Sandy Shores

Concepts
Hawaiian monk seals can be found throughout the Hawaiian Island chain. However, the majority of the population inhabits the Northwestern Hawaiian Islands. It is here that mating and breeding occurs most frequently due to the presence of uninhabited (human free) sandy shore habitat.

HCPS III Benchmarks
SC 2.3.1
SC 2.5.1

Duration
1 hour

Source Material
PRISM

Vocabulary
Scientific Expedition
Datasheet
Virtual
Research

Monk Seal Research Expedition

Summary

In this activity students will embark on a virtual research expedition to observe Hawaiian monk seals in their natural habitat on the sandy shores of the Northwestern Hawaiian Islands (NWHI). They will become marine scientists and collect data on what they observe during their expedition. The field expedition experience consists of actual video footage of monk seals taken in the NWHI.

Objectives

- Students will learn what it means to be a scientific researcher.
- Students will learn how to collect data and make scientific observations.
- Students will learn about the essential materials needed for field research.
- Students will learn proper behavior when viewing wild animals.

Materials

This activity can be done using one TV or projector connected to a computer or multiple computers set up in viewing stations (you will need 4 computers or viewing stations).
Monk Seal datasheet
Clipboards
Pencils

Making Connections

Students may recall field trips or other schoolwork that required them to find and collect data. This activity provides them with the necessary information and practice about how to become better data collectors and may spark their interest in becoming future field scientists.

Teacher Prep for Activity

Download the Hawaiian monk seal video footage that accompanies this lesson to the computer(s) you intend on using during the activity. Put the video icons in the middle of the computer screen for easy access. Be sure that sound/audio capabilities are available. Make one copy of the datasheet for each student.

Background

Hawaiian monk seals are born on land every year around spring to summer (usually). The females will find suitable sandy shore habitats to give birth to their single pup. Typically, they avoid beaches where the water becomes deep quickly to decrease the

chance of their pup being attacked by their natural predators, sharks. After birth the mother will spend up to 6 weeks with her pup and never leave the sandy shore. They do not even leave to feed and live on the previous year's stored fat reserve. The mothers are feeding their new pup very rich, fatty milk during this six-week period. At birth, pups are about 3 feet long and weigh around 35 pounds.

Despite their preference for remote beaches for birthing, recent years have seen more frequent use of beaches within the Main Hawaiian Islands being used for this purpose. The main problem with these more accessible beaches is the increased chance of human disturbance. Human disturbance has been shown to decrease reproductive success and pup survival. Often, if humans approach the mother or get too close to the pup, she will abandon the pup and head out to sea. In cases such as this, the pup rarely survives. However, if circumstances are ideal and the mother and pup are healthy, the female will leave her pup on the beach. The pup is then faced with heading out to sea and finding food for itself.

Procedure

Activity 1: Preparing for the Expedition

Explain to the students that today they will be working together in research teams to observe and collect data on the endangered Hawaiian monk seal. Tell the students that they will be working alongside a scientific expert on monk seals. In order to prep for their expedition they need to be sure they have everything they will need to be successful scientists.

1. Ask the students what they think they will need on the expedition to observe Hawaiian monk seals. Ask to the students to raise their hands and give one item that they will need on their trip and explain what they will need or use it for. List all their ideas on the board. Some ideas would be: hats, sunscreen, cameras, science journal or datasheets, pencils and pens, water, etc.
2. Once the list is complete pass out one datasheet, clipboard, and pencil or pen to each student. Explain that they will be working alongside a scientific expert who has been out on many expeditions before today.

Activity 2: The Video Expedition

(This procedure may be slightly different if you are using one viewing screen for the entire class as opposed to rotating viewing stations – you will need to make adjustments accordingly)

1. Have each group go to one of the viewing stations. Tell the students that the research expedition will begin as soon as everyone's eyes are closed and the room is completely silent. Tell them that when they open their eyes, they will have found the Hawaiian monk seals for their study. Explain that there will be more than one monk seal to observe so each group will be visiting four observation stations that are set up around the room.
2. Have each group open their eyes and instruction them to open the video at their observation station by clicking on the icon in the middle of the screen. Tell the students to watch each of the videos at their station very carefully and record all their observations on their datasheet. Encourage them to watch the entire video first and then discuss as a group the types of activities they observed before recording it on the sheet. (HINT: they may need to watch the video(s) more than one time.)
3. Remind them that the most important thing that scientists have to do during their research is record their observations. They can record their observations in words or in pictures

but must be able to explain their observations with the other scientists in the classroom at the end.

4. Rotate the groups through the four stations as they finish each one until they have visited all of them.
5. After the students have been to all four stations give them a few minutes to complete their recording process.
6. Once they have finalized their observations have one member of each group come up to the front of the classroom and describe what they learned and observed during their research expedition. Be sure to talk about the details of what the monk seal was doing at each station. Ask probing questions about the color of the monk seal, if it was swimming, how the nets may have gotten in the water, etc.

Activity 3: Sentence Strips

1. Pass out two large strips of paper and colored marker to each group.
2. Tell each group to write a sentence on each strip of paper. Each sentence strip should be about "What we know about Hawaiian monk seals." Explain that they should get the information from their observations today or from what they learned while playing jeopardy in the previous lesson. They should think about what the most interesting or important new thing they learned about monk seals was.
3. Tape the sentence strips on the board and have student volunteers read each one out loud to the group.
4. To end the session, congratulate the students on a successful research expedition. Tell them they collected excellent scientific data and made careful observations. This is an important step in becoming a good scientific researcher!

Assessments

Datasheets complete with good scientific observations
"What we know" sentence strips completed with correct information

Resources

www.earthtrust.org
www.pbs.org/kqed/oceanadventures/eopisodes/kure/oceanscience.html
www.kidsplanet.org

STUDENT NAME: _____

MONK SEAL RESEARCH EXPEDITION DATASHEET

Directions: **Write your observations at each of the 4 stations. Write down everything that you see in each video. Write down the color of the monk seal, what it is doing, and where it is taking place.**

STATION 1: Hawaiian Monk Seal Overview

At this station I observed:

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_____

_____

_____.

STATION 2: Hawaiian Monk Seals in their Habitat

At this station I observed:

_____

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STATION 3: Hawaiian Monk Seal Reproduction and Pups

At this station I observed:

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STATION 4: Monk Seals and Marine Debris

At this station, I observed:

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