



OCEANFIRST

EDUCATION

We take students
to the intersection of
education and fascination.

AVAILABLE DIGITAL CONTENT

MARINE SCIENCE 101

Semester Science Elective

SHORT COURSES

Ocean Literacy

Marine Ecology

The Truth About Sharks

Sea Turtle Ecology

Caribbean Fish Identification

Red Sea Fish Identification

Indo-Pacific Fish Identification

Natural History of Caribbean Coral

Natural History of Red Sea Coral

Natural History of Indo-Pacific Coral

Beaver Ecology

EXPLORER SERIES

Camouflage

Cleaning Stations

Coral Reefs

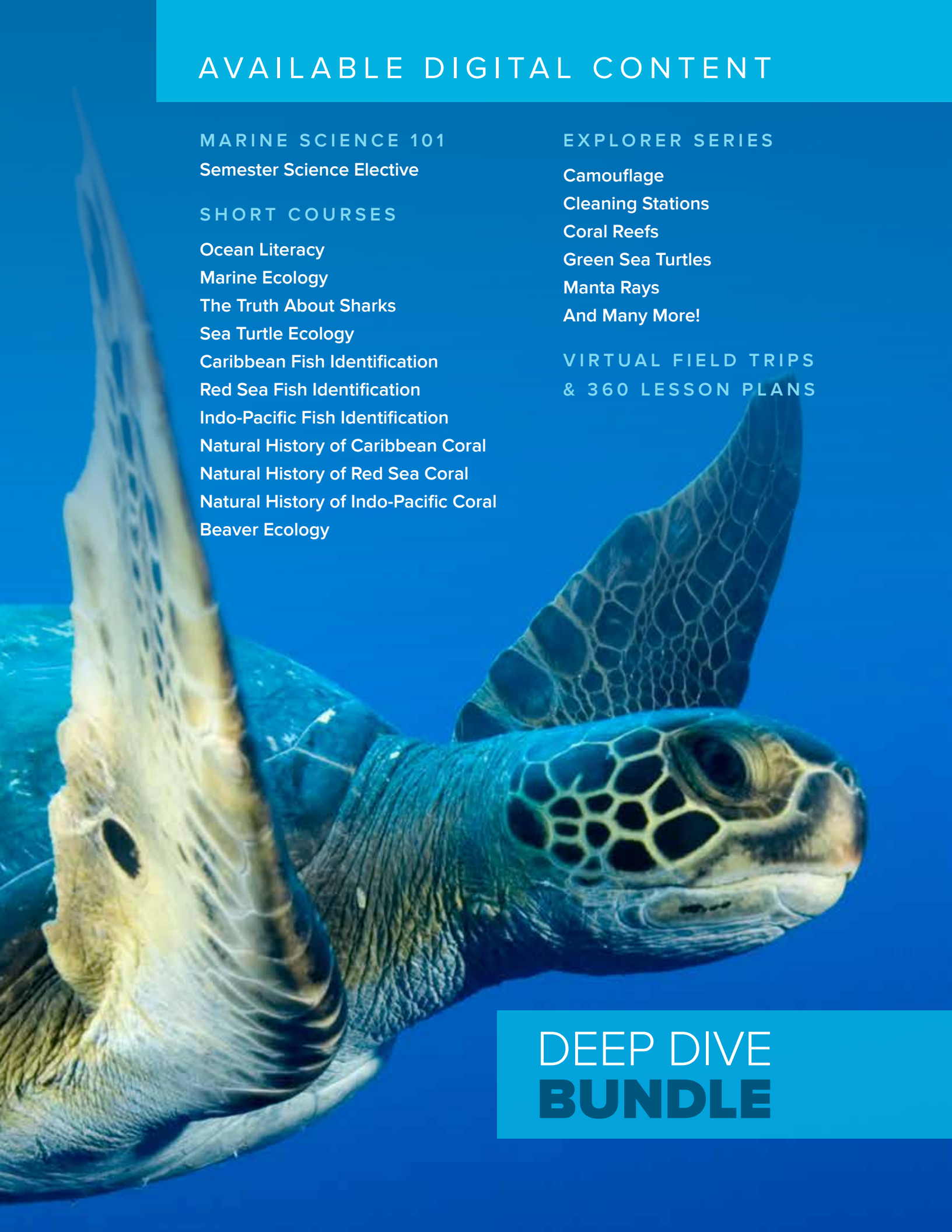
Green Sea Turtles

Manta Rays

And Many More!

VIRTUAL FIELD TRIPS & 360 LESSON PLANS

DEEP DIVE
BUNDLE





MARINE SCIENCE 101

This integrated semester course is designed to reinforce biological, physical, and Earth science content. Marine Science 101 prepares students to explore the ocean by investigating the biodiversity of life that fills this vast space and the remarkable ecosystems in which they live.

STUDENT GOALS:

- **Characterize** the similarities and differences between marine vertebrates and invertebrates.
- **Analyze** anthropogenic impacts to the ocean and its inhabitants.
- **Discuss** the impact that ancient and present-day explorers have on our knowledge of the ocean.
- **Compare** and contrast the habitats found throughout the world's ocean.

- Differentiate the life history of elasmobranchs from bony fish.
- Recognize male and female sharks.
- Compare the various modes of elasmobranch embryonic development.

Sharks are K-selected species, which means they have a life history strategy featuring slow growth, delayed maturity, long gestation and relatively few offspring. This is in contrast to bony fish, which are R-selected species and grow quickly, mature early, and lay hundreds and even thousands of eggs in a reproductive event. These fundamental differences in life histories explain why sharks are in global decline. Sharks are being fished out of the ocean faster than they can replace themselves.

3 MAIN EMBRYONIC DEVELOPMENT MODES

EACH DIGITAL LESSON PROVIDES STUDENTS WITH
CLEAR LEARNING OBJECTIVES, ENGAGING TEXT,
HIGH-QUALITY IMAGES, & INSTRUCTIONAL VIDEOS!

Label the external anatomy of the shark.

Labels: Caudal Fin, First Dorsal Fin, Second Dorsal Fin, Pectoral Fin, Anal Fin, Lateral Line, Ampullae of Lorenzini, Nostril.

feet, useful for slow movement. The spines of the sea urchin serve as protection from predation and to secure the animal in rock crevices, underlying skeleton by a ball and socket motion.

Did you know?

Members of the class Crinoidea, the oldest echinoderms, dating 600 million years. Some examples are sea lilies and feather stars. Sea lilies are attached to the bottom by stalks. Others crawl about using flexible arms, which are also used for suspension feeding. Sea lilies can have from 5 to more than 200 arms reaching outward from the center, each with tube feet. The arms have a series of jointed knobs, making it possible for them to bend in the current.

The mouth of sea urchins, and other members of class Echinoidea is known as Aristotle's lantern. It is specialized for scraping and eating seaweeds.

Higher level depth of knowledge is assessed through interactive questions.

Additional information is provided for diving deeper into concepts.



SHORT COURSES

Enhance your blended learning with our marine science short courses. Aligned to state standards and the Next Generation Science Standards (NGSS), each course supports biological, physical, and Earth sciences to integrate with your current content pacing plan.



Independent Study



Student Centered



Direct Instruction

SHORT COURSES PROVIDE STUDENTS EXPERIENCES TO LEARN HOW:

- **Energy transformations** are analyzed when energy from the sun is converted to matter and moved through marine food webs and ecosystems.
- **Evolution** is investigated through the migratory pattern of sea turtles for comparison to other types of animal movement.
- **Adaptations** are examined by characterizing shark behaviors based on their habitat.
- **Ecosystems** are evaluated through coral reefs and their importance and impact on the world.





EXPLORER SERIES

Discover a variety of marine science videos, vivid imagery, important facts, and compelling questions within bite-sized snippets, specifically designed to introduce new concepts in the classroom. Each Explorer Series is comprised of a narrated, high-definition video that introduces the topic, a list of interesting facts, and a set of questions to continue the discussion.

VIRTUAL FIELD TRIPS & 360 LESSON PLANS

Experience the world in an exciting new way. Students can dive beneath the waves, hike through distant rainforests, and become immersed in other cultures, all without leaving the classroom. Each virtual field trip and 360 lesson plan is aligned to NGSS and designed for three-dimensional learning, is device agnostic, and complete with 5E lesson plans, teacher guides, and assessments. Classroom walls have fallen and your students are now in the driver's seat.

INSPIRE NEW DEPTHS.



WHO WE SERVE

Ocean First Education provides engaging digital marine science curricula for K-12. We incorporate the latest research and technology by delivering learning experiences that are seamless for teachers to implement in their classrooms. We involve students in the learning process with interactive activities and high-definition imagery. All of our courses are aligned with state standards and NGSS, and our courses offer a safe, secure, and ad-free online learning environment.

TEACHERS AND EDUCATORS

Our materials help support classroom curriculum and we also provide opportunities for professional development.

SCHOOLS AND DISTRICTS

Our thought-provoking and engaging marine science curricula and experiential programs help teachers inspire interest and action in their students.

HOMESCHOOL AND INDEPENDENT LEARNERS

Homeschool and independent learners can discover something new with our content-rich coursework and Explorer Series, potentially fulfilling graduation or alternative pathway requirements.

