SHARKS
There are many different species of sharks found on the Great Barrier Reef. They come in all shapes and sizes and range from small bottom-feeding sharks, like cat sharks and wobbegongs, to the larger more active species such as tiger sharks and hammerheads.

Shark teeth
Most sharks are predators. Their powerful jaws are filled with rows and rows of razor-sharp teeth. The first two rows are used for feeding. The others are new teeth that will replace the old ones when they become worn or drop out. Each type of shark has teeth shaped according to its diet. Sharks with spiky teeth seize their food (usually fish), sharks with saw-edged teeth can cut through the toughest of things, even turtle shells. Some sharks have crushing plates rather than teeth in their mouths and feed on crabs and molluscs.

Reproduction
Sharks reproduce either by laying eggs in tough, little cases, or by giving birth to fully formed young. When eggs are laid the cases are left to develop among weeds or coral and the young hatch after several months. Some sharks such as nurse sharks and whale sharks produce eggs in cases but these are retained within the body of the mother until the young hatch. Other sharks, like reef sharks, give birth to litters of shark pups after a pregnancy of about ten months. Each shark pup must fend for itself and hunt for its own food as soon as it is born.

Sharks and humans
Sharks are far more threatened by humans than humans are by sharks. Attacks by sharks on swimmers and divers on the Great Barrier Reef are rare. Very few species of shark attack people.

Around the world, sharks are killed for profit. Their flesh is eaten, their tough skins used for leather goods, their livers for oils, and tourists buy their teeth and jaws as souvenirs. Many sharks are also killed accidentally. They are caught in nets or get tangled in ropes, plastic straps and other rubbish that is thrown into the sea.

Interesting Fact
Whale sharks can grow up to 12 metres and are the largest living fish in the world. They can be found in the outer Great Barrier Reef and are annually present at the Ningaloo Reef, WA, where there is a whale shark swimming industry.
**Interesting Facts about Sharks**

- Most fish have skeletons of bone, but sharks have skeletons made of cartilage. Cartilage is softer and more flexible than bone.
- Sharks breathe through five to seven gill openings, along each side of their head.
- Sharks have tiny teeth-like scales called ‘denticles’ embedded in their tough leathery skin. Sharkskin feels like rough sandpaper.
- Sharks’ bodies are slender and streamlined, enabling them to swim and turn quickly. Their paired pectoral and pelvic fins help them steer and are used as brakes.
- Unlike fish, sharks have a backbone that extends to the tip of the tail. This helps the shark to be a very powerful swimmer.
- Many sharks are shaded in colours ideal for camouflage. Their dark-coloured top half makes them hard to see when viewed from above, and their pale or white underside blends in with the lighter colour of the water and sky when seen from below.
- Sharks are always alert to changes in the sea around them. Any disturbance attracts their attention and they will cruise in slowly to take a closer look.
- Sharks have a keen sense of smell and sensitive areas on their skin that can pick up vibrations made by other creatures in the sea. They can smell fish oil and blood more than 1.6km away.

Shark food varies - some sharks feed mainly on small fish and squid while others feed on sea urchins, crustaceans and cephalopods.

A white pointer washed up on the Main Beach at Byron Bay. It appeared very sick and then died in front of a curious and international crowd.
**RAYS**

Rays are closely related to sharks. Like sharks, they too have skeletons made of cartilage, smooth or raspy skin instead of scales, and exposed gill openings on their belly.

Rays are typically shaped like large flattened discs and have a long tail. The size and position of their fins varies greatly in different species. Most rays swim by waving the edges of their pectoral fins. This creates an S-shaped wave which moves vertically from head to tail.

Most rays stay on or near the seabed and are well adapted to bottom-living conditions. They have a spiracle located behind each eye to move water over their gills. Rays glide along the sea bottom looking for, and sometimes digging for, molluscs and crustaceans in the sand. Rays use electro-receptors to locate their prey and they have moveable eyes and very good eyesight. Their mouth lies on their underside of their body. Their teeth are very small and are blunt or prickly for grinding up small fish, shellfish, worms, and other bottom-dwellers.

Buried on the sea floor, rays can often be difficult to see. Always shuffle your feet when walking in a lagoon to avoid stepping on a ray. Many species have a poisonous barb in their tail which they use to defend themselves, and can inflict an extremely painful wound. Always seek medical advice if wounded by a ray.