

## Classroom Discussion Questions

Before arriving for your visit, you may wish to take the opportunity to investigate some of the animals, environments, equipment and concepts they will encounter at Ripley's Aquarium of Canada. This will get students excited about their upcoming visit, but also start them thinking about the roles these animals play in their natural habitat, the role of the aquarium and the role we all play as stewards of our environment. The questions below are organized by grade level, but many can be adapted or attempted by students outside of the suggested range.

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### Primary Grades

What's the difference between water in a lake and water in the ocean?

Kelp is an "algae". What sort of things do people use algae for every day?

Some of the most amazing fish in the world live on coral reefs. Why do they have such bright colours?

Sea turtles spend all day in the water. Do they ever come out on land?

Horseshoe crabs look a lot like stingrays but are very different animals. Why do they have long tails?

Jellyfish are mostly made of water and have no brains but can still get food. How can jellyfish eat?

There is over 5.7 million litres of water in the aquarium tanks. How much water do you use every day? In a week? In a year?

Are all sharks big? How small are the smallest sharks in the world and what do they eat?

Rays have a slimy, squishy feeling when touched. What is that slime for?

Plastic that ends up in oceans and lakes can mean trouble for all kinds of animals, especially if they mistake it for food. What can we do to help protect animals from plastics?

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## Junior Grades

How much of the world's water can be found in oceans and seas? Lakes and rivers? Where else on earth is there water?

Why are underwater forests of kelp so important to the animals living along the west coast?

Investigate the lifecycle of coral. How do reefs form and how long does it take?

Why do fish school together in large numbers? How does this affect them getting food and avoiding becoming food themselves?

What we think of as jellyfish is only one part of a complex lifecycle. Explore the different life stages of jellyfish to learn more about how they change appearance.

Ripley's Aquarium of Canada has over 16,000 animals from all over the world. What ways would the tanks need to be different to meet the needs of these animals?

Stingrays use barbs to defend themselves. How do the barbs work? How dangerous is their venom?

Sharks are top predators but their numbers are falling. What happens to other species without sharks around? How healthy will the ocean be?

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## Intermediate/Senior Grades

What anatomical differences are required for animals to live in fresh vs. salt water? How do species like alewives or salmon move from one type of water to another?

Pacific giant kelp appears similar to true plants but lacks many of the structures that characterize plants. Investigate the differences between roots and holdfasts, blades and leaves, stipes and stems, etc.

Roughly 25% of all marine animals spend at least part of their life cycle on the coral reef. What kinds of species make transitional use of the reef? Where do they come from and where do they go?

Sharks have been around for hundreds of millions of years but their numbers are crashing due to human activities such as finning. What makes many shark species so vulnerable to fishing activities?

Horseshoe crabs lay thousands of eggs which they do not care for. Other animals like many mammals and sharks have only a few offspring at a time which are cared for by the parent(s). What are the advantages and disadvantages of each system?

Jellyfish numbers in the ocean seem to be increasing across the globe. What problems might these increases cause to human activity and the natural environment? What are the causes of this increase?

Ripley's Aquarium of Canada features 5.7 million litres of water in its display tanks and filtration requires over 127 million litres to be pumped every day. Where does this water come from? How is it recycled? What must be done before the water can re-enter a tank?

Stingrays and sharks are cartilaginous fish, meaning they have cartilage instead of bone. What advantages and disadvantages does this provide in terms of strength and mobility?

Algae and coral polyps form a symbiotic relationship, with algae generating food from sunlight. Coral bleaching occurs when algae dies off leaving coral bone white and unable to survive. What are the causes of coral bleaching?