Dana Lewkowitz

Option 7: Tracking Marine Animals Lesson Plan
4th Grade

Grade Level: 4th grade

Topic of Focus: Marine Animal Tracking

Standards:
- *4-ESS2-2 Earth's Systems*: Analyze and interpret data from maps to describe patterns of Earth's features
- *5-ESS2-2 Earth's Systems*: Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact
- *3-LS4-4 Biological Evolution:* Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all

Time Needed: 1 period (approximately 45 minutes)

Objectives:
- Students will be able to define and explain how animal tracking and/or tagging is used in relation to learning more about marine animals
- Students will be able to identify and track marine animal tracking patterns
- Students will be able to construct an argument to support the data on why an animal followed a particular tracking path

Resources:
- Animal Tagging Introduction Video: ▶ Tracking & Tagging Marine Animals
- Reef Tracks: Marine Life Tracker: https://citizensgbr.org/explore/reef-tracks
- Marine Tracking document (teacher made)

Description: In this lesson, students will learn and discuss what they know about animal tagging and tracking. The lesson begins with a video from the National Marine Life Center. Students begin by sharing what they know, and what they are wondering about this topic. From there, students are introduced to the Reef Tracks website, which allows visitors to track marine animals and review their previously tagged locations. My 4th

grade students were able to choose to track either a turtle, shark, whale shark, or manta ray. They were given a wide variety of options for each species and worked to identify and explain the retrieved data. Students completed a reflection document via Google Classroom to use for teacher assessment. We also shared and discussed as a whole group at the end of the lesson.
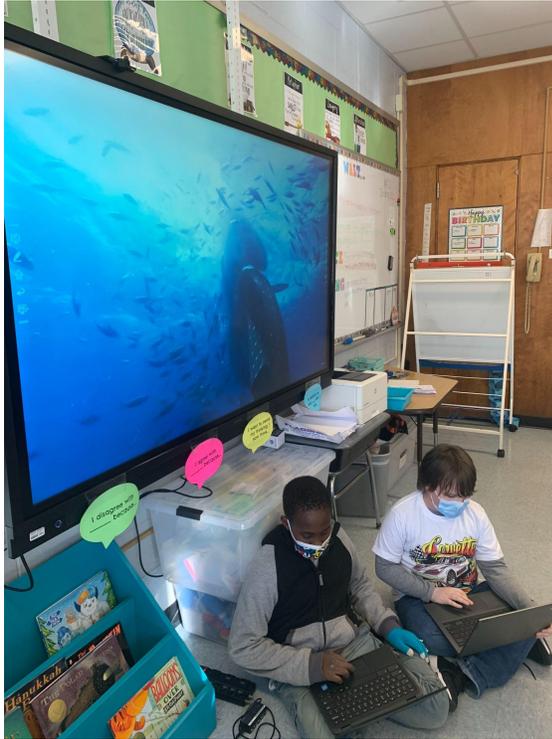
Procedure:
- Turn and talk: What do you know about animal tagging/ tracking? What are you wondering?
- Students share out what they know and want to know about this topic aloud, discuss
- Watch and review [video](#), emphasizing the importance of animal tagging and how this process allows us to track and gain information about various marine species around the world
- Introduce Reef Tracks [website](#), discuss with the class that all of the highlighted points on the main screen are places where various animals have been tracked along the Great Barrier Reef in Australia
- Teacher models how to track one of the animals using data from the website.
    - Students choose the type of animal, and then pick an individual that they would like to track (ex: Alba the manta ray). Read introduction of chosen animal aloud as a class and discuss the information that students can identify from the website, highlighting tracking patterns, distance, speed, and extinction status.
- Review and discuss animal tracking document where students will show their understanding of the data they acquire from the website
- Students begin working independently, with teacher circulating and discussing student responses
- Whole group discussion: What did you learn today? What were you able to understand by observing your animals' tracking data? What questions do you still have after completing this activity?

Assessment: Animal tracking document, student responses
- I will know students met the objectives if/when they are able to explain tracking patterns and use what they know and have learned to explain the data from the Reef Tracks website.

Student Pictures:

Student Work:

Which animal did you track today? (include name and type of animal?)	The animal I chose to track today is a sea turtle. Her name is Leila.
Is your animal protected by the Great Barrier Reef?	Yes, she is protected.
What is the extinction risk of your animal?	Leila is in a very high risk of extinction in the wild.
Watch your animal's tracking data. How many days have they been released? How far have they traveled? What is their average speed?	Leila has been released for 160 days. She has traveled 1910 km. Her average speed is 0.51 km.
Take a look at the track your animal traveled. What do you notice? What do you wonder?	I noticed that she was near the land the entire time. I also noticed that she circled the same area for a few days. I wonder if she was hurt and that's the reason why she stayed near land.
What have you learned about animal tagging today?	Something that I learned about animal tagging today is that marine biologists take the animals to an animal hospital and after a while they send them to the wild.

Which animal did you track today? (include name and type of animal?)	The animal that I tracked today is Pete. Pete is a Tiger Shark .
Is your animal protected by the Great Barrier Reef?	My animal is not protected by the Great Barrier Reef.
What is the extinction risk of your animal?	The extinction risk of my animal is a high risk of being extinct in the future.
Watch your animal's tracking data. How many days have they been released? How far have they traveled? What is their average speed?	My animal Pete has been released for 154 days. They have traveled for 3674km. Pete's average speed is 1.27km/H.
Take a look at the track your animal traveled. What do you notice? What do you wonder?	I noticed that my animal Pete mostly didn't go into the deep ocean. I wonder why Pete didn't go into the deep ocean? Is there something there?
What have you learned about animal tagging today?	What I learned about animal tagging was that you can check the day that they were released. You can also check the speed of the animal.

Which animal did you track today? (include name and type of animal?)	Today, my animal was a Bull Shark. Her name was Katya2.
Is your animal protected by the Great Barrier Reef?	No, Katya2 was not protected by the Great Barrier Reef.
What is the extinction risk of your animal?	The risk of Katya2 was Near Threatened.
Watch your animal's tracking data. How many days have they been released? How far have they traveled? What is their average speed?	Katya2 was released for 751 days. She has traveled 9477 km. Her average speed is 1.52 km/h.
Take a look at the track your animal traveled. What do you notice? What do you wonder?	I noticed that she traveled up and down over and over again from Brisbane to Raine Island. I wonder why she kept on going up and down over and over?
What have you learned about animal tagging today?	I learned that you can do much more than track the animal. I thought you can only track a animal instead of find out more about the animal.

Which animal did you track today? (include name and type of animal?)	I am tracking Tilly, the green sea turtle.
Is your animal protected by the Great Barrier Reef?	Yes, Tilly is protected by the Great Barrier Reef.
What is the extinction risk of your animal?	Tilly is endangered, and her risk of extinction is very high.
Watch your animal's tracking data. How many days have they been released? How far have they traveled? What is their average speed?	Tilly has been released for 59 days. She has traveled 2,352km. Her average speed is 1.64km.
Take a look at the track your animal traveled. What do you notice? What do you wonder?	I noticed that Tilly went in a line and then circled back around slightly.
What have you learned about animal tagging today?	I've learned that animal tagging helps you find information about animals after you release them, so you can see where they've been and if they are okay.