

OCEANOGRAPHY WITH PROF MARC FRISCHER

TALKING POINTS:

- 1) Doliolids are an important part of the food web on the continental shelf. Why is this? (See *Why is it so important to study doliolids?*)
- 2) Why are doliolids so hard to study? (See *How does Marc's team study doliolids?*)
- 3) How is Marc's team figuring out what a doliolid has eaten? (See *How does Marc's team study what doliolids eat?*)
- 4) What surprised Marc and his team when they analysed what the doliolids had eaten? (See *How does Marc's team study what doliolids eat?*)
- 5) How might climate change affect the doliolid population, and why? (See *How will climate change impact doliolids?*)
- 6) Why is it so important to preserve our oceans? (See *About Oceanography*)
- 7) What are some ways you can learn about marine science before you go to college? (See *Opportunities in Oceanography*)

With thanks to Kayla Clark, Public Programs Coordinator, University of Georgia Marine Extension and Georgia Sea Grant, for her contribution to this activity sheet and accompanying article.

ACTIVITIES YOU CAN DO AT SCHOOL OR COLLEGE

BECOME A OCEANOGRAPHER AT HOME BY STARTING AN AQUARIUM

You don't have to leave your house to observe marine ecosystems in action. Start an aquarium by filling a fish tank with plants and animals that will get along and make for a balanced ecosystem – either fresh water or marine. You can start small, with a five-litre tank. Pick a fish you like. If your fish needs it, make sure your tank comes with a water filter. Test the water from your tap to make sure the pH and electrolyte concentration are right for your fish (they carry testing kits at pet stores). Then, get a live plant. Now, you have a living, balanced marine ecosystem! Keep your tank clean and your water fresh to keep your ecosystem vibrant and healthy. And don't forget to feed your fish with fish food and nutritional supplements.

GO SNORKELLING, DIVING, OR WADING IN A LAKE, RIVER, OR OCEAN NEAR YOU

From above the water, bodies of water look barren. But dip your face under the water while wearing a snorkel or goggles, and you'll see a whole other world. Swim around for a bit, observing all of the fish and plant life. Observe each fish's behaviour. Do they swim in schools? Do they swim near the surface or near the seabed? What are they feeding on? Is there coral? Does it look healthy?

After you've spent some time in the water, draw what you saw, and look on the internet to find out what kind of fish you observed. Remember to observe and not disturb.

SEE PLANKTON WITH YOUR OWN EYES

If you can, go into the ocean and collect a water sample in a jar. Then, bring your ocean water to school, put a drop on a slide, and view the water under a microscope. Or use a portable magnifier such as a Foldscope. What do you see? If you're lucky, you might see some plankton floating around. Count how many plankton you see and use this number to calculate how many plankton are floating around in your jar. Maybe you'll find a doliolid! See if there is a phytoplankton monitoring group near you. Use the Phyto app to identify samples.

PARTICIPATE IN A CITIZEN SCIENCE PROJECT

Learn about the scientific method while contributing data that aids ocean conservation. Citizen science is when the public helps collect or analyse data for scientific research. For instance, on International Coastal Cleanup Day, people from all around the world team up to remove marine debris, or human-made waste found in ocean waters, beaches and other coastal areas. During the clean-up participants also record how much and what types of debris, or litter, they find using a standard protocol. The information collected is used to better understand and address a global marine conservation challenge. Explore and contribute to biology research from home by participating in online citizen science through Zooniverse, which hosts projects from around the world for the public to take part in.