



Week 1: Life Beneath the Waves

- Introduction to marine biology
- Importance of the oceans
- Ocean ecosystems and zones

Week 2: The Forces that Shape the Sea

- Surface and deep ocean currents
- Tides and waves
- Salinity of the ocean

Week 3: Ordering Ocean Life

- Taxonomy and classification
- Introduction to the Kingdoms
- Food webs: producers, consumers, and decomposers

Week 4: The Foundation of the Ocean Food Chain

- Introduction to photosynthesis
- Key marine producers: plants, protists, and bacteria

Week 5: Simple but Amazing: Sponges & Worms

- Phylum Porifera: the sea sponges
- Phylum Annelida: the segmented worms
- Life cycle, reproduction, and anatomy of sea sponges and worms

Week 6: Underwater Stingers: Discovering Cnidarians

- Classification of Cnidarians
- Specialized anatomy and body forms
- Life cycle and reproduction

Week 7: Glowing Drifters & Star-Shaped Wanderers

Phylum Ctenophora: the comb jellies

Phylum Echinodermata: starfish, sea urchins, sand dollars, and more

Body structures, reproduction, bioluminescence, cilia, water vascular system, and other unique characteristics

Week 8: From Crawlers to Jet-Setters: The Mollusks

Phylum Mollusca: Soft bodies, protective mantle, and a muscular foot

Class Bivalvia: Two shelled filter feeders

Class Gastropoda: Snails and slugs with a radula for feeding

Class Cephalopoda: Intelligent predators with jet propulsion and color-changing abilities

Week 9: Exam

Week 10: Armored Arthropods of the Ocean

Transition invertebrates with complex systems

Crustaceans: crabs, lobsters, shrimp, and more

Exoskeletons, jointed legs, segmented bodies, and antennae

Week 11: Scales in the Surf: Ocean Reptiles

Introduction to vertebrates

Sea turtles, sea snakes, and marine iguanas

Adaptations for life in the ocean

Week 12: Sleek Hunters of the Open Sea

Cartilaginous fish: sharks, rays, skates

Jawless fish: hagfish & lampreys

Anatomy and unique structures

Hunting and survival adaptations

Week 13: Swimming with Structure: The Bony Fish

Features of bony fish

Comparison with cartilaginous fish

How fish breathe and swim

Week 14: Giants of the Blue: Marine Mammals

Fully aquatic mammals

Cetaceans: whales, dolphins, and porpoises

Sirenians: manatees and dugongs

Week 15: Between Land & Sea: Mammals That Split Their Time

Semi-aquatic marine mammals

Pinnipeds: seals, sea lions, walruses

Mustelids: Sea Otters

Ursids: Polar Bears

Adaptations for both land and water

WEEK 16: EXAM