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Sharks are a group of cartilaginous, predatory fish that belong to the subclass Elasmobranchii. Research has shown that they originated more than 400 million years ago. The various shark species that exist today can be easily identified by some physical characteristics, mainly the presence of 5-7 gill slits and eight fins.Kingdom: AnimaliaPhylum: ChordataClass: ChondrichthyesOrder: Heterodontiformes, Carcharhiniformes, Lamniformes, Hexanchiformes, Orectolobiformes, Pristiophoriformes, Squaliformes, SquatiniformesTypes of SharksThere are around 500 species of sharks divided into 12 orders, out of which four orders are now extinct. Here are some of the different types of shark species that are commonly found:Angel SharkBahamas SawsharkBasking SharkBigeye Sixgill SharkBlacktip Reef SharkBlacktip SharkBlue SharkBluegray CarpetsharkBluntnose Sixgill SharkBonnethead SharkBroadnose Sevengill SharkBronze Whaler SharkBrownbanded Bamboo SharkBull SharkBurmese Bamboo SharkCaribbean Reef SharkCaribbean RoughsharkCookiecutter SharkCopper SharkCrested Bullhead SharkGalapagos Bullhead SharkGoblin SharkGray Reef SharkGreat White SharkGreenland SharkHammerhead SharkHorn SharkJapanese SawsharkJapanese WobbegongLeafscale Gulper SharkLemon SharkLeopard SharkMako SharkMegamouth SharkNurse SharkPacific Sleeper SharkPorbeagle SharkPort Jackson SharkPort Jackson SharkPortuguese Dogfish SharkPrickly Dogfish SharkSaillfin Rough SharkSalmon SharkSandtiger SharkScalloped Hammerhead SharkSilvertip SharkSpiny Dogfish SharkThresher SharkTiger SharkWhale SharkWhite Tip Reef SharkWobbegong SharkZebra Bullhead SharkZebra SharkSharkSize: They vary in size, ranging from the dwarf lanternshark having a length of 6.7 in (17 cm) to the whale shark measuring 40 ft (12 m) or more.Weight: Their weight varies widely between 0.5-1 oz (14-28 g) and 19-21.5 t (41,887-47,399 lb).Color: Sharks mostly have a gray, tan, white, or brown body. While some may display a creamy underbelly, others may possess light or slightly dark stripes and spots.Eyes: These are located on the sides of their head. Each eye has two eyelids that do not fully close since the surrounding seawater cleans their eyes.Gill Slits: These are the 5-7 slit-like openings found behind the head.Jaws: Like skates and rays, sharks have a pair of movable jaws that are not attached to their skull.Shark TeethFins: Sharks usually have eight fins made of soft filaments of an elastic protein called ceratotrichia.Tail: The tail fin or the caudal fin is heterocercal in sharks, meaning that the upper portion is visibly larger than the lower part.Sharks are found in all oceans and seas, excepting the waters of Antarctic Peninsula that remain close to freezing temperatures throughout the year. They are distributed off the coasts of North and South America, Africa, Europe, Asia, and Australia. The areas where most shark species are found include the Mesoamerican Reef, Gulf of California, Coral Triangle, Galapagos, and Coastal East Africa.Although most shark species inhabit the seas, a few exceptions including the river shark and bull shark can swim both in freshwater and seawater. They commonly live at depths of about 2,000 m (7,000 ft) while some can swim even deeper. Even though sharks are not typically found below 3,000 m (10,000 ft), a Portuguese dogfish was spotted at 3,700 m (12,100 ft).Shark HabitatWhile most sharks live for about 20-30 years, the spiny dogfish and whale shark have lifespans at over 100 years. Greenland sharks are known to live the longest, with an estimated lifespan of about 300-500 years.Sharks are apex predators in the oceanic ecosystem with their diet consisting of mollusks, crustaceans, and fish. Mammals like porpoises, seals, sea lions, and dolphins, and large fish species including mackerel, tuna, and small sharks make up the diet of larger shark species. Some even have specific preferences, such as the tiger shark particularly likes feeding on turtles, while hammerhead shark prefers rays, and the blue shark likes eating squids.Sharksare most active at dawn, dusk, and night and prefer hunting at night.Theseaquatic predators remain solitary most of the time, swimming and hunting alone.They meet only during mating season or when searching for food in a particularzone.Someshark species, like the hammerhead sharks, socialize and form groups or ‘schools’.Sincehunting activities expend plenty of energy, large sharks eat only a couple oftimes each week. Small shark species, however, kill and feed once or twice aday because they do not have to use a considerable amount of energy incapturing small prey.Sharkstypically migrate in search of food and can travel thousands of miles during ayear.Shark FishUnlike bony fishes, sharks have a sizeable oil-filled liver containing natural organic compound squalene, which alongside their cartilaginous skeleton helps in maintaining neutral buoyancy so that they do not float up or sink.Their jaws have one or more layers of hexagonal crystalline plates, called tesserae, made of calcium salts that give strength.The nasal openings, found under the snout, consist of two olfactory sacks that help them detect the scent from a great distance. Sharks can detect a drop of blood several hundred meters away. Some species like the great white can detect one part-per-million of blood in seawater.The cartilage in their snout is flexible and spongy that helps in absorbing impacts during hunting or when attacked by other predators.Tapetum lucidum, a tissue present in shark eyes, helps reflect light to the retina and increase their visibility in dark waters.The blood and tissues of sharks, unlike bony fish, have large concentrations of trimethylamine N-oxide and urea, which allow them to maintain osmotic balance and survive in seawater.Their tail provides thrust, helping sharks to propel forward with speed being dependent on its shape.Shark teeth are continually replaced throughout their lives, and to make the process easier and painless, their teeth are embedded in their gums instead of the jaws.Sharks that eat crustaceans and mollusks have dense, flattened teeth for crushing. Those that eat fish possess needle-like teeth suitable for gripping, while species that prey on mammals have triangular teeth with serrated edges for cutting flesh.The mating season varies across different shark species, such as the tiger shark reproduces once in three years while pelagic species like the oceanic whitetips, threshers, and silkyes reproduce throughout the year.Female sharks give out chemical signals (pheromones) to attract males. The male inserts his clasper (an extension of his pelvic fin) into the female’s oviduct to transfer sperm and fertilize the eggs inside her body.Most sharks, including the sand tiger shark, whale shark, basking shark, and dogfish are ovoviviparous (eggs develop inside the mother). Some species such as horn shark, swellshark, catshark, and Port Jackson shark are oviparous (the mother lays eggs). Other species like the hammerhead, smooth-hound, and requiem sharks are viviparous (give birth to fully-formed, live pups).The babies of oviparous sharks emerge after their eggs hatch in approximately 6-12 months while the gestation period for viviparous species ranges between 9 and 22 months.After the pups are hatched or born, they look like the miniature version of their parents and do not receive parental care.Shark SkullThe IUCN included 64 species of oceanic sharks in its endangered species list in 2009 due to excessive finning and fishing. As of January 2019, 12 US states (Maryland, Massachusetts, California, Delaware, Illinois, Oregon, Hawaii, Rhode Island, Nevada, Washington, Texas, and New York) and 3 US territories (Guam, Northern Mariana Islands, and American Samoa) have made it illegal to sell or possess shark fins. Several countries, such as the Bahamas, Cook Islands, Maldives, Micronesia, Palau, Marshall Islands, and French Polynesia, have now banned shark fishing.1. How many teeth do sharks have?The number of teeth varies between 5 and 15 rows in each jaw across species. Great whites, for example, have about 50 teeth at a time.2. What is a baby shark called?A pup3. What predators may eat sharks?Orcas or killer whales4. What is a group of sharks called?A gam, frenzy, school, herd, or shiver5. How many sharks are there in the world?Over 400 different shark species exist in the world today.6. Do sharks have backbones?Since sharks are vertebrates, they have backbones that are made of cartilage instead of bones.7. Do Sharks Sleep?They have periods of rest. Some shark species need to swim to breathe, and they perform a specific “sleep swimming” during which their brains are at rest. According to research on spiny dogfish, the swimming movement is coordinated by its spinal cord and not its brain, which explains why the shark can continually swim while sleeping.8. Can sharks see color?A study has revealed that some shark species such as the tiger sharks are color blind.The shortfin mako is the fastest shark that exists today and can reach speeds of up to 50 kph (31 mph). Sharks, in general, swim at 8 kph (5 mph) but can achieve speeds of 19 kph (12 mph).Sharks have thousands of electroreceptor organs, called ampullae of Lorenzini, used for detecting electromagnetic fields produced by all living things, thereby helping them to locate prey.The Megalodon, an extinct species, is the biggest shark that ever lived measuring 45-60 feet in length and weighing 50-77 tons.Sharks are the only fish that cannot swim backward because their pectoral fins cannot curve upwards. Science Birds, Reptiles & Other Vertebrates Fish How are sharks different from other fish? What are some common types of sharks? Where can sharks be found in the world’s oceans? shark, any of numerous species of cartilaginous fishes of predatory habit that constitute the order Selachii (class Chondrichthyes).Sharks, together with rays and skates, make up the subclass Elasmobranchii of the Chondrichthyes. Sharks differ from other elasmobranchs, however, and resemble ordinary fishes, in the fusiform shape of their body and in the location of their gill clefts on each side of the head. Though there are exceptions, sharks typically have a tough skin that is dull gray in colour and is roughened by toothlike scales. They also usually have a muscular, asymmetrical, upturned tail; pointed fins; and a pointed snout extending forward and over a crescentic mouth set with sharp triangular teeth. Sharks have no swim bladder and must swim perpetually to keep from sinking to the bottom.There are more than 530 living species of sharks, taxonomically grouped into 14-30 families, according to different authorities. Several larger species can be dangerous to humans. The largest predatory sharks, such as the white shark and tiger shark, are often considered to be the apex predators (meaning without a natural predator or enemy) of their marine environments. Numerous sharks are fished commercially. However, overfishing in the late 20th and early 21st centuries substantially reduced the populations of some shark species. Shark species are nondescript in colour, varying from gray to cream, brown, yellow, slate, or blue and often patterned with spots, bands, marblings, or protuberances. The oddest-looking sharks are the hammerheads (Sphyrna), whose heads resemble double-headed hammers and have an eye on each stalk, and the wobbegongs (family Orectolobidae), whose skin flaps and protective coloration closely resemble the seafloor. The vernacular of shark names indicate colours in living species, such as the blue (Prionace glauca), the white (Carcharodon carcharias; also known as the great white shark), and the lemon (Negapion brevirostris) shark. The whale shark (Rhincodon typus) and the basking shark (Cetorhinus maximus), both of which may weigh several tons, are harmless giants that subsist on plankton strained from the sea through modified gill rakers. Whale sharks may grow up to 18 metres (59 feet) in length, whereas basking sharks may reach 14 metres (46 feet) fully grown. All other sharks prey on smaller sharks, fish, squid, octopuses, shellfish, other invertebrates, and, in some species, trash. The largest among the more predatory species is the voracious 6-metre (20-foot) white shark, which attacks seals, dolphins, sea turtles, large fish, and occasionally people. The more sluggish Greenland shark (Somniosus microcephalus) of cold deep waters feeds on seals, large fish, and even swimming reindeer; they may also scavenge whale carcasses. Sharks and their essential roles in coral reefsOverview of various Pacific coral reef sharks, notably the blacktip reef shark, gray reef shark, and nurse shark.See all videos for this articleNormally, sharks feed on fish, often attacking in schools. Open-ocean species such as the mackerel (Lamna), mako (Isurus), and thresher (Alopias) sharks frequently feed near the surface and are much sought after with rod and reel for sport. Beautifully streamlined and powerful swimmers, those open-ocean sharks are adept at feeding on fast tuna, marlin, and the like. Bottom-feeding species of sharks are stout, blunt-headed forms that tend to have more-sluggish habits. The shellfish eaters among them have coarse, pavementlike, crushing teeth. Fertilization in sharks is internal. The male introduces sperm into the female by using special copulatory organs (claspers) derived from the pelvic fins. The young in many species hatch from eggs within the female and are born alive. Other species may lay eggs or nurture their young in the uterus with a placental attachment to the mother, like humans. Some species may even consume their siblings before they are born. The mysteries of the megalodon sharkThe natural history of the megalodon (Carcharocles megalodon), a gigantic predatory shark that plied tropical and temperate seas during the Miocene and Pliocene epochs.See all videos for this articleThe origin of sharks is obscure, but their geologic record goes back at least to the Devonian Period (419.2 million to 358.9 million years ago). Fossil sharklike fish appeared in the Middle Devonian Epoch and became the dominant vertebrates of the Carboniferous Period (358.9 million to 298.9 million years ago). Modern sharks appeared in the Early Jurassic Epoch (201.4 million to 174.7 million years ago) and by the Cretaceous Period (145 million to 66 million years ago) had expanded into the present-day families. Overall, evolution has modified shark morphology very little except to improve their feeding and swimming mechanisms. Shark teeth are highly diagnostic of species, both fossil and modern. Sharks’ geographic ranges are not well known. Their extensive movements are related to reproductive or feeding activities or to seasonal environmental changes. Tagging returns from large sharks on the east coast of the United States indicate regular movements between New Jersey and Florida, and blue sharks have been recovered after crossing the southern Atlantic Ocean. A tagged spiny dogfish (Squalus acanthias) was recovered after traveling about 1,600 km (1,000 miles) in 129 days. Advances in tracking technologies include the use of satellite tags that continuously beam a signal to orbiting satellites whenever the shark surfaces and in that manner reveal north-south movements, transoceanic movements, and roaming and migratory patterns that are beginning to be understood for many species. Some members of the Carcharhinus genus—most notably the bull shark (C. leucas)—enter fresh waters. Riverine sharks are small to medium-sized and are exceptionally voracious and bold. All organisms have scientific names, a name that is unique for each species. Every species has two Latin names which allow people to be certain they are talking about the same creature no matter what language they speak.For example, the scientific classification of the shortfin mako shark goes like this:Kingdom: Animalia (all animals)Phylum: Chordata (all chordates)Class: Chondrichthyes (cartilaginous fish)Order: Lamnidae (mackerel sharks)Family: Lamnidae (mackerel sharks)Genus: IsurusSpecies: oxyrinchusEvery shark belongs to the classification Chondrichthyes which identifies them as cartilaginous fish, fish whose internal skeletons are comprised of flexible cartilage rather than bone. Chondrichthyes consists of two groups, Holocephali and Elasmobranchii, and within Elasmobranchii are eight (8) orders of sharks. Each order tells us about the biology, physical characteristics and behavior of sharks in that order. Provided here are a number of sharks within each of the eight (8) orders.To further your learning about these truly amazing animals, we highly recommend Sharks of the world. An annotated and illustrated catalogue of shark species known to date. by Leonard J.V. Compagno, Ph.D., the world’s foremost expert on sharks and Director of our Board of Trustees. Also known as “ground sharks,” carcharhiniformes is largest order of sharks. Their characteristics include five (5) gill slits, moveable eyelids which protect their eyes from injury, two (2) spineless dorsal fins, an anal fin, and a wide mouth filled with sharp teeth located behind the eyes. This is a small order of sharks with only nine (9) known species. They have five (5) gill slits, a dorsal fin with a strong spine and both sharp and flat rounded teeth in their mouth. Considered the most primitive order of sharks alive today, these sharks have six (6) or seven (7) gill slits, a single dorsal fin, an anal fin and thorny teeth. Most live in cold, deep water. These sharks have five (5) gill slits, a large mouth with several rows of sharp teeth, two (2) dorsal fins, an anal fin, and are able to maintain a higher body temperature than the water in which they are swimming. Among the most diverse order of sharks, these sharks have five (5) gill slits, two (2) spineless dorsal fins, an anal fin, and spiracles near their eyes. Most have a patterned skin, and some have barbels on their chins. Also known as sawsharks, these sharks have long saw-like snouts. These sharks have five (5) or six (6) gill slits, two (2) dorsal fins, no anal fin, wide pectoral fins and transverse teeth. Most sharks in this order live tropical coastal waters. With an estimated 126 different species, this order of sharks is found in nearly every marine habitat. These sharks have long snouts with a short mouth, five (5) gill slits, two (2) dorsal fins and lack an anal fin. Some deepwater Squaliformes are bioluminescent. Sharks in this order have flattened bodies, a mouth with dermal flaps in front of a short snout, nasal barbels, eyes and spiracle on the top of their head, and lack an anal fin. Go from wet-to-dry styling with no heat damage, or re-style second, third, or fourth-day hair to create styles that last all day with the Wet-or-dry Fusion Brush or Straightener. Shop now

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