

Show Me Science

The Wonders of Oceanography

Where the Sea Meets the Shore

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K4598DVD
Teachers Guide

SYNOPSIS:

One of the harshest environments on earth exists at the place where the sea meets the rocky shore. This visually stunning program examines the wide variety of animal and plant life that survive these difficult conditions that are caused by pounding waves during the ebb and flow of the tides. Students will come to appreciate how these plants and animals have adapted to develop unique survival mechanisms that help them find food and escape predators.

CURRICULUM UNITS:

Biology
Marine Biology
Oceanography
Taxonomy
Zoology

CAREER OPPORTUNITIES:

Biologist
Marine Biologist
Oceanographer
Zoologist

PROGRAM OVERVIEW:

Everything living on a rocky shore is nurtured and buffeted by the sea. To analyze how living things adapt to the daily ebb and flow of the tide, scientists divide the shore into levels above the water line. They then study the conditions and the animals that make a particular level or intertidal zone their home.

ISSUES & CRITICAL THINKING:

1. After showing the program, ask students the following questions.
2. What is a rocky shore?
3. Discuss the classification of animals and plants and why it is useful.
4. Discuss the competition and cooperation between animals. Do humans compete or cooperate? How are we different? How are we the same?
5. Discuss the defenses used by animals such as sea-camouflage, poison, tough skin.
6. Talk about plankton. How is it possible for sea creatures to feed on their young of other sea creatures without wiping them out?
7. Have students find out what creatures belong to these groups; arthropods, annelids and mollusks.

GLOSSARY:

Annelida – a phylum of ringed worms.

Arthropod – animals having pairs of jointed appendages and an exoskeleton.

Echinoderm – animals with a spiny skin that are radially symmetrical.

Invertebrate – any animal without a backbone or spinal column.

Mantle – the soft outer wall lining the shell of mollusks and barnacles.

Mollusk – soft-bodied animals, most with a shell, a mantle and a muscular foot.

Predator – an organism that lives by preying on other organisms.

Phylum – plural, phyla; a large division of an animal kingdom.

Scavenger – any organism that feeds on dead or decaying matter.

Tides – the daily rise and fall of the water in the oceans and other bodies of water.