

# CYCLES OF LIFE & WATER

TEACHER GUIDE FOR EXPEDITION



# PROGRAM OVERVIEW

- This 1 hour program leads students on an exploration of Rocky Coasts in Seneca Park Zoo.
- Students engage in activities and discussions with a Zoo educator to explore the life cycles of birds and mammals. Students will discover how animals depend on water and how pollution and other environmental factors can affect animals.



# LEARNING STANDARDS

## NextGen & New York State P-12 Science Learning Standards:

- **Kindergarten:** Interdependent Relationships in Ecosystems: Animals, Plants, and Their Environment
- **1<sup>st</sup> Grade:** Structure, Function, and Information Processing
- **K-2<sup>nd</sup> Grade:** Engineering Design



# HOW TO PREPARE YOUR STUDENTS

## Logistics

- Have your students split into groups of 15 or fewer.
- Assign 2-3 chaperones/teachers per group.
- Make sure that students are dressed for the weather.
- Provide name tags for students to wear.

## Content

- It is helpful to pre-teach the definition of cycle.
- Students should be able to describe the life cycle of humans (baby, child, teenager, adult).



# WHAT TO EXPECT WHEN YOU ARRIVE

- Your buses will pull up to the drop off area at the Front Gate.
- A Zoo staff person will check in your bus.
- You will check in at the Front Gate. Make sure that you know the total number of guests (students and teachers/chaperones) in your group. Have payment ready unless you have already submitted a purchase order.
- While you are checking in, a Zoo staff member will greet your group and give a brief presentation on Zoo etiquette and safety. Your group will enter the Zoo and wait at a designated flag area.
- The Zoo educator will take your first group and begin your Expedition. Subsequent Expedition groups will meet the Zoo educator at the tent next to tigers at the times listed on the schedule provided to begin their Expedition.



# ESSENTIAL QUESTIONS

- What is a cycle?
- What are the life cycles of birds and mammals? How are they the same? How are they different?
- How do birds and mammals rely on water to complete their life cycles?
- How does pollution and other environmental factors affect the life cycles of birds and mammals?



# WHAT YOU WILL SEE DURING YOUR EXPEDITION



African penguins

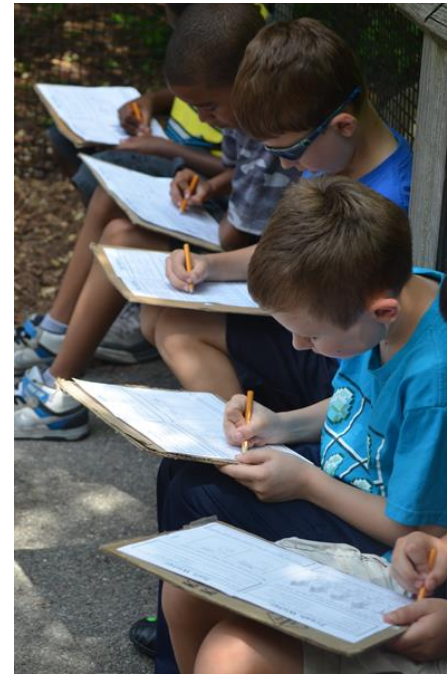


polar bear



# WHAT YOUR STUDENTS WILL DO

- Make observations
- Record observations in Field Guides provided by Zoo educator
- Engage in activities and discussions led by Zoo educator



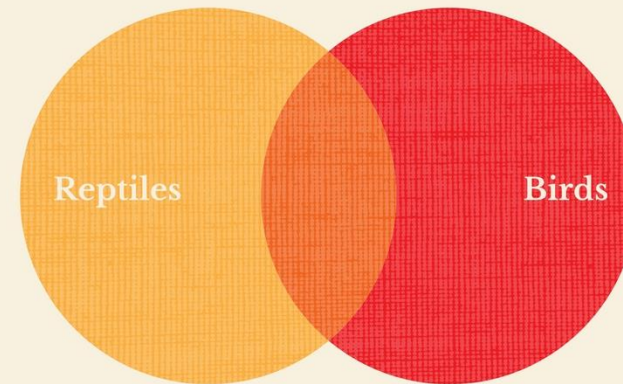


# POST VISIT SUGGESTIONS

## Life Cycle Venn Diagrams Activity:

- Students research the life cycle of reptiles.
- Teacher creates two large Venn Diagrams to compare the life cycles of reptiles with birds and mammals.
- Students fill out the Venn Diagrams with words and pictures using the research they gathered about reptiles and the information they recorded in their Field Guides during their Expedition.

## Reptiles & Birds



# RESOURCES

- Seneca Park Zoo <http://senecaparkzoo.org/>
- World Wildlife Fund: <http://www.worldwildlife.org/habitats/>
- H2O Hero: <http://www.h2ohero.org/>
- National Geographic: <http://environment.nationalgeographic.com/environment/freshwater/>
- 50 Simple Things: <http://www.50simplekids.com/>

