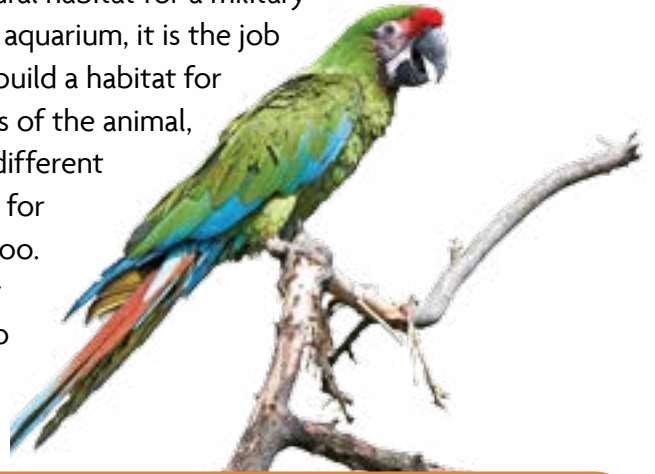


Field Investigation: Zoo Exhibit Design

A habitat is where a plant, animal or other organism lives. A natural habitat for a military macaw is the forests of Mexico and South America. At a zoo or aquarium, it is the job of a designer to help create a habitat for an animal. In order to build a habitat for an animal in a zoo setting a designer must understand the needs of the animal, keepers and guests. For example, what a penguin needs is very different from what a giraffe would need, and what the people who care for giraffes and penguins need to do their job would be different, too. How an animal lives within its habitat will influence how a guest can experience an animal in a zoo or aquarium. Designers of zoo exhibits consider all of these factors when creating an exhibit.



Pre-Zoo Visit Activities

▶ WHAT AN ANIMAL NEEDS

An animal's habitat is where the animal gets the resources it needs to survive. The main resources living organisms need are food, water, space and shelter. Students can use this activity to research and record the resource needs of animals.

Materials:

- Note taking and reporting materials
- Access to animal information

Have students choose an animal to research. You can have them select from the list below or allow them to choose their own. Students will need to research their animal to find the following information:

- Scientific name
- Habitat and range
- Diet
- Water resource needs
- Shelter
- Population and conservation status
- Physical description
- Bonus: an additional interesting piece of information about the animal you discovered during your research

Once their research is complete, have the students create a display containing the information collected.

Animal List

- Addra Gazelle
- African Elephant
- African Lion
- Alaskan Brown Bear
- Amur Tiger
- Cheetah
- East African Crowned Crane
- Eastern Box Turtle
- Grand Cayman Blue Iguana
- Great Green Macaw
- Greater Kudu
- Pacific Walrus
- Radiated Tortoise
- Red Panda
- Reticulated Giraffe
- Ring-Tailed Lemur
- Ruppell Griffon Vulture
- Scarlet Macaw
- Southern Ground Hornbill
- Southern Rock Hopper Penguin
- Southern White Rhino
- Sumatran Orangutan
- Umbrella Cockatoo
- White-Handed Gibbon

Online resources:

- **Animal Diversity Web**
<http://animaldiversity.org>
- **ARKive**
www.arkive.org
- **IUCN Red List**
www.iucnredlist.org
- **World Wildlife Fund**
www.worldwildlife.org

▶ DESIGNING A HABITAT

Exhibit designers along with zoo staff work together to come up with an exhibit design. They start with an overarching theme for the exhibit. The exhibit and messaging of signage will tell the story supporting this theme.

Materials:

- Note taking and reporting materials
- Access to animal information
- Materials for creating visual designs

Have students imagine they have been asked to create a proposal for a new zoo exhibit. Assign or have students choose an animal for the project. They will need to research their animal and write a short summary of their exhibit idea including information about the animal. Have students create visual designs for their animal exhibits along with themed messaging for guests. (Visual designs can be two or three dimensional.) Students will need to understand the natural habitat and needs of their animal and incorporate this into their designs, as well as considering what the keepers will need to care for the animal. The final element of their design should show how the zoo guest will experience the animal and the information they will receive from the exhibit messaging or theme.

▶ COMMUNITY HABITAT PROJECTS

There are a variety of community projects involving creating and restoring habitats for wildlife. If you and your students are looking for a project, here is a list of a few to explore.

- **Habitat Network**
content.yardmap.org
- **Schoolyard Habitat Project**
pblu.org/projects/schoolyard-habitat-project
- **National Wildlife Federation's Garden For Wildlife**
www.nwf.org/garden-for-wildlife/create/schoolyards.aspx
- **National Garden Clubs Backyard Wildlife Habitat Projects**
www.gardenclub.org/projects/backyard-wildlife-habitat.aspx
- **Xerces Society Pollinator Conservation Resource Center**
www.xerces.org/pollinator-resource-center

On Zoo Visit

During your visit to the Zoo have students review 2 to 3 different zoo exhibits. Use one or both of the templates below.

[Template — Observe and Draw a Zoo Exhibit](#)

[Template — Zoo Exhibit Survey](#)



Post-Zoo Visit Activity

▶ ZOO EXHIBIT DESIGN

Using the template below, have students incorporate their design ideas into a real zoo exhibit space. The zoo exhibit space provided has pre-existing rockwork, vegetation, holding space and viewing areas. To keep the project on budget, designers have been asked to utilize as many of the existing structures as possible. Designers can remove and change the vegetation, rockwork, holding space and viewing areas but the footprint or area of the exhibit must remain. Designers should be encouraged to create the best exhibit for their animal using as many of the existing elements as possible. Final exhibit designs should include the needs of the animals, keepers and guests. Once designs are complete, have students present their final designs to the class.

Template — Zoo Exhibit Design Blueprint

Design challenge additions:

- Limit the number of elements designers can remove from the existing exhibit area.
- Give each designer a budget with costs for removing existing structures and construction fees.

Have students reflect on their project by answering the following questions:

- How did your designs change?
- What elements of your design were the most challenging to incorporate into the final design?
- What elements of your original design did you cut from the final design?
- What element do you like most in your design?
- What is one piece you might change in your design?
- What surprised you the most about the project?
- What is one interesting fact you learned about your animal?
- What did you learn from this experience?