ARCTIC PASSAGE LESSON

FOR 4TH GRADE

THEME: CLIMATE CHANGE AND ENERGY

Note: This will fit well after a unit studying energy and conservation
This lesson will go over the basics of climate change and its impacts on the environment particularly in the arctic.

STANDARDS

Wisconsin Standards for Science (WSS) / Next Generation Science Standards (NGSS):

- Earth and Human Activity 4-ESS3-1.

Wisconsin's Model Academic Standards for Science (WMAS):

- C. Science Inquiry
  - C.4.2 Use the science content being learned to ask questions, plan investigations, make observations, make predictions, and offer explanations
  - C.4.3 Select multiple sources of information to help answer questions
  - C.4.5 Use data they have collected to develop explanations and answers
  - C.4.6 Communicate the results of their investigations
- F. Life and Environmental Science
  - F.4.1 Discover how each organism meets its basic needs to survive

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ARCTIC PASSAGE LESSON
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OBJECTIVES

Through participation in this lesson students will be able to:

- Identify relevant information about the animals and the environment in Arctic Passage using multiple sources.
- Obtain and combine information to describe how human activity affects the Arctic environment.

FIELD TRIP POINTERS

Go slow! Do not expect to cover the entire zoo during your field trip. Students will have a more memorable experience by lingering longer at fewer exhibits.

Look for the Docents! The zoo often has Docents stationed at various exhibits who can help expand your discussions and tell stories that help students develop empathy for animals. Check the Zoo's website for more guidelines and recommendations for a successful field trip: https://www.henryvilaszoo.gov/education/school-field-trip/

MATERIALS

- At Zoo: clipboards, pencils, data sheet
- Extension after zoo visit: computer, materials for poster

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ENAGEMENT

PRE FIELD TRIP

WHAT IS CLIMATE CHANGE? (10-15 MIN)

Before your field trip to the Zoo, review with students what they remember about energy and conservation. What kinds of energy sources do humans use? What is conservation

Tell students that we will be watching this video about climate change. During the video, students should be listening for one of these three topics:

1. What climate change?
2. What are some of the causes of climate change?
3. What are the consequences and effects of climate change on the environment?

After the video, discuss these questions as a group.

Tell students that we will be going to see a series of exhibits about the Arctic, called Arctic Passage, at the Henry Vilas Zoo. We will be learning about the animals there, as well as how human activity (particularly energy usage), has affected this environment. Have students share predictions about what we might see or learn about at Arctic Passage.

EXPLORATION

FIELD TRIP ACTIVITY

AT THE ZOO

Have students complete their observations of Arctic Passage on their observation sheet (see below). Explain that students will be observing three different animals in partners or small groups. In addition to observing the animals of Arctic Passage, students should also explore the signage and interactive activities available to them within the Arctic Passage exhibit to help them complete their observations. These will be considered sources for this exploration. Explain that students need to write down at least two sources for their observations.

You may see one of our amazing keeper staff caring for some of the animals in Arctic Passage. Our keepers provide daily enrichment for our animals. Enrichment is a zoo word that means any thing novel or unique for an animal to interact with.

Can you spot any signs of enrichment?

Can't find the bears?

We believe in giving our animals choices. To help reduce stress and keep our bears comfortable we give her the option to spend time in an off exhibit space. We believe that giving animals choices is incredibly important for their overall health. If you don't see the bears, try coming back later.

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EXPLANATION

POST-FIELD TRIP ACTIVITY

DISCUSSION

After the field trip, each group of students should discuss their observations with each other. Discuss these questions as a class:

- Based on your observations, how does human activity affect the Arctic habitat? (hopefully students will notice that human activity has both positive and negative effects on the Arctic)
- Based on your observations, how can humans help protect Arctic animals and their environment?
- Arctic Passage was built in 2015. Think about all the different sources of information you saw in these exhibits. Why do you think the Henry Vilas Zoo decided to build these exhibits, and why do you think they chose to design these exhibits in the way that they did?
- What roles do institutions such as the Henry Vilas Zoo play when it comes to conservation?

EXTENTION

POST-FIELD TRIP ACTIVITY

OTHER ACTIVITIES

Using appropriate electronic devices, have each group create google slides presentations about an animal of their choice from arctic passage. Students can also choose to make a poster presentation. They can include a list of sources for information on the last slide, or they can include the source listed on each slide with relevant information.

SAFE™ SAVING ANIMALS FROM EXTINCTION

Henry Vilas Zoo works closely with the Orangutan SAFE program to help protect wild orangutans and the places they call home.

Students can conduct research projects related to conservation efforts by specific communities of individuals, such as researching the role and history of Association of Zoos and Aquariums (AZA) Zoos, researching the effects of climate change on other habitats around the world..

Students can design a new exhibit for the Zoo which has the focus of educating the public about the habitat, its species, and conservation efforts made by different groups of people.

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Tag us when you post about your field trip experience to inspire other teachers!

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NAME: _____

OBSERVATION SHEET

Name of Animal	important information about this animal	Threats to this animal	Ways we can help protect this animal
	Sources: • •	Sources: • •	Sources: • •
	Sources: • •	Sources: • •	Sources: • •
	Sources: • •	Sources: • •	Sources: • •

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