

Grades 9-12

Big Pacific, Part 3- “Voracious”

Plunge into the Pacific with researchers and cinematographers and see the ocean's rare and dazzling creatures in a way never before seen on television. Filmed in cinematic 4K, the program examines an ocean that covers a third of the Earth's surface.

See how the challenge of finding food drives all life in the Pacific. Meet a destructive army of mouths, a killer with a hundred mouths and the biggest mouth in the ocean. For creatures large and small, every mouthful counts.

There is plenty of food in the Pacific Ocean, but it is the challenge of finding food that drives all life in the Pacific. In the voracious Pacific we meet a destructive army of mouths, a killer with a hundred mouths and the biggest mouth in the ocean.

After watching this episode, choose from the following questions and/or tasks to extend your learning

Question Box 1

- What does “voracious” mean? How does it pertain to the Pacific?
- How does the challenge of finding food drive all life in the Pacific?
- What is the destructive *army of mouths* in the Pacific?
- Who is the killer with a hundred mouths?
- What creature has the biggest mouth in the ocean?
- What does the narrator mean when he states, “For creatures large and small, every mouthful counts”?
- If there is plenty of food in the Pacific Ocean, why is it a challenge to find it?
- How many people can fit in the mouth of a whale?
- How do blue whales eat krill?
- What is the difference between manta rays and blue whales?
- What are underwater archipelagos of coral?
- What is the function of the Blue Streak WRASSE with the Lion Fish?
- What is a plankton bloom?
- What is the largest fish?
- What is described as a liquid universe?
- How can an iguana hold its breath for about an hour?
- Why can tortoises live for a whole year without food or water?

Question Box 2

- How does the food humans consume affect the food chain in the Pacific Ocean?

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- How do manta rays feed without teeth?
- What is the diet of a Nomura?
- Explain how the mouths are made in the Nomura jellyfish?
- Why don't the jellyfish evolve?
- How do sea anemones digest prey?
- How are swells produced in the ocean?
- What surprised you in this episode? After seeing all three episodes of the Big Pacific, what more would you like to explore or learn?

Question Box 3 (Tasks)

- Identify the foods in which the creatures of the Pacific Ocean consume. If possible chart the areas of plenty and scarcity within the ocean to determine the feeding patterns of the different species.
- Compare and contrast the feeding mechanisms of Toothed vs. Baleen whales, giving specific examples of how each feed.
- Describe the feeding mechanisms of at least four different marine arthropods.
- Describe the feeding mechanisms of at least four different marine mollusks.
- Make a PowerPoint comparing and contrasting all the giant filter feeders of the Pacific Ocean.
- If a blue whale is 100 feet long, weighing 200 tons, eating 400 million krill per day, which weigh 0.07 ounce, what percentage of the whale's weight does it eat? If there are 60,000 krill per cubic yard, how big would a swarm of one billion krill be? There are approximately 2000 whales off the California Coast, what area is taken up by just the whales and krill alone? What implications does this have for other ocean creatures?

Question Box 4 (Enrichment)

- Compare and contrast the food found in the Pacific Ocean to that of the Atlantic. *(ELD) Create a Double Bubble Map to compare and contrast the food found in the Pacific Ocean and food found in the Atlantic Ocean.*
- Make a model of a jellyfish or other sea life of interest to you. Make it to scale.
- Develop a model that demonstrates the biological magnification of heavy metals and pesticides through several different trophic levels in a marine environment.
- Model and describe how changing global weather patterns have affected food distribution in the world's oceans.
- Make a PowerPoint of all the corals in the ocean.
- Draw or make a model of the mouth of the LionFish.
- Create a dance to depict the Big Pacific. Choose the music and movements that best depict your interpretation of this series of episodes on the Big Pacific.

Question Box 5 (Extend/Real-Life)

- Predict which of the following three careers would study the *food web* of the deep Pacific.
 - Ocean Engineer, Marine Environment Economist or Marine Biologist
- Go to: <https://www.onetonline.org/find/>

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- Research the three careers, was your prediction correct?
- Write down a few job duties for each of the careers.
- Reviewing the duties you listed do you think that people in all three of those careers were needed to make the show you watched? Why and/or why not?
- Would you be interested in a career that required you to spend extended periods of time on the ocean? Why or why not?