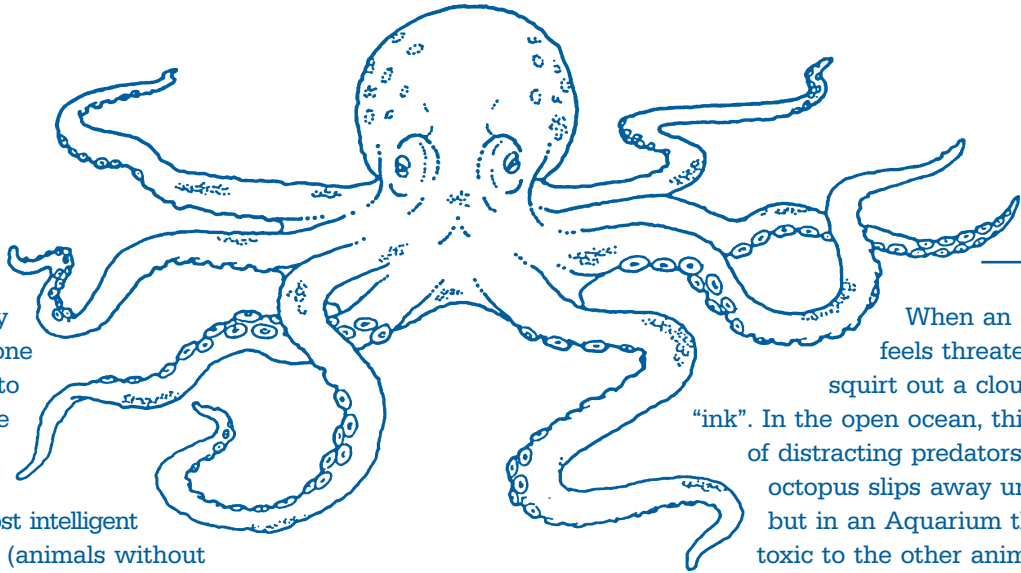


This activity can be done individually or as a class.

HELP! Can you outsmart an Octopus?

Houdini the Octopus keeps disappearing from his tank in the WestpacTrust Aquarium. Can you help us to design a tank that he can't escape from?



Aquarium staff all over the world would probably agree that octopus are one of the hardest animals to keep in a tank – they are the escape artists of the underwater world and considered to be the most intelligent of all the invertebrates (animals without backbones) that live in the sea.

To start with, they are masters at squeezing their bodies through the smallest gaps because they have only one hard part in their whole body. They have a beak, like a parrot, that they use to bite and paralyse their prey with. This means that if there is any opening in the tank (even as small as a drainpipe), the chances are that the octopus will find it!

At the WestpacTrust Aquarium, the staff are at their wits end – Houdini, a common octopus (1 metre long) keeps escaping from his covered tank, no matter what is done to make it secure. He loves to roam around the Aquarium at night looking for a tasty meal (like the crayfish in the next tank!). And twice, the staff have found him on the floor next to the touch tanks, lying in slippery silence, waiting for the first visitor of the day.

However, keeping Houdini in his tank is not the only problem – cleaning his tank can also be a challenge.

When an octopus feels threatened it will squirt out a cloud of black “ink”. In the open ocean, this is a way of distracting predators while the octopus slips away undercover, but in an Aquarium the ink is toxic to the other animals and also makes the water too murky

for viewing. When this happens, all of the animals need to be taken out of the tank and the water completely changed. The water can also become unhealthy if left-over food is not removed and starts to rot. Octopus like to eat crabs and shellfish but only the insides!

Houdini is also a great master of disguise. Sometimes the staff raise the “escaped octopus” alarm, only to find that he has been in his tank all along! His colour and texture match the rocks around him exactly. When the staff get into the tank to clean it, Houdini gets angry, turns red and hides in a cave among the rocks. Many people come to the Aquarium especially to see Houdini, but during the day he is often hiding or asleep because octopus are nocturnal animals. Even though Houdini is hard work we think we are very lucky to have an octopus with “personality” and we love having him at the Aquarium!

Please help us to create a better octopus home:

- 1. Research:** Read the story about Houdini (and any other books you can find) to find out what octopus need to survive and how they behave. Answer the questions on the next page. If you need more information, please contact the WestpacTrust Aquarium for a fact sheet.
- 2. Design:** Sketch a plan of your octopus tank on a sheet of paper. Label the different parts and describe their function. Use your design to create a 3D model.
- 3. Report:** Present your ideas/designs/models to the class and explain your choices.
- 4. Test:** Although you probably won't be able to test your design on a real octopus, fax your plan to the staff at the WestpacTrust Aquarium for comments. Fax 479 5844.

Design a Home for an Octopus



Natural Habitat

Describe the area of the sea where octopus live _____

How will you decorate your tank to make your octopus feel at home? _____

What other animals and plants will you put in your tank? _____

Food

What do octopus like to eat? _____

Where will you find this food? _____

How often should the octopus be fed? _____

How will you remove the left-over food? _____

Breathing

What structures do octopus have for breathing? _____

Where will you collect the water for the tank from? _____

How will you keep the water clean and full of oxygen? _____

Movement

How will you catch an octopus to put in your tank? _____

How will you prevent the octopus from climbing out of the tank? _____

How should the tank be made so that you can watch the octopus when it is sleeping (daytime) and feeding (night-time)?

My octopus tank will also need:

Curriculum Links:

Technology

Technological Capability
Level 3.6 and level 4.6

Science

Making Sense of the Living World
Level 4.4 and level 5.2

English

Written language: Reading
Levels 3 and 4, Processing Information