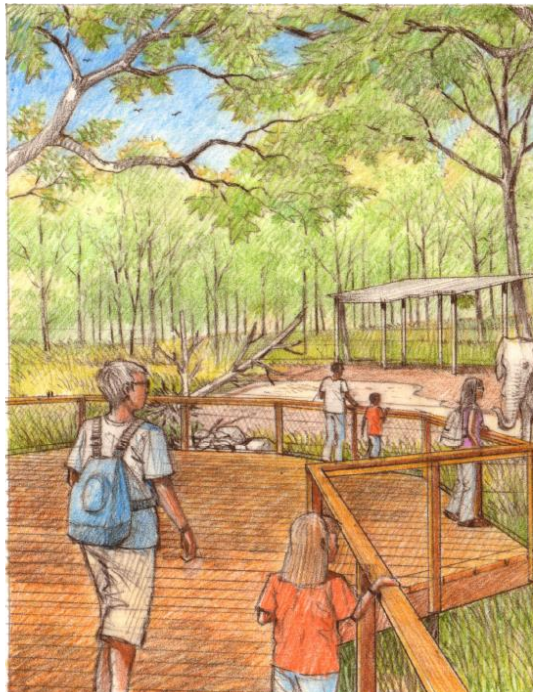


MARYLAND ZOO

Teacher Resources: Zoo Habitat Design



BCPSS Grade 3
Curriculum-
embedded STEM
Experience,
Self-Guided Field
Trip
2021

Introduction to Zoo Habitat Design

Through zoo habitats (formerly known as “exhibits”), modern, accredited zoos tell stories about animals and their native habitats, including ecosystem relationships, threats species face, and how people are working to protect them.

Designing a zoo habitat for a 21st-century zoo requires insights from the fields of biology, Earth sciences, psychology, education, horticulture, architecture, communications, and even sociology and anthropology! Modern zoos and aquariums are **conservation centers** with missions to protect wildlife and their habitats and to educate members of our communities about how they too can be conservationists. Rows of bare cages, therefore, are not acceptable in 21st-century zoo.



The goals of good zoo habitat design include meeting the physical and psychological needs of the animals through encouraging natural social groupings and species-typical behaviors; maintaining safe conditions for animals, keepers, and visitors; and helping visitors to understand the appropriate natural context for the animals and the complex issues they face in the wild.

This kind of interdisciplinary design problem provides an excellent opportunity for project-based learning (PBL) tasks in a STEM context. One goal of the Zoo Habitat Design Curriculum-embedded Experience for grade 3 students in Baltimore City Schools is to help teachers use the Zoo as a learning tool in support of the BCPSS curriculum, while helping the Zoo meet its mission of engaging and educating our community for conservation.

Self-Guided Zoo Habitat (a.k.a. Exhibit) Design Scavenger Hunt



In partnership with Baltimore City Schools, the Maryland Zoo in Baltimore created a unique experience to fit in with the 3rd grade science curriculum; specifically, Unit 4: Survival of the Fittest. We created a **scavenger hunt** for teachers to connect the Survival of the Fittest unit with a free self-guided field trip.

Below these instructions you will find the scavenger hunt to

support your field trip experience. We invite you to print copies for chaperones and students as necessary to meet your needs.

1. The first three (3) pages are intended for the chaperones or other group leaders. These pages provide background information on how to connect the field trip and scavenger hunt to what is being taught in school. Additionally, there are hints for finding the animals that students will be looking for during the hunt (*note: there is often more than one possible answer for each clue). The chaperone pages also include brief explanations as to how the animal's adaptations help them fit the corresponding clue.
2. The remaining two (2) pages, which include pencil symbols, are intended to be printed and given to students (individually or as a group). These pages contain spaces for students to record the animal that fits the clue being given.

*This page was deliberately left blank



Exhibit Design Scavenger Hunt

Instructions for Chaperones

This scavenger hunt was designed by the The Maryland Zoo's Education Department as part of the Baltimore City Public Schools Curriculum-embedded Field Trip Experience for students in Grade 3.

Developed to accompany the unit "Survival of the Fittest," this activity builds for students on the idea that animals have **adaptations** that allow them to survive in their habitats. This scavenger hunt invites students to closely observe exhibits at the Zoo and look for parts of exhibits or objects in an exhibit that allow an animal to use its special adaptations.

Zoo exhibits have changed a lot over the past 100 years. As people have learned more about what animals need, zoos have stopped using bare cages. Today, zoos work to make exhibits function like an animal's home in the wild. A good exhibit must allow animals to live in their natural social groups. And it lets them do behaviors like digging, climbing, or foraging that they would do in the wild.

The student version of the scavenger hunt describes how each item in the scavenger hunt helps an animal at the Zoo use its special adaptations. This chaperone version contains ideas for where you can help students find the given items. As students find a particular item, encourage them to write the kind of animal on the line provided.

I found a climbing
structure for the...

One way to tell which
species are the champion
climbers is to see if the
exhibit has a roof or not!
Good exhibits for student to
find climbing structures are
those for the:

chimpanzees
lemurs
colobus monkeys
leopard

I found a toy
for the...

Most animals get "toys" of
some kind. The most
obvious "toys" will be found
with animals such as
chimps, otters, big cats,
elephants...and even
donkeys!

I found a pool
for the...

Animals use pools in
different ways. Flamingos
use their pool to forage in.
Penguins, polar bears,
and otters use their pools
for diving and swimming.

I found a basking spot
for the...

Reptiles in particular need
to bask to keep warm.
Check out The Tree and
The Cave exhibits for
students to find lots of
examples.
Exhibits within the
Chimpanzee Forest also
have skylights to give
primates a choice to rest in
the sun.

I found a burrow
for the...

The prairie dog tunnels
can be considered
burrows. Students can find
aboveground examples at
the warthog and porcupine
exhibits.

I found a
browse feeder
for the...

Students will most likely be
able to find browse feeders
in the Giraffe House and at
the lemur exhibits.

I found a food treat
for the...

Food treats might be found in almost every exhibit at some point. It is easiest to find food treats right when the Zoo opens. Chimp keepers tend to give out treats throughout the day.

I found a dirt pile or
mud bath for the...

Large animals adapted to life on the savanna are the ones most likely to take a mud or dirt bath. Students will likely find mud wallows or dirt in exhibits for rhinos, zebras, ostrich, and elephants.



I found a large rock
for the...

Large rocks can be found in many exhibits. Larger animals like cheetahs use them to get a commanding view. For smaller animals like penguins, large rocks mimic their natural beach habitat.

I found a
door to an area
off exhibit at the....

These can be hard to see since they are meant to blend in. But encourage students to look at the very back or at the corners of an exhibit for openings leading into other buildings.

I found a mulch pile
for the...

For animals that are foragers, mulch piles are a great place for keepers to hide treats. Colobus monkeys, chimps, lemurs, porcupines, and warthogs all get mulch for digging or foraging.

I found blankets
for the...

Blankets are most commonly given to chimps, who in the wild spend their days alternately foraging and resting in day nests made of soft leaves and branches. The chimps at the Zoo keep much the same schedule!



*This page was deliberately left blank

I found a climbing
structure for the



Some animals climb to hide. Others climb to get a good view. Many animals that climb have sharp claws.

I found a toy
for the



Toys can be fun, but they also let the animal use its brain to solve a problem--like how to get treats out of a ball.

I found a pool
for the



Many animals are great swimmers. A pool lets them exercise and can help an animal stay cool on a hot day.

I found a
basking spot
for the



Many animals bask in the sun to get warm. Some of the animals at the Zoo have heat lamps so they can bask on a cloudy day, too.

I found a burrow
for the



Many animals dig burrows to hide from predators or as shelter from the weather.

I found a
browse feeder
for the



Many animals spend most of their day feeding on leaves. At the Zoo, hay and leaves in a browse feeder act like a tree.

I found a food treat
for the



Keepers often hide food treats in the exhibits to let the animals use their excellent sense of smell.

I found a dirt pile or
mud bath for the



Many animals cover themselves in dirt or mud to protect themselves from sun and insects.



I found a large rock
for the



Some animals like to stand on a large rock for a good view. They may then use excellent eyesight to look for predators--or prey.

I found a
door to an area
off exhibit at the



The keepers like to give the animals choices. They often leave open a special door for animals to go back inside a building for more privacy.

I found a mulch pile
for the



Many animals have long claws to make them good diggers. At the Zoo, many animals have mulch or dirt piles to dig in--sometimes to find treats!

I found blankets
for the



Keepers give blankets and straw to some animals to use as a bed. The animals may cover themselves with the blankets, or pile them to make a nest!

