

Generation Ocean: Coral Reefs

GEOGRAPHY & SCIENCE Age 11+



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Learning Aims:

- To identify corals as animals and recognize their common forms.
- To describe how corals form reefs and understand reef composition and features.
- To explain a coral reef's geographical, societal, and scientific importance.

CONTEXT

Using Virtual Reality and 360 film, 3D printed and fossil coral specimens and related lessons, students were introduced to corals and reef ecosystems in preparation for a field trip to the Florida Keys. This served as important pre-learning and pre-exposure to these concepts, as it was the majority of students' first exposure to the topic. It helped students understand what to expect in the field, provided a solid foundation for deeper learning, and served as a springboard for discussions about the subject area.

PRACTICAL SESSION



Generation Ocean Video: Coral Reefs



Underwater Playlist

First, students were introduced to corals, the reefs they form, and their local reef tract. The students were then given the opportunity to explore corals and reefs independently through a series of observation-oriented stations. At one station, the students accompanied coral scientists on a research expedition, both above and below water, via viewing of the 360 film *Generation Ocean: Coral Reefs* in Virtual Reality. The remaining stations asked the students to examine, draw/describe, and identify modern and fossil coral skeletons. The students were asked to compare what they learned of ancient and modern corals and the environmental history of Florida to better understand how Florida coral reefs have changed through time.

IMPACT ON LEARNING

The students were engaged, asked thoughtful questions, and readily drew connections to other topics that they'd covered in their courses. Their lab notebook pages demonstrated a strong attention to detail and accurate application of the introduced coral vocabulary. The Virtual Reality expedition helped the students understand and anticipate what they would see and experience underwater on the reef. This alleviated student apprehension about entering the water and resulted in a cohort of students that was eager to get into the field and apply what they'd learned. Once in the field, the students were immediately engaged and were able to make coral identifications while snorkeling in an unfamiliar environment.

