

# Animal Care

## 6-8 Pre-Activity

### Lesson Summary

Students will review animal information to consider challenges for taking care of animals in a zoo habitat.

### Objectives

Students will be able to utilize their prior knowledge to create a design  
Students will be able to iterate their design with additional knowledge provided  
Students will be able to consider important parameters as limitations to their design

### Essential Question

What does an animal need to survive and how does a zoo provide that?

### Materials

- Humboldt Penguin Information Sheet (provided at the end of the lesson)
- Access to the [Philly Zoo website](#) (or other research resources)
- Scrap paper (or worksheet such as provided at the end of the lesson)
- Writing utensils
- Coloring utensils

### Prep

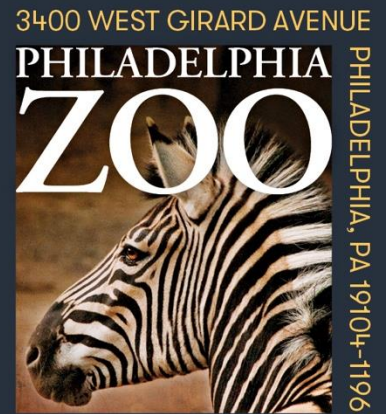
1. 1 Hour before: Print out informational text (1 for each student) and worksheets as needed (1 for each student)

### Key Terms

- **Zookeeper:** The person/people responsible for the daily care animals that live at the zoo for conservation purposes
- **Veterinarian:** A doctor for animals.
- **Basic Needs:** All living things including animals need food, water, and shelter to survive and these are called their basic needs. Different animals have different types of specific needs.
- **Hygiene:** The practice of keeping clean, for example a habitat to ensure health and prevent sickness for one's self or another being.
- **Diet:** The specific types and amounts of food and drink eaten and drunk by an animal.
- **Enrichment:** Practices or items that improve the quality care for animals, by encouraging natural behaviors and simultaneously exercising the bodies and minds of the animals.
- **Training:** The practice of teaching an animal a specific behavior or skills for enrichment and for the benefit or their care.
- **Choice:** The act of animals being able to decide if they want to participate in training or not.
- **Husbandry:** The care of animals including observing to monitor health, cleaning to ensure hygiene, preparing and providing diets, training for care and enrichment.

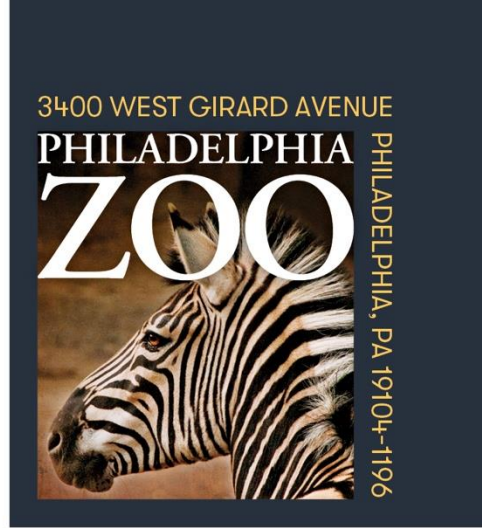
### Background

Animal Care is a full team effort. Many people are involved in making sure every animal is taken care of in a safe and healthy environment, is given all of the necessary basic needs, and is provided enrichment as well. Although



many people think of zookeepers and veterinarians as the main animal caretakers at a Zoo, many different people and careers are important. This also includes nutritionists, curators, scientific researchers, maintenance, and many more! For example, The Philadelphia Zoo has a nutritionist on staff that helps ensure that every single animal at the zoo is getting the proper diet, with all of the vitamins and nutrients needed to help keep them healthy.

Those that work in animal care are animal advocates and protectors, striving to give these animals the best life possible in the name of conservation. They work together and collaborate to make sure that their animals basic needs are met every day, but also their mental wellbeing. They take observations to make decisions on how to maintain safety for the animals, proper type and amount of food, hygiene, and enrichment.



## Implementation

1. Excite: Ask students if they could fashion their house however they wanted, what would they want to include? How would these items add to their comfort, health, or happiness?
2. Explore: Provide writing and drawing materials to students and invite them to design a Zoo habitat for a Humboldt Penguin, either individually or in groups. Give students designated amount of time to provide drawings and explanations.
3. Bring the students together and ask them to share some important features students considered when designing these Zoo habitats. What features did they include and why? What information did they use about the penguin in consideration of what to include in the habitat?
4. Explain: When taking care of animals, although there is often a lot of information available, scientists learn new information is learned all the time. In fact, the Zoo is overseen by a larger organization called the Association of Zoos and Aquariums (AZA), that uses the most up to date scientific research to create regulations for animal care. It's important for animal caretakers to keep this in mind in order to replicate the characteristics of the environment from where these animals adapted as best as possible.
5. Share with the students that they will now be reviewing some details specifically about Humboldt penguins. As they review this information, invite the students to highlight, annotate, or take notes of the information. Provide the students the Humboldt Penguin Information Sheet and/or online resources to review.
6. In a class discussion, consider some of the physical and behavioral adaptations that penguins have. For example, these animals might not live in cold climates as expected, but do rely on cold bodies of water. What can be done to meet the needs of these animal at the Zoo? What would be some challenges of providing the right kind of habitat for animals like this? Are there alternative ways consider meeting these needs?
7. Elaborate: Ask students to return to their designed Zoo habitat for Humboldt penguins. Provide them a designated amount of time to make changes that might be better suited to these penguins and their basic needs and habitat needs.

8. Invite students to review as a class some of the changes they might have made. How do their updated habitats similar or different to their original designs?
9. Evaluate: Ask the class to review some important skills animal care takers should utilize when creating inhabitable environments for animals in a Zoo setting.

### **Additional Resources**

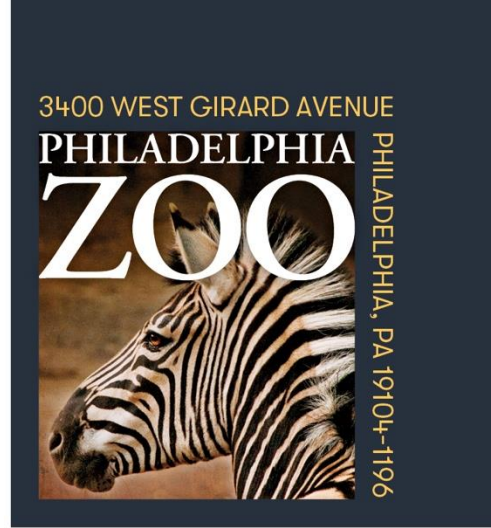
[Ask a Keeper](#)

[Behind-the-scenes with a Veterinarian](#)

[Behind-the-scenes with a Nutritionist](#)

### **Curriculum References**

4.3.7.B



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**PHILADELPHIA ZOO**  
creates joyful discovery and inspires  
action for wildlife and habitats

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## Humboldt Penguins

**What is their average weight?** The average weight is between 8-13 lbs

**Where are they found in the wild?** The west coast of South America along the coasts of Chile and Peru in the region of the cold-water Humboldt Current.

**What do they eat?** A variety of fish

**What is their average life span?** 20-30 years

**What is their social structure?** Highly social, usually found in large colonies

**What is their IUCN Conservation Status?** Vulnerable: This species faces many threats, including the loss of food supply due to commercial fishing, harm caused by fishing nets, and their habitat being disturbed for their guano.

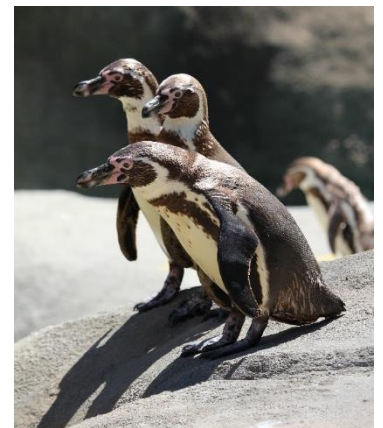
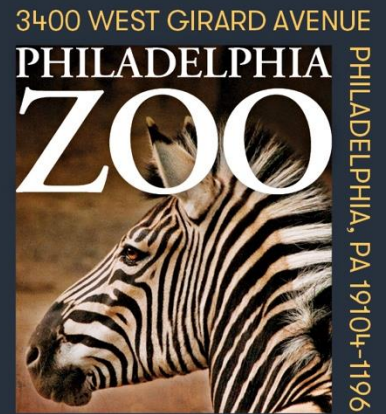
When people hear penguins, it is common to think about the cold weather and snow in the Antarctic. However, Humboldt penguins live in South America, where they are used to variable seasons similar to ours here in Philadelphia! Specifically, these penguins are found in the countries Chile and Peru.

Humboldt penguins have black backs and white bellies. This is to help them blend in, or camouflage. Their black backs make it difficult for a predator to see when looking down into the dark water. Similarly, if an animal is deep in the water and looking up, the white stomach allows the penguin to blend in with the bright sky above the water. This type of camouflage is called countershading.

Their feathers also help them to stay warm as they swim about their habitat. These penguins rely on cold water from the Humboldt current off the coast of South America, which is how they get the name Humboldt penguins. They have 3 layers of feathers that overlap to keep the cold water away from the penguins' skin.

This is important because they spend a great deal of time hunting for food in the water. Their wings, also called flippers, are flattened and streamlined, allowing them to reach swimming speeds of 17 to 20 mph and quickly hunt after the fish. They eat small fish like anchovies, herring, and smelt. These fish travel in cold water too, which provides a plentiful food source for the penguins.

Above the water, penguins spend a lot of time on the cliffs of the coasts along their habitat. Penguins and many other sea birds poop and share this habitat, relying on its features to find their food, find shelter, and go to the bathroom. Their droppings, also called guano, piles on top of itself and over time add to the landscape of the habitat. When breeding season comes around, penguins use their feet to then dig into the guano to create a burrow-like nest, where they lay their eggs. Many seabirds rely on this cooperatively built guano to lay their eggs too.



Name: \_\_\_\_\_

Date: \_\_\_\_\_

Use your knowledge and understanding of penguins to create a habitat for them in the first box below.

Then, review information regarding Humboldt Penguin. Create a new habitat design with the provided details considered.

Compare and contrast the updated habitat to the original.

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A large, empty rounded rectangular box for drawing a habitat for penguins.

A second large, empty rounded rectangular box for drawing a new habitat design for Humboldt penguins.