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OCEAN EXPLORATION TRUST

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Science Lesson: Blacktip Shark Migration

Objective: TLW explore facts about sharks IOT learn about migration of blacktip sharks and explore reasons why the population numbers of migrating sharks are decreasing.

“Look Fors”: TL is using information and knowledge presented in the discussion and videos to infer, analyze and discuss the migration of blacktip sharks and changes in their migration sizes.

Key

TTW: The Teacher (Will)

TLW: The Learner (Will)

WG: Whole Group work

SG: Small Group work

IOT: In Order To

- Colored pencils, crayons, or markers
- [Shark Tracker Map](#)

Supplies

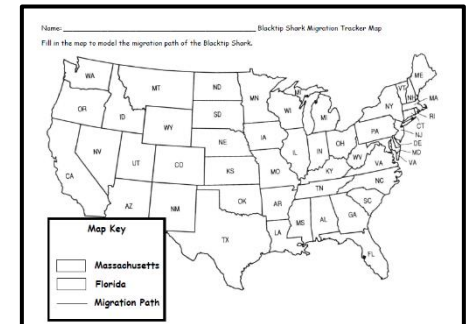
Student Work

- TLW watch [E/V Nautilus explorers encountering six-gill sharks](#) off the California coast. For a closer look at sixgill sharks, explore: [We're Going to Need a Bigger Boat](#).
- TTW read the following text- *Sharks* by Julie Murray
<https://www.getepic.com/app/read/59366>.
- Using the videos and texts, TTW guide the discussion on students' understanding and prior shark knowledge including the term **migration** (the relatively long-distance movement of individual animals, usually on a seasonal basis). TLW brainstorm new ideas TL would like to learn to drive the focus of instruction.

1. Engage

- TTW gain background knowledge on blacktip sharks, the lesson focus animal, by referencing: <https://www.nationalgeographic.com/animals/fish/b/blacktip-shark/>
- TTW read the following topic reading: *Blacktip Reef Sharks* by Grace Hansen
<https://www.getepic.com/app/read/25971>.
- Using the texts, TTW guide the discussion of the shark and the needs of the species to better understand future discussion of the migration of the species. As well, this is an opportunity to build background knowledge to assist with inferring why the species' migration is decreasing.

2. Explore



- TTW introduce the concept of the migration with this video <https://www.youtube.com/watch?v=A2C38BrJLZ0> TTW drive the instruction with more information from graduate student, Jasmin Graham: <https://oceanbites.org/the-great-migration-blacktip-sharks/>.
- TLW use background knowledge of sharks and new knowledge of the Blacktip Shark and its migration to discuss the migration of the species, building further background knowledge to assist with inferring why the species' migration is reducing.

3. Explain

- Use the *Shark Tracker Map* (student work) to draw out this pattern. In summer, blacktip sharks are found in the ocean around Cape Cod, Massachusetts. In the winter, they travel south to waters near Palm Beach, Florida. Find each of these areas on the national map, color in each important state and label. TLW then draw a possible migration path for the species.
- TTW guide the discussion where TLW generate possible reasons why fewer blacktip sharks are migrating than before. TT should challenge students to create a research plan how they would test their ideas and study more about blacktip shark migration. *With the idea of there being minimal research in the reduction of the species' migration, the research plan will include a series of questions that continues the research further; this can include: possible tools, possible water temperature, adaptations of the species, etc.*

4. Extend

Supporting essential questions that can be used to evaluate student understanding:

- Using the information from the videos and informational texts, why do you think blacktip sharks migrate south in the winter?
- Looking at the Shark Tracker Map, what patterns do you notice that could help researchers understand shark migration? What are some differences in waters along the coast of different states?
- What information would you want to know to understand better why shark migration numbers are decreasing over time? What do you think some impacts to other marine animals are of the decreasing number of sharks seasonally?

5. Evaluate

Animal Showcase:

Inspire your young explorers by showcasing a new ocean animal each class/club meeting.

For this lesson, TT may showcase the *Pilot Fish* with the video below. These striped fish have the **symbiotic relationship** (aka **animal partnership**) behavior of traveling with sharks and other large fish. Pilot fish are lent protection from the larger animal and eat parasites off their fins and skin. Through this mutually beneficial relationship both animals are helped.

https://www.youtube.com/watch?v=m7Cb_VecdNU

<https://www.getepic.com/app/read/58176>

Additional Resources and Links

- Check out the diversity of [deep sea sharks, skates, and fish with this Nautilus Live highlight video playlist](#).
- YouTube video: *Shark Dive: What Sam Sees* <https://www.youtube.com/watch?v=Cr8xuQjCzLk>