

MARINE SCIENCE

Marine Biology and Oceanography

SECOND EDITION

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A M S C O S C H O O L P U B L I C A T I O N S , I N C .
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To the Student

You live on land, but most of Earth is covered with water. Water is everywhere. Look at any photograph of Earth taken from space. A color photograph will show that our planet is mostly blue—the color of the ocean. How much of the world is actually covered by ocean? Close your eyes in front of a globe of the Earth. Spin the globe. When it stops spinning, touch the globe’s surface. Odds are you will put your finger on a part of Earth’s ocean. In fact, about 70 percent of Earth’s surface is ocean.

How deep is the sea? Why is it salty? Do strange creatures really live in the deepest parts of the sea? These questions, and many others, may come to mind when you think about the ocean. Today, we can answer many of these questions thanks to the work of oceanographers, scientists who study the sea. However, we cannot answer every question. Scientists continue to study the ocean, so that we can understand more of its mysteries.

In the first unit of *Marine Science, Second Edition*, you will be introduced to the history and methodology of the study of the ocean and to the great variety of marine environments. The next three units concentrate on life in the sea—the branch of science called *marine biology*. The fifth and sixth units deal primarily with the science of *oceanography*, the study of the physical geology characteristics of the sea. In fact, oceanography is a mix of many areas of scientific study, including biology, chemistry, geology, and physics. Together, marine biology and oceanography make up the body of knowledge known as *marine science*. In the last unit of this textbook, you will explore how the physical and biological characteristics of the ocean interact to affect marine ecology.

At the end of each chapter, you will find a Chapter Review section that includes question sets and a suggestion for a research project or activity. The question sets help you review the material you have learned. The research projects or activities help you expand your knowledge and understanding of marine biology and oceanography. You will find that doing a research project can be a challenging and creative endeavor, often one that will help you to think like a scientist. You will ask questions, make observations, develop explanations, and draw conclusions. We hope you enjoy doing these projects. Now, let us begin our exploration of the marine world.

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