SEA LIFE for schools

Age 6-11 years

Behavior

Self-guided learning

This guide provides you with information linked to key displays throughout can be used to explore the key behavior of different animals during your visit. By drawing out the points included in this guide you will be able to introduce or recap on the key learning outcomes and provide students with a fantastic real-life context for learning.

Other topics in this series:

- Food Chains & Ecosystems
- Habitats & Adaptations
- Conservation

Contents

Learning objectives

By completing this tour, students will:

- Become familiar with a range of different marine animals.
- Learn about the key life processes for living things.
- Understand that different animals behave in different ways depending on their environment and requirements.
- Be able to identify certain animals' behavior and explain it.

Introduction

Use the questions on this page to introduce this topic to students before starting your tour.

Questions:

What do you think all animals need to do in order to survive?
Among other things, all animals, including humans, must be able to move, feed themselves, grow and reproduce. All animals do these things very differently. We call this their behavior.

For example, who can tell me how a jellyfish catches its food?
Yes, that's right, it stings it using its long tentacles.

How about the Great White Shark – how do you think it catches its food and what does it eat?
Great White Sharks eat lots of different animals including seals, fish and even sea birds. They use their strong bodies and powerful jaws to catch and kill their prey. Their mouths contain up to 300 teeth! The Great White Shark is one of only a few sharks known to regularly lift its head above the sea surface to gaze at other objects including its prey.

So now that we understand a bit more about what behavior is, we can start our trip around SEA LIFE and think about how the different animals act and why.

Remember to hand out exploration sheets to each student – these will be needed for activities on the tour.

Teacher's map

ROCKPOOL

Visit Area: TOUCHPOOL

Rockpools are very difficult places for creatures to survive - with huge waves, strong currents, changing water temperatures, harsh sunlight and lots of predators! Creatures commonly found in this habitat include sea stars, anemone, crabs, sea toads and grey mullet.

Questions:

Looking at the rockpool, which creature is most common?
The most common creature is actually one we can't see without a microscope – plankton. Plankton is made up of the smallest animals (and plants) in the sea and floats around wherever the current takes it!

Why is something as tiny as plankton so important?
Lots of animals like mussels and anemone eat plankton and rely on it to survive.

Sea stars prefer to eat mussels and have an amazing way of doing it - does anyone know what it is?
The sea star uses the suckers under its arms to pull open the mussel's shell. Then it pushes its stomach inside and covers the mussel until it dissolves. If the mussel is diseased or poisonous the sea star can detach its stomach and grow a new one!

Sea stars also use the suckers on their arms to help move around, but they are very slow. Which animals in the rockpool move faster?
A crab is much quicker. It has ten legs and, unlike other animals, its leg joints are at different angles. This is why they prefer to move sideways, rather than backwards and forwards.

The Hermit Crab has a soft body rather than a tough shell. How do you think it protects such a soft body from predators?
Hermit Crabs find shells from other creatures like sea snails and climb inside. When it outgrows the shell, it changes to a bigger one.

FACT
Not all sea stars have 5 arms – the Sun Star species has up to 40!

Activity: Who's at home in the rockpool?

Ask students to identify the creatures they can see in the rockpool and then color them in on their exploration sheet. Students can then touch creatures under the guidance of a SEA LIFE expert.

PROTECT

You can help!

We should always take our litter home after we've visited the beach. We should also be respectful of any animals we might find in a rockpool and make sure that they are never disturbed.

OCTOPUS

Visit Area: SHARK SHIPWRECK

The Giant Pacific Octopus is a master of survival and can live in lots of different environments. It particularly likes coral reefs where there are plenty of places to hide.

Questions:

All octopuses have eight tentacles – what do you think they use them for?
The suckers underneath each tentacle help the octopus to move around by sticking to rocks. They also catch food like crabs, fish and mussels.

How clever is the octopus?
It's the world's most intelligent invertebrate. Divers have discovered that it stores food near to its home ready for an easy meal. It can even use shells from animals it has eaten to build defensive walls for protection from predators.

In order to reproduce, an octopus lays eggs. How many eggs do you think it lays at one time?
A female octopus can lay over 150,000 eggs at one time and keeps them alive by blowing oxygenated water over them until they hatch. During this time she does not eat, meaning she will eventually die. Only one or two of those eggs that hatch will survive to become adult octopuses.

The octopus also has some other amazing ways of avoiding predators; do you know what these are?
It can change the color of its skin instantly to camouflage against any background, or even just to display its mood! And if an octopus is threatened by a predator it can spray ink to cloud the water, helping it to escape.

FACT
All species of octopus are venomous.

FACT
The Giant Pacific Octopus can solve simple problems and even unscrew a jar!

Activity: Octopus Anagrams

Octopuses have some great ways to avoid getting caught by predators. Ask students to solve the clues and unscramble the anagrams. The correct answers are 1. Ink 2. Color 3. Bones.

PROTECT

You can help!

Be careful when on the beach or in the sea not to disturb creatures and their habitats.

RAYS

Visit Area: STINGRAY BAY

Rays are strange, flat-looking creatures that use their wings to glide through the ocean. They live in oceans and seas all over the world, mostly on or near the seabed. Some species choose a habitat close to the shore, while others live over 3,000 yards beneath the surface in the deep ocean!

Questions:

Why do you think rays have such flat bodies?
Most rays use their flat bodies to float close to the sea floor. This means that they can suck their food (mussels, clams and oysters) off the seabed and, if they need to, they can bury themselves in the sand to hide from predators.

How do you think the color of their skin helps them to survive in their habitat?
The brown and olive coloring on their skin helps to camouflage them once they settle on the ground. This makes them invisible to predators.

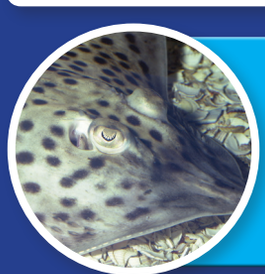
Can you think of any other simple ways rays might avoid predators?
Rays have been known to reduce their activity at times when the threat from predators is highest.

Do you think rays always use their eyes to hunt?
Scientists don't think so. Rays use special sensors called ampullae of Lorenzini, which can detect the tiny electrical charges given off by their prey.

Do you think rays are dangerous?
Most rays aren't dangerous because they don't have a venomous stinger (called a spine) on their tail, but some rays, like the Cownose Ray do, and can use it to defend themselves against predators.

FACT
The Manta Ray is the biggest of its species with 'wings' that can span almost 7 yards across!

FACT
Rays are a member of the shark family.



Activity: Which ray?

Ask students to look at the information boards around the display and try to identify the different species of rays. Discuss how they differ. There are 5 in total – Spotted, Painted, Thornback, Blonde & Undulate.

PROTECT

You can help!

We can help by supporting campaigns to set-up Marine Conservation Zones across the globe. Try to avoid eating skate as it's an endangered species of ray.

SEAHORSES

Visit Area: SEAHORSE MANGROVE

Seahorses are one of the most fascinating creatures in our ocean. There are around 33 different species that have evolved over 40 million years. Seahorses can normally be found in tropical and temperate waters that are shallow and sheltered.

Questions:

Do you know why it is called a seahorse?
The seahorse gets its name from its long snout that looks a bit like a horse's.

What do you think a seahorse uses its long snout for?
The long thin shape of a seahorse's snout is very useful for helping it to catch food. It can get food out from tiny cracks in coral and rocks or even suck up food by breathing in quickly.

What does a seahorse use its fins for?
Like most fish, it uses its fins to swim, but what is unusual is that the seahorse is one of the only fish that swims upright. This means it isn't very quick. According to Guinness World Records, seahorses are the slowest fish in the ocean!

Look at the unusual shape of its tail – how do you think this helps it to survive?
The seahorse spends most of its life clinging on to seagrass or other perches with its strong tail. This prevents it from being swept along by currents and allows it to eat the other tiny animals that are swept past it. This is vital to its survival, as it isn't a very strong swimmer.

What makes the seahorse different to nearly every other animal?
Unlike most other animals, it is the male, not the female, which gives birth. Each male has a special pouch for carrying fertilized eggs until they hatch. A seahorse is also a very loving animal – most choose one partner and stay with it for life.

FACT
A seahorse can look forward and backwards at the same time!

FACT
The bony spine on a seahorse makes it unappetizing to predators.

Activity: Strange seahorses

Ask students to solve the clues on their exploration sheet and work out how the unusual features of a seahorse's body affects its behavior. The correct answers are 1. Tail 2. Fins 3. Spine 4. Snout.

PROTECT

You can help!

Never buy dried seahorses as souvenirs or medicines and other products made from seahorses.

JELLYFISH

Visit Area: JELLYFISH DISCOVERY

Jellyfish are not actually fish - they have no blood, no heart and no brain. In fact, a jellyfish's body is 95% water. Species can be found in every ocean with some living in deep water and others preferring very shallow water.

Questions:

Even without a brain or eyes, jellyfish are still able to sense things in their surroundings. What do you think they can sense?
Through a network of nerves, it is thought that jellyfish can sense odors, light and other animals around them.

What do you think jellyfish eat?
Jellyfish can eat small fish and crustaceans, but mostly they eat plankton - tiny plants and animals which drift through the water. They use their long, venomous tentacles to catch and kill their prey.

If the conditions are right, jellyfish can reproduce very quickly, leading to huge groups in one area. Why might this be a problem?
Too many jellyfish all feeding at once may mean there is less plankton available for the other creatures that rely on it.

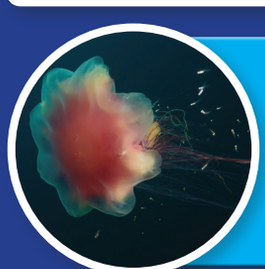
Jellyfish also eat fish eggs, so if more are being eaten there is a greater risk that fewer fish will hatch.

Do you think jellyfish pose a danger to humans?
Most jellyfish have very mild stings which are harmless. But some, like the Box Jellyfish from the waters around Australia, have a sting so strong that it can be fatal to humans that come into contact with it!

FACT
There are about 200 species of jellyfish.

FACT
Jellyfish have existed for 650 million years!

FACT
A jellyfish uses its oral arms to sweep food into its mouth.



Activity: Fascinating facts

As you look around the display, ask students to try and find out some other fascinating facts about jellyfish. Discuss these as a group.

PROTECT

You can help!

We can help by supporting campaigns to set-up Marine Conservation Zones across the globe.

SHARKS

Visit Area: OCEAN TUNNEL

There are over 350 species of shark in the world, living in all kinds of different habitats from warm tropical waters to icy polar seas. Some live in the deep, dark waters of the ocean, while others prefer sunlit waters close to the surface.

Questions:

Sharks have a very special skeleton – what do you think it is made of?
Unlike human skeletons, shark skeletons are made out of cartilage. This is much lighter and bendier than bone so it helps sharks float and means they are very flexible, which is useful when swimming.

Do you think all sharks eat big animals like seals?
No, they don't. Some sharks, like the Whale Shark or Basking Shark are filter feeders. This means that they swallow lots of water and filter small creatures like shrimp or plankton out of it before the water passes out of their gills. Strangely, sharks that eat really small animals can be much bigger than those that eat really big animals!

What do you think a mermaid's purse is?
A mermaid's purse is another name for sharks' eggs. When a shark lays eggs, they attach them to rocks or reeds using strange arms called tendrils. They remain there until they are born. Has anybody seen any mermaid's purses on our visit today?

Do you think all sharks lay eggs?
No, some sharks such as the Tiger Shark keep their eggs in their womb. Once they hatch, the babies stay in the womb until they are large enough to swim. Sometimes the biggest baby will eat the smaller babies in the mother's womb. Tiger Sharks are predators before they are even born! Other sharks, like the Hammerhead, give birth to live babies.

FACT
Baby sharks are called pups.

Activity: What's for dinner?

Ask students to identify a species of shark in the display and draw a picture of it on their exploration sheet. They should then make a note of the species name and what it likes to eat.

PROTECT

You can help!

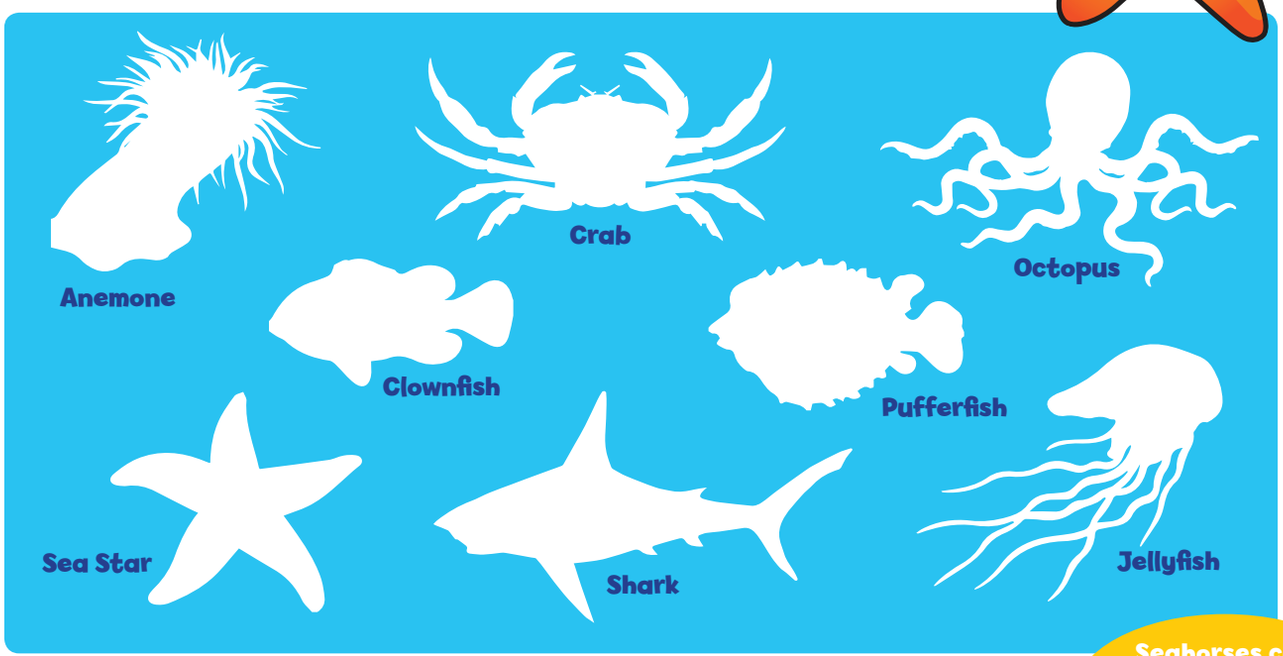
We can help sharks by supporting campaigns to set-up Marine Conservation Zones across the globe. We should also never buy products made from sharks or eat shark fin soup.

Name:

Find out about behavior

Who's at home in the rockpool?

Find out which of these creatures live in the rockpool and color in their shape when you spot it.
Be careful – some of these definitely don't live in rockpools!



What's for dinner?

Find a species of shark on your visit and draw a picture of it in the space below. Make a note of the species name and what it likes to eat.

Name of species.....

What it eats.....

Strange seahorses

Can you fill in the missing words describing the unusual parts of a seahorse's body?

Their strong _ _ _ _ _ helps them cling onto seagrass.

Their very small _ _ _ _ _ help them to swim upright.

Predators don't like to eat their bony _ _ _ _ _

A long, thin _ _ _ _ _ _ helps them to reach food inside coral and rocks.

Find out about behavior

Which ray?

Write down the names of the ray species you found in Stingray Bay.

Octopus anagrams

Unscramble these words about octopuses.

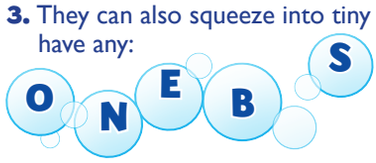
1. Octopuses defend themselves by spraying:

_ _ _

2. To camouflage themselves they can change:

_ _ _ _ _

3. They can also squeeze into tiny spaces as they don't have any:



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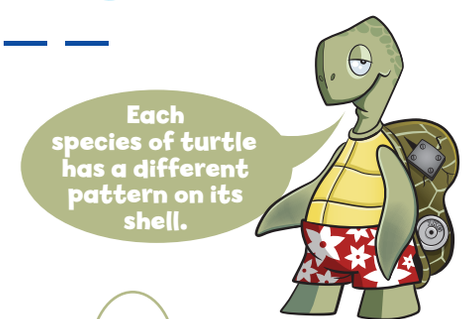
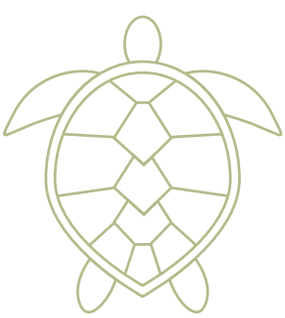
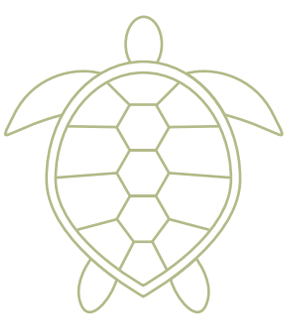
Spot the shell

Look at the patterns on the shells below and draw your favorite pattern in the empty shell.

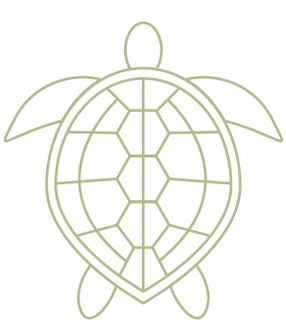




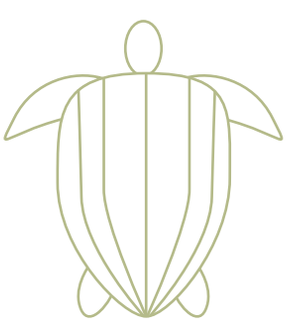
Hawksbill Turtle



Green Sea Turtle



Loggerhead Turtle



Leatherback Turtle