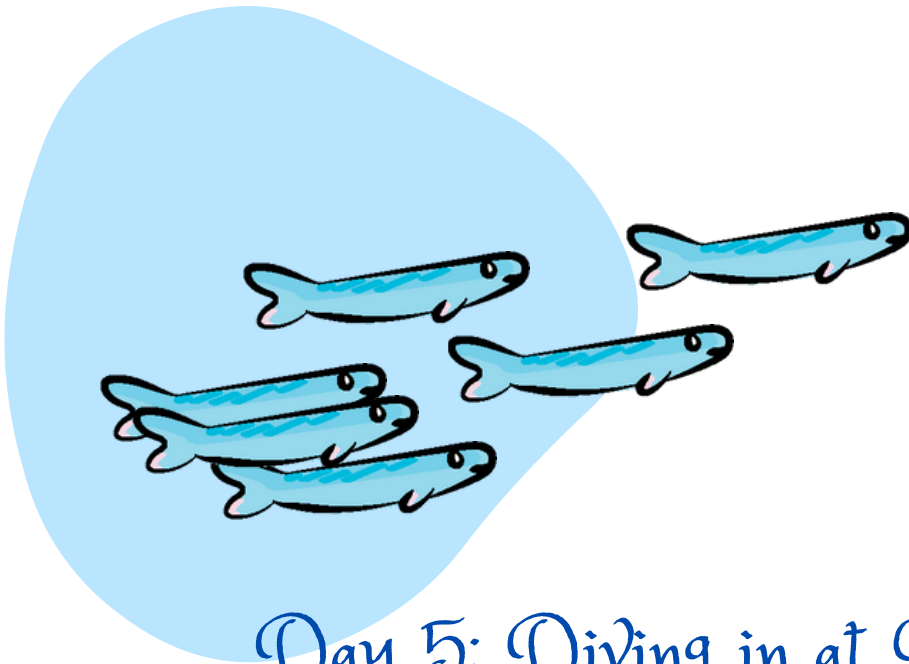




Day 5: Diving in at 92!





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Eugenie Clark Interactive Story Ideas!



Background scene:

Play this video in the background on a big screen, smart board, or laptop. Please mute the sound. Inside Mote Science Education Aquarium: Virtual Tour
<https://www.youtube.com/watch?v=1VKhHxxAtKM>



Storytelling Role-Play: 1-5 sand dollars each

(Have 2 Students help cut out props and 6 students role play)

Ask for 3 girl volunteers and 3 boy volunteers to portray Genie, the Nat Geo photographer, the whale shark, the plankton, and 2 colleagues at the Gulf of Aqaba.



New word: 1-5 sand dollars

Read the word and definition. Have students listen for it in the story.

Bouyancy: Bouyancy is the ability to float. A scuba diver has an inflatable vest on them that allows them to pump in air or let air out to help control how deep or shallow they are diving. This is called their BCD or Boyancy control device. In scuba diving, having good "buoyancy control" means you can dive for longer and move safely around obstacles to avoid damaging the beautiful underwater environment.

Day 5 Eugenie Clark: Diving in at 92!

The little marine laboratory that Genie started has grown into a big, wonderful place where research is done to learn more about the ocean and ways to protect it. There are lots of exhibits and aquariums and new things you can visit and learn about. Look it up online. It's called the Mote Marine Laboratory and Aquarium. If you are ever in Florida, you can visit!

Genie writes many articles and makes TV specials for National Geographic magazine, and she is even featured on the cover! A photographer from Nat Geo goes with Eugenie on her dives and takes her picture as he watched her ride on the back of a 50 foot whale shark! (Camera prompt, watch Genie and be worried when she rides off on a whale shark!) Afterwards, he says when he took the picture, he was afraid he would never see Genie again.

Genie shows the world how to see sharks through her eyes. Sharks are beautiful and intelligent creatures that hold so many wonderful secrets, and she helps everyone learn about them. She leads over 200 research expeditions all over the world! She is a pioneer in scuba research and oceanography. She publishes 175 scientific articles on the things she discovers in the ocean. 175 is a lot of articles to publish! One of her articles (Keyboard and research paper prompt, pretend to type and hold up the completed paper) is about whale sharks eating surface plankton. (Whale shark and surface plankton bloom, try to eat the plankton). She also goes on 72 dives in submersible underwater vehicles!



Day 5 Eugenie Clark: Diving in at 92!

It is 2014 and Genie, age 92, is diving with her colleagues in the Red Sea at the Gulf of Aqaba. Her colleagues help her get her diving gear and move towards the edge of the boat. The waves lap the edge of the boat as Eugenie stares out to the horizon.

Genie can feel the weight of the scuba gear pressing into her chest. She effortlessly dives into the water; as her weight is relieved she feels like her 20-year-old self again. She is a very experienced diver and moves with expert fluidity. Her **buoyancy** control is perfect as she observes the vast underwater scene before her.

She has studied the ocean all her life and is still in awe of it every dive she takes. "There is so much to discover!" she thinks to herself.

Eugenie continued her research until she passed away in 2015, but her legacy lives on.

She paved the way for female scientists and showed the world that we still have a lot to learn about the ocean and its creatures.



Questions/Reading discussion: 1-5 sand dollars

Ask: How many scientific articles did Genie have published? What do you think she wrote about?

Example: **She published 175 scientific articles! I think she wrote about sharks and the other things she saw.**

Ask: What did Eugenie Clark teach the world?

Example: **I think she taught us to see sharks are smart and beautiful.**

Ask: How do you think Yumico would have felt seeing what Eugenie did?

Example: **She would have been so proud of her little chibi showing people that sharks are majestic creatures, not monsters.**

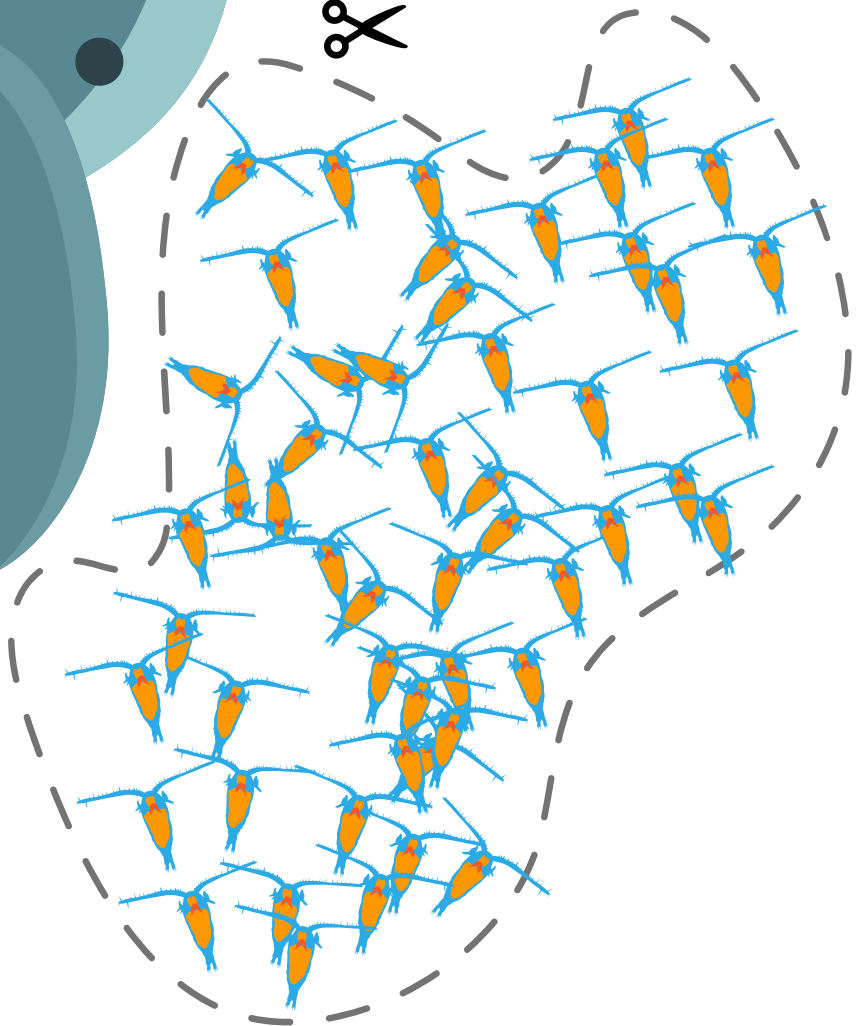
Ask: What was the best thing you learned from Genie's story?

Example: **Answers will vary. Allow students to share things that may be life lessons, like how she stayed determined, enjoyed her passion, and included her children in her adventures.**



Cut out this whale shark for a student to be. Whale sharks move slowly so swim slowly and try to eat the plankton.

Cut out this plankton bloom for a student to be. You are the food the whale shark is trying to eat.



Whale shark: Swim slowly and try to catch the plankton bloom.

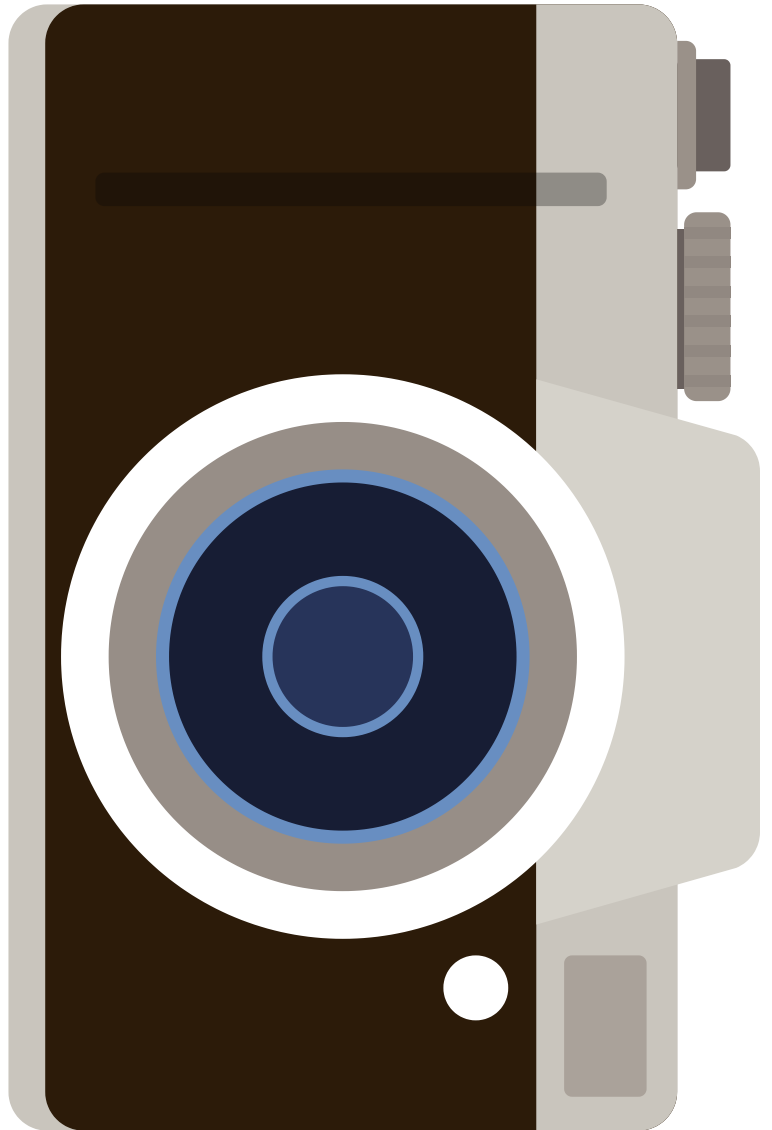
Plankton bloom: Try to avoid the whale shark and not be eaten!



Cut out this keyboard out for Genie to type her papers.



Cut out this camera for the photographer.



NatGeo

photographer:

Follow Eugenie's
wild adventures.

Click sound to
show your taking
lots of pictures

Genie: Type at
your desk and
hum shark songs
as you work.



Have a student pretend to be Eugenie typing out this research paper and hold it up.

Young whale sharks, *Rhincodon typus*, feeding on a copepod bloom near La Paz, Mexico

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Synopsis

Seven small (3.2 to 5.2 m total length) whale sharks were observed suction feeding on patches of surface plankton in the Bay of La Paz within 1 km of shore and 2 km N of the phosphate dock at San Juan de la Costa, on 1–2 November 1993. The sharks were photographed and videotaped from the boat and by snorkelers in the water. When actively feeding the shark turned its head from side to side, part of the head was lifted out of the water, and the mouth opened and closed 7 to 28 times per minute ($\bar{x} = 17$, $N = 13$). These suction gulps were synchronized with the opening and closing of the gill slits. This feeding behavior occurred only in the patchy areas of densely cloudy water, a layer 10 to 30 cm thick at the surface containing an immense concentration of copepods, 95% of which were identified as *Acartia clausi*. Remoras accompanying the whale sharks also fed on the plankton bloom.

Introduction

The circumtropical whale shark, *Rhincodon typus*, the largest fish in the sea, has attracted attention since the late 1800s due to dramatic close encounters and sightings by boatmen and divers. Diver encounters were relatively rare until recently. The discovery of ways to predict within a few days the appearance of whale sharks in large numbers (e.g., over 100 sightings in one week) at Ningaloo Reef, Western Australia, has created a tourist problem (Clark 1992, Taylor 1994). Increased boat operations in Ningaloo National Park have led to proposed legislation to protect whale sharks from being disturbed by divers. However, beyond legislation, there is a recent movement among conservation-minded divers to refrain from riding, chasing,

or in any way harassing large marine animals (Strickland 1994, Leonhardt 1994). A food chain that seems to begin with the once a year massive coral spawning on Ningaloo Reef, March–April, results in large plankton blooms of euphausiid crustaceans and schools of anchovies that attract many larger predators (jacks, small sharks), the largest of planktivores (the baleen whales, mantas, whale sharks), and finally hordes of tourist divers. An increase in whale shark sightings in the summer, especially August and September, was also seen by aerial surveys in the 'East Flower Garden Bank' in the northern Gulf of Mexico off Texas (C. Rogers & K.D. Mullin personal communication) and may be related to massive coral spawning in August (Gittings et al. 1992).

In other regions of the tropical and semitropical

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