

## Course Syllabus

### **Description:**

Since the beginning of time, humans have relied on the ocean. But as our planet continues to change over time, human activity has impacted the environment. In the marine science course, students will explore the watery depths of our own planet and understand just how vital the ocean is to our existence.

Throughout the course, students will meet marine animals and see how they interact with each other and their environment. They will tour the evolving seafloor and see trenches, volcanoes, and ridges, just to name a few. Along the way, students will hang ten as they discover waves, currents, tides, and other physical interactions between the ocean and the land. Finally, students will study the impacts of chemical processes on our blue planet and how they affect the water, the atmosphere, and even our climate. With a focus on conservation, this course will show students that the ocean connects us all, across distance and even time. Hang on—it's going to be an amazing journey.

**Estimated Completion Time:** 2 segments / 32-36 weeks

### **Major Topics and Concepts:**

#### **SEGMENT 1**

- Introduction to Marine Science
- Ocean Exploration
- Ocean Zones
- Properties of Water
- Plate Tectonics
- Ocean Formation
- Ocean's Impact on Weather
- Ocean's Impact on Climate
- Air and Sea Interactions
- Seasonal Changes
- Ocean's Systems
- Waves
- Tides and Currents
- Coastal Dynamics

#### **SEGMENT 2**

- Marine Biodiversity
- Ecosystem Health
- Marine Populations
- Adaptations
- Marine Habitats
- Marine Ecosystems Food Webs and Energy Transfer

- Marine Relationships
- Human Impact on Marine Life
- Biotechnology
- Pollution
- Conservation
- Research and Resources
- Future of an Ocean Planet

**Course Assessment and Participation Requirements:** To achieve success, students are expected to submit work in each course weekly. Students can learn at their own pace; however, “any pace” still means that students must make progress in the course every week. To measure learning, students complete self-checks, practice lessons, multiple choice questions, projects, discussion-based assessments, and discussions. Students are expected to maintain regular contact with teachers; the minimum requirement is monthly. When teachers, students, and parents work together, students are successful.