



Octopus Garden

Teacher Resource Guide

Grades K-1



Welcome to SEA LIFE® Aquarium at LEGOLAND® California Resort!

Arrival and Entry

Please arrive 30 minutes before your program. Teachers and chaperones must be present during the staff-facilitated 45-minute program.

Safety

To have the best adventure possible, please abide by all safety precautions posted and given by our staff.

Additional Information

For information on SEA LIFE® Aquarium and our education programs, visit www.visitsealife.com

Directions

From Interstate 5

Buses: Exit Palomar Airport Road East.

Turn LEFT onto The Crossings Drive, and LEFT into the LEGOLAND® parking lot.

Cars: Exit Cannon Road East and turn RIGHT on LEGOLAND Drive.



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Educational Objectives

- Observe the similarities and differences in the appearance and behavior of different species of Cephalopods
- Study how the external features of Cephalopods have enabled them to thrive in their environment
- Discover how Cephalopods have adaptations that allow them to capture their prey
- Explore the body parts of Cephalopods.
- Learn how enrichment shows us how smart octopuses really are

Fun Fact

The largest octopus in the world hatches from an egg the size of a rice grain. On day one, their eight little arms already have about 14 tiny suckers each!



Background Information

Enter the amazing world of cephalopods! A marvel of brain power, incredible hunting abilities and unbelievable defense mechanisms make cephalopods masters of the ocean environment.

What is a cephalopod?

Cephalopods, meaning “head foot”, are mollusks and closely related to snails, slugs and clams. They have well developed senses and complex brains, in fact cephalopods are considered to be the most intelligent invertebrate on earth. These animals are also known for their ability to change color faster than a chameleon and can even change their texture and body shape. If for some reason those camouflage techniques do not work, they can disappear in a cloud of ink. Cephalopods are amazing creatures; some have three hearts that pump blue blood, use jet propulsion, and are found in all oceans of the world.

How smart are cephalopods?

Some cephalopods are capable of solving complex problems and believed to have long-term memory.

What is the smallest and largest cephalopod?

The largest cephalopod, *Mesonychoteuthis hamiltoni*, or the Colossal Squid, is longer than a city bus (up to 50 feet!), while the smallest cephalopod, *Idiosepius notoides*, the Pygmy Squid, could fit on your fingernail (16 mm).



What cephalopods live in California waters?

The California Two-spot Octopus (*Octopus bimaculatus*) is an octopus species that lives off the coast of California and can be found in the waters of San Diego County. You can identify the species by the circular blue eyespots on each side of its head.

Hands-On Activities

Just what is a cephalopod?

How do we challenge their brains at the aquarium?

Dive into “Octopus Garden” to answer all your questions!

- Use a painted parachute and gross motor skills to examine the ins and outs of the octopus.
- Distinguish between the different types of Cephalopods
- Learn how an animal’s diet indicates teeth shape
- Discover the enrichment toys of the octopus and create one of your own!
- Explore defense mechanisms that allow them to escape from predators



Octopus Scavenger Hunt

Can you find the answers to the questions below?

FACT

The Giant Pacific Octopus has over 2,000 suction cups on its arms.

1. Octopuses can change the color and texture of their body to camouflage with their surroundings. Watch the Giant Pacific Octopus. What color is it? Does it change color when you watch?

2. Octopuses have suction cups along all arms, and the mouth is at the base of its arms. How many arms do you count on the octopus?

Circle your answer.

1

10

8

5

20



3. An octopus can escape from predators using jet propulsion. Watch an octopus. Circle the picture below that matches the behavior of your octopus (or draw your own octopus!)



4. Cephalopods are nocturnal, which means they sleep during the day. A sleeping octopus will anchor itself on something in the environment.

Observe the Giant Pacific Octopus. Is your octopus asleep?

5. An octopus will use its arm to grab prey and bring it to its mouth. The mouth is located in the center of the arms, and it contains a beak that shreds the food. What other animals have beaks like the octopus?



Links to Science Standards

Next Generation Science Standards

KINDERGARTEN

Life Sciences

K-LS1-1 Use observations to describe patterns of animals (including humans) need to survive.

Earth Sciences:

K-ESS-2-2 Construct an argument supported by evidence for how animals can change the environment to meet their needs.

K-ESS3-1 Use a model to represent the relationship between the needs of different animals and the places they live.
