



KQED Public Media Resource Guide for K-3 Classrooms

Ocean Life at the Aquarium

SCIENCE SUBJECTS

Life
Science

Earth
Science

Physical
Science

CA SCIENCE STANDARDS

Kindergarten

2a) Students know how to observe and describe similarities and differences in the appearance and behavior of plants and animals

Grade 1

a) Students know different plants and animals inhabit different kinds of environments and have external features that help them thrive in different kinds of places. c) Students know animals eat plants or other animals for food and may use plants or even other animals for shelter and nesting.

Grade 2

d) Students know there is variation among individuals of one kind within a population.

Grade 3

3a) Students know plants and animals have structures that serve different functions in growth, survival, and reproduction. b) Students know examples of diverse life forms in different environments, such as oceans, deserts, tundra, forests, grasslands, and wetlands.

Plant life

HOW TO USE THIS RESOURCE GUIDE

Use the links to PBS science media segments before or after your visit to the California Academy of Sciences in San Francisco. Click on the link to view short media clips, topic information, discussion questions and lessons to enhance your museum visit.

MEDIA HIGHLIGHTS – OCEAN LIFE at the AQUARIUM

Sea Creatures Teachers' Domain

<http://www.teachersdomain.org/resource/vtl07.la.ws.process.seacreat/>

This video segment from *Nature* features various sea creatures.

Amazing Jellies KQED QUEST

<http://www.kqed.org/quest/television/amazing-jellies--siphonophores2>

Jellyfish are otherworldly creatures that glow in the dark, without brains or bones, some more than 100 feet long. And they live just off California's coast. Join two top marine biologists who have devoted their careers to unlocking the mysteries of jellyfish and alien-like siphonophores.

The Fierce Humboldt Squid KQED QUEST

<http://www.kqed.org/quest/television/the-fierce-humboldt-squid>

A mysterious sea creature up to 7 feet long, with 10 arms, a sharp beak and a ravenous appetite, has invaded ocean waters off Northern California. Packs of fierce Humboldt Squid attack nearly everything they see, from fish to scuba divers. Marine biologists are working to discover why they have headed north from their traditional homes off South America.

Cool Critters: Sharks of the Bay KQED QUEST

<http://www.kqed.org/quest/television/cool-critters-sharks-of-the-bay>

Do sharks live in San Francisco Bay? QUEST heads out on a shark-tagging expedition to unlock the secrets of some of the bay's biggest and least known predators.

Long Live the Sharks and Rays: A Close Look at Rays PBS Teachers

<http://www.pbs.org/teachers/connect/resources/7459/preview/>

Study how the physical features and behaviors of electric, string and manta rays help in their survival. See how the rays' adaptations differ from sharks' adaptations.

A Night in the Coral Reef Teachers' Domain

<http://www.teachersdomain.org/resource/hew06.sci.life.reg.nightreef/>

Coral reefs are often portrayed as brightly lit, bustling underwater marvels full of colorful creatures. This video segment, adapted from *NOVA*, paints a different picture as it explores the nocturnal behavior of organisms in the reef.

Energy Flow in the Coral Reef

<http://www.teachersdomain.org/resource/hew06.sci.life.reg.foodweb/>

This video segment, adapted from *NOVA*, describes the energy flow in a coral reef, including its food web.



MEDIA VIEWING TIPS

Before showing a media segment to students:

Provide a brief summary of what they will be viewing.

Ask a focus question. Give students something to look for or notice.

Introduce new vocabulary words.

During the media segment:

Pause the video. Check for understanding. Have students predict what will happen next.

Ask another question.

After the segment is over:

Allow students to share their responses.

Show it again. Repeat viewings are helpful to retain new ideas.

Consider turning off the sound so the focus is on the visual.

Show it again with just sound. Cover the screen.

Connect the visual experience with a concrete hands-on activity.

Explain the connection.

Kelp Forest PBS Teachers - Dragonfly TV

<http://www.pbs.org/teachers/connect/resources/458/preview/>

Learn about kelp forests and observe animals that live in these forests. Watch two kids use the scientific method to find out if larger animals live at the top of the kelp forest or at the bottom.

Secrets of the Kelp Forest Jean Michel Cousteau's Ocean Adventures

<http://www.pbs.org/teachers/connect/resources/6536/preview/>

Sea otters, urchins and kelp, oh my! Explore the delicate balance of life in an emerald forest.

Cool Critters: Dwarf Cuttlefish KQED QUEST

<http://www.kqed.org/quest/television/cool-critters-dwarf-cuttlefish>

What's the coolest critter in the ocean under 4 inches long? The Dwarf Cuttlefish! These little guys can change their color and texture, and feeding time is a show like no other. Get an up-close look at these tiny underwater aliens as QUEST visits them at the California Academy of Sciences.

Raising Seahorses in Captivity KQED QUEST

<http://www.kqed.org/quest/television/web-extra-raising-seahorses-in-captivity>

Seahorse aquarist Jonelle Verdugo of the Monterey Bay Aquarium talks with Quest about the biology of seahorses on some of the challenges of raising them in captivity.

Seahorses Teachers' Domain

<http://www.teachersdomain.org/resource/lsp07.sci.life.oate.seahorses/>

This video from Thinkport introduces the seahorse, an unusual, endangered fish that has puzzled scientists who are attempting to save it.

Seahorse Sleuths KQED QUEST

<http://www.kqed.org/quest/television/seahorse-sleuths>

Seahorses are some of the most enchanting and mysterious creatures in the ocean. Meet the Seahorse Sleuths – local scientists who are working to unlock the secrets of these elusive creatures so that they can save them from extinction.

Sights and Sounds of the Natural Bridges SB Tide pools KQED QUEST

<http://www.kqed.org/quest/television/web-extra-sights-and-sounds-of-natural-bridges-sb-tidepools>

The intertidal rocks at Natural Bridges State Beach are covered in life: sea stars, seaweeds, urchins, and crabs are just some of the area's intertidal inhabitants. Visit them in their tide pool homes down in Santa Cruz, California.

Nudibranchs Jean Michel Cousteau's Ocean Adventures

<http://www.pbs.org/teachers/connect/resources/7051/preview/>

Nudibranchs may be tiny but they can pack a powerful punch. Learn more about these extraordinary creatures.

The Two Stomached Wonder Ocean Adventures – Jean Michel Cousteau

<http://www.pbs.org/teachers/connect/resources/6539/preview/>

Watch a close-up video of a sea star eating to see how it "everts" its second stomach outside its body in order to consume a meal larger than its mouth.