



SHARKS AND SUSTAINABILITY Activities Booklet

Appendix 2

Funky shark questions and facts

Why are some baby sharks so aggressive and big when they are born?

Some sharks like the Grey Nurse Sharks whose single baby is born fat and half the size of its mother is big and healthy because it has eaten all its younger brothers and sisters whilst still unborn in the uterus

How close can sharks live or come to the shore?

Many sharks like Banded wobbegong with long sharp teeth and are over 2 metres long like the Saddled occasionally live in caves and overhangs no more than 1 metre below the water and less than a metre from the rocks or ledges you may be sitting on enjoying a view of the sea.

Can sharks lay eggs?

Strange looking spiral shaped objects washed up on the beach are the egg cases of Port Jackson sharks. When still in the sea they contain a baby shark attached by a stalk to a huge yolk sac like the yolk inside a chicken egg. When the embryo shark uses up all the yolk it is ready to hatch at about 8 months after it was laid.

Do sharks only live in salt water?

Bull sharks which are potentially dangerous to human can travel over 100 km up rivers to fresh water. They often give birth to live young in these fresh water environments, it is believed to protect them from being eaten by other sharks restricted to living in salt water environments. They are called bull sharks because of their unusually big body.

Do large sharks eat other large sharks?

The Megamouth shark is a huge 5-6 metre long deep ocean giant with a huge 1 metre wide mouth designed to filter plankton and small fish from the water of the black depths. To attract prey in regions totally devoid of light the inside of its mouth is lit up by its own bacteria generated bioluminescence to attract unwary prey into its cave of no return.

Are only the large sharks dangerous?

Cookie Cutter sharks are a kind of deep ocean dog fish with the biggest and most frightening set of teeth for a shark of its 30cm size Cookie Cutters huge tail gives it a short acceleration of over 50 km/hr, enabling the little shark to catch the sides of its prey with thick suction lips. It then uses throat muscles to suck up a lump of skin and flesh which it holds onto with sharp hook like upper teeth whilst sinking its massive White Pointer like bottom teeth into the flesh. It does not attack humans.

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Can sharks weigh as much as elephants?

A Basking shark, some of which travel around the Southern coast of Australia may weigh up to 5 Ton and have a liver that alone may weigh over 1 Ton (25% of its body weight). Such a liver may yield over 500 litres of valuable squalene or shark oil rich in vitamin A and unfortunately one of the best oils to use as machine lubricant. Human livers are 3-4% of their body weight.

How big is the biggest shark ever captured?

The largest Great white shark actually captured weighed 3130 kg (7302lbs) and was 21 feet 6.5M. Such a shark would be as long as a truck and as wide as a station wagon. Great White teeth over 5 "long have been found belonging to sharks less than 11,000 years old. This means that our not too distant ancestors may have witnessed White Pointers over 12 metres long

Are sharks killed throughout the world just to eat?

It is a fact that sharks are exploited for these reasons:

- (a) For a cheap fish meat called Flake.
- (b) As a preparation for a meal called Buundhaar consisting of shark liver, shark meat boiled, minced and mixed together.
- (c) Shark fins up to \$100/kg for shark fin soup and as an aphrodisiac in Asia
- (d) Shark liver which is a rich source of vitamin A and squalene oil used in cosmetics and as high grade machine oil.
- (e) Shark cartilage extract as a proven treatment to reduce cancerous tumours
- (f) Chondroitin used as an artificial skin for burn victims.
- (g) Shark bile for the treatment of acne
- (h) Shark corneas for human transplants
- (i) Shark skin for leather and shagreen a fine sand paper used by cabinet makers (Wobbegong skin is sort after for its elaborate design features)
- (j) Teeth and jaws for jewelry and trophies
- (k) Aquarium exhibits and school dissection resources
- (l) Sport fishing

Does Australia have more sharks than other countries?

Australia with approx 300 known species has one the richest diversities of sharks and rays in the world. Compared to Australia, South Africa has 152 species, 174 species from Japan, 130 species from the Eastern North Atlantic and Mediterranean 83 species from New Zealand.

Where do most sharks live?

Some interesting statistics

- Australia with approx 300 known species has one the richest diversities of sharks and rays in the world. Compared to Australia, South Africa has 182 species, 174 species from Japan, 130 species from the Eastern North Atlantic and Mediterranean 83 species from New Zealand.
- Almost half of all Australian sharks are bottom dwellers restricted to a lightless zone between 200 and 2000 metres in depth on the continental slope
- 20% of the rest are bottom dwellers on the continental shelf less than 200 metres in depth
- 15% of Australian sharks are pelagic in the neritic waters of the continental shelf (between the shore and the edge of the continental shelf)
- 8% of Australian sharks are oceanic (outside the continental shelf)
- About 50% of all Australian sharks are found only in Australian waters and of these 89% live as bottom dwellers on the continental slope or shelf

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- Most shark species live between 20-30 years and take 6-7 years to reach sexual maturity.
- Gummy sharks and Whalers reach maturity at 2-3 years and live for 10-15 years
- The White Spotted Spurdog reaches sexual maturity at 20 years and lives for at least 70 years.

Does Australia have the same sharks as other countries?

About 50% of all Australian sharks are found only in Australia and no where else in the world.

How old can sharks grow?

Most shark species live between 20-30 years and take 6-7 years to reach sexual maturity. Gummy sharks and Whalers reach maturity at 2-3 years and live for 10-15 years .White Spotted Dogfish reach sexual maturity at 20 years and lives for at least 70 years.

How fast can sharks grow?

Large oceanic sharks like the Blue Whaler, the Short Fin Mako and the White shark have the fastest growth rates of 30cm/year until maturity.

How fast can sharks swim and do they make any noise?

The sand papery skin of sharks is due to the presence of scale like denticles that look like sharks teeth. Each of these in fast swimming oceanic sharks are designed in such a way to channel water passing over them, cut down turbulence and reduce drag (streamlining).This enables them to cruise without effort at 2-5 km/hour with short sprints of over 30 km /hour. These features make the shark hydro dynamically quiet, a huge advantage when stalking prey.

How can a female shark tolerate being bitten by a male shark?

Because the male Blue shark bites the female to establish a close physical bond to allow insertion of his clasper during mating, the female skin is twice as thick as the males.

Which shark is the biggest shark in the world?

The biggest shark in the world is the Whale shark; it grows to over 12 metres and weighs up to 20 Tonne. A filter feeder it is related to the Wobbegong Shark.

Which shark is the biggest and most powerful hunter?

The biggest predatory shark is the White Pointer. It can grow to 8 metres (or as big as jaws) and weighs over 3 Tonne. It eats Seals and other marine mammals such as whale pups, dolphins and turtles.

Which sharks are the fastest?

The fastest sharks in the world are the Mako sharks which leap repeatedly out of the water. To do this it must have a starting velocity up to 35 km/hour – without fins you swim at less than 1 km/hour. The difference in speed is the same as a car doing 60 km/hour being passed by and the car doing 2100km per hour.

Which shark is the smallest?

The smallest shark is a Deep water dwarf dog shark belonging to the family Squalidae and measures a maximum size of 15cm. Our own pygmy shark reaches a maximum size of 27cm.

Which is the strangest shark?

The strange head of a Hammer Head shark acts as a hydrofoil giving it great manoeuvrability enabling it to catch agile prey like squid. Its array of electro receptors arranged horizontally on its

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snout enable it to detect like a metal detector the electric field of fish buried in the sand. The hydrofoil shape of its head enables the Hammer Head to swivel 180 degrees over the hiding spots of their prey so as to flush them out of the sand.

Which shark has the longest tail?

The tail of the Thresher Shark is over 40% the length of its body. It is used to thrash into schools of fish stunning many of them before they are devoured. Here the tail takes the place of the mouth as the chief method of catching prey.

Can sharks see at night?

The eyes of White Pointer sharks and White Tips and Lemon sharks contain reflectors. These consist of plates of reflective guanine crystals set in the retina of hunting sharks eyes, They are arranged to reflect all light coming into the eyes back onto the light receptor cells (rods and cones), enabling such sharks to see extremely well at night.

Can sharks see colour?

White Pointers have a high density set of cones (colour receptor cells) in the retina of their eyes enabling them to see in colour.

Do sharks digest food like humans do?

Although the digestive tract of a 2 metre human is about 9 metres long that of a 3 metre shark does not exceed 2.7 metres. A shark's abdomen must conserve space for its large liver, many embryos and its huge stomach.

Do sharks need to eat every day?

Some sharks like the Lemon shark, once it has eaten fully, needs 4 days to become hungry again. The presence of an unknown preservative, secreted by the stomach lining, enables sharks to eat large prey and keep the food intact for a prolonged digestive process which may take up to 5 days to complete.

Do sharks need to keep moving?

Sharks like White Pointers and Makos require a highly efficient respiratory exchange which take place better the faster water moves across the gills in a front to back direction. These oceanic sharks will die from suffocation if they stop moving or are dragged backwards in the water.

Are sharks just lying on the bottom still alive?

Bottom dwelling sharks like Wobbegongs can pump water through their gill systems by contracting the muscles that control the inlet and outlet of the gill system. Such sharks can lie immobile on the sand or in caves for days without moving.

How do sharks remain motionless in mid water?

Grey Nurse sharks can breathe through both the swimming oxygen exchange process as well as the gill pumping process. Their oily livers and the air they swallow and hold in their gut enable them to sit perfectly still whilst neutrally buoyant. This dual method of breathing makes them to be real energy savers.

Does a large shark have large internal organs to match?

A White Pointer shark at 2 tonnes will only have a 4 kg heart. This means that they do not have exceptional stamina in prolonged and sustained exertion even though they are capable of huge exertion in small bursts.

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Are some sharks tempted to eat their own babies?

Pregnant sharks lose their appetite before birth to prevent them from eating their own babies when they are born.

Do some male sharks have more than one reproductive organ?

Most male sharks have 2 mating organs or penises called claspers one from each pelvic fin. Only one is used at a time for fertilising the female. The male of the strange elephant fish and Chimeras have 5 claspers. One on the head for holding the female still and 4 claspers associated with the pelvic fin for mating with the female.

Can sharks shed their skin or moult like other creatures do?

During winter when plankton of the North seas populations drop in numbers, Basking sharks do not have enough food to keep their large bodies actively swimming, so they sink to the sea floor open their mouths, face the deep ocean currents to allow for water to flow over their gills for respiration and then hibernate. During this time they shed their gill filters (rakeus) and regenerate new ones for the coming spring. Basking sharks are therefore the only sharks that have an annual moulting of any sort.

Does the food inside a shark's stomach go rotten?

Tiger sharks' stomachs secrete strong hydrochloric acid to help stimulate digestion of protein and dissolve bones, tin cans and other objects. The stomach also secretes a tissue preservative substance that keeps food in it fresh for the 4-5 days it takes to digest its prey.

Do sharks produce milk for their young?

The yolk sac of the embryo Grey Whaler, Hammerhead sharks and Blue sharks form placenta like attachments to out grow in the mother's uterus (ovisacs) to carry extra nutrients from her blood to the baby shark via blood vessels that travel up the long yolk stalk which is like our own umbilical cord. The mother's uterus also secretes a kind of milk which is absorbed through the skin of the baby sharks.

How do sharks find their way around in the ocean?

The tiny pores like ampullae of Lorenzani in the heads of migrating sharks are very numerous. These pores can detect electric fields present in their prey. Since these travelling sharks swimming through the earth's magnetic field induces its own local electric field with a voltage that varies with its compass heading it is thought to be able to navigate with its own built in electric magnetic compass.