

Staying Alive Background Information

DIVING DEEPER

Staying alive is hard to do, and only the best adapted animals and plants succeed. To survive, all animals must obtain food and oxygen while protecting themselves from predators. The shapes, colours and behaviours of animals give clues about how they survive in their habitats.

The structures and behaviours of animals are adapted to help them survive in their habitats. Many types of adaptations improve animals' ability to survive: the change over time of a whale's terrestrial forelimb into a flipper for swimming is a structural adaptation; the development of the stonefishes' venom is a physiological adaptation; and the careful grooming of a sea otter to clean its fur to keep it waterproof is a behavioural adaptation.

Fishes are adapted to diverse habitats from the Arctic to the Amazon. They are built in a multitude of shapes and sizes, and each structural adaptation reveals how and where that species of fish lives. Herring, sharks, salmon and other open-ocean fishes have adapted to their lives of non-stop swimming by evolving into streamlined shapes with powerful tails. Their torpedo-shaped, or fusiform (FUZE-ih-form), bodies make them the swiftest of all fishes—an important asset in the hunt for prey and in the escape from predators. Flounders and other flattened fishes are at the opposite extreme in shape. These pancake-like fishes burrow into sand or mud, or lurk on the sea bottom, waiting for their dinners to wander past them. They use camouflage combined with a quickstrike hunting strategy to survive.

Animals use physiological adaptations to display or hide themselves in a rainbow of colours and a plethora of patterns. Poison arrow frogs advertise their deadly natures through their fluorescent colours, warning potential predators to leave them alone. Conversely, flounders and other bottom dwellers are frequently well camouflaged, blending imperceptibly with their surroundings. The grey-and-white colouring of pacific white-sided dolphin breaks up the visual outline of their bodies and makes them more difficult for their prey to see. Herring, salmon, sea turtles, sharks and many other open ocean animals have dark backs and light bellies that render them almost invisible to predators and prey alike. When viewed from above, their dark backs blend with the dark ocean waters below; when viewed from below, the animals' light bellies blend with the bright surface waters.

Many animals also use highly-specialized behaviours to help them stay alive. In the open ocean, herring and salmon form large schools that seem to confuse predators and aid them in the hunt for prey. In the Amazon rainforest, sloths usually move slower than a snail's pace, avoiding any quick, eye-catching actions. Stonefishes and flounders also use stillness to lurk unseen while waiting for prey. Ghost shrimps build tunnels in the sand and mud to provide themselves with shelter and a gentle stream of water that carries food to them. Sea otters constantly groom and blow air into their dense fur to maintain a layer of insulation.

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Another type of behaviour affects whether all of these animals stay alive—human behaviour. We must carefully consider how our actions affect the environment around us.

TROPICAL SEAS

Coral reefs are one of the richest, most diverse habitats on our watery planet. An infinite variety of plants and animals live, interact and are dependent on one another for food and survival in these underwater “cities”.

Coral reefs slowly grow in a great profusion of shapes, sizes and colours, taking thousands of years to form. Coral reefs are composed of the skeletons of tiny animals called hard corals, while living corals only form a thin skin at the surface of the reef. The shape of each coral colony is adapted to its environment—corals living on the wave-swept edge of the reef tend to be shorter and sturdier than those living in protected lagoons. Corals grow at a microscopic rate of one to two millimetres per year.

The complexity and variety of coral reefs provide abundant food and protective spaces. Over time, this diverse habitat has spawned an extraordinary assortment of sizes, shapes, behaviours, and weird adaptations in the plants and animals that live there. Lionfishes and more than 50 other species of fishes use warning colours to announce the owner’s venomous or dangerous nature to others, cleaner wrasses flash their colours to attract or advertise a special service, such as eating parasites from the skins of other fishes, and stonefishes use their rocky appearance to camouflage themselves on the bottom of the reef. Sharks are often torpedo shaped, with powerful tails for swimming. Their dark backs and light bellies blend with their surroundings when viewed from above or below. Pufferfishes are the opposite of the sleek sharks—they can swell like prickly balloons, making it difficult for any predator to swallow them. Seahorses are also fishes, and have adapted to a quiet life, attached by their tails to the vegetation they blend with and hide in. Flashlight fishes use “headlights” to shed light on their lives.

Coral reefs, and the profusion of life they support, can only survive in clean, warm, salty water that is shallow enough to allow sunlight to reach them. Human populations are probably the greatest threat to these massive but sensitive habitats. Fertilizers, sewage and other city wastes change water quality, land clearing practices increase the siltiness of rain run off, and oil spills destroy reefs. Visitors to reef areas often have little understanding of the animals living there and unintentionally cause damage.

In stark contrast to the coral reefs that shelter them, gnarled mangrove trees rise out of mud flats where they are anchored in the deep, black, foul-smelling mud by their arching, stilt-like roots. From sea to sky, they provide a wealth of insect-filled habitats. Mangrove trees are well adapted to living in

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their shallow, seawater habitat. Unlike most plants, they are able to live in sea water because they can excrete salt from their tissues. To breathe, these plants can sprout aerial roots that permit the exchange of gases.

Also in contrast to the nearby coral reefs is the lack of species diversity—between 8 to 40 species of mangrove trees grow in these woods. Other species thrive in the hard bottom surfaces and on mangrove tree roots, including growths of red algae, barnacles, oysters and crabs. Subtidal stilt roots host communities of algae, sponges, anemones and oyster crabs. The sea bottoms support sea grasses, jellyfishes, manatees, and marine worms. Certain crustaceans turn over the sea bottom, aerating it much as earthworms do on land. Mudskippers skip around where the land meets the sea.

Seahorses (camouflage)

Seahorses have heads like horses, tails like monkeys, pouches like kangaroos and armoured plates like armadillos. No wonder they do not resemble any other fishes!

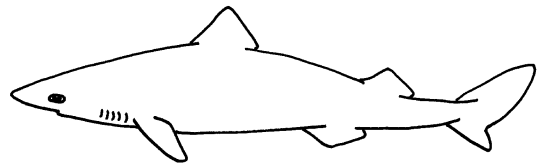
Seahorses spend most of their lives clinging by their coiled tails to coral, waiting for shrimps and other food to cruise past them. When they spot a tiny crustacean or worm, they suck it into their long, toothless jaws. Seahorses are not fast swimmers, so they protect themselves by changing colours to match their surroundings. If a predator does detect them, they have another form of defense—seahorses are covered in armoured plates! These unusual fishes have even more surprises in their pouches. Females lay eggs in the pouches on the front of the males' bodies—and the males give birth to baby fish after two to seven weeks!

Puffer-fish (shape shifter and poisonous)

Puffer-fishes can inflate their bodies like balloons, making themselves far too round and large for most predators to swallow. Even large-mouthed predators may find that the spines protruding from these puffed up fishes make them an unpalatable meal. To feed themselves, puffer fishes use their plate-like teeth to crunch through snails, shellfishes, crabs and corals. Some puffer-fishes can live in fresh water.

Black Tip Reef Sharks (adaptations as predators)

There are close to 375 different species of sharks. Sharks are boneless fishes that have skeletons made of cartilage (KAR-tih-lage), the same type of material that is in the tip of your nose. Unlike other fishes, most sharks cannot pump enough oxygen carrying water over their gills to breathe and must increase the flow of water over them by resting in water with a current or by swimming.



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The grey backs and light-coloured undersides of sharks make them hard to see in the open ocean. This helps to make them efficient predators as it is difficult for their prey to see them coming from any angle. But not all sharks are flesh eating. Some sharks feed on bottom-dwelling animals, such as snails, crabs and shrimps.

The skins of sharks are covered with tiny, sharp scales, called dermal denticles that point mostly toward their tails. If you ever were to rub a shark from tail to nose, it would feel like sandpaper enveloped in a slimy mucous layer. This mucus protects all fishes from parasites and infection. Three to 15 sets of specialized, enlarged dermal denticles are loosely embedded in shark jaws—these are their teeth. Sharks lose these teeth easily, but new ones continually grow on a conveyor belt-like reserve system. The fearsome jaws of many sharks are large and flexible which allows them to thrust their jaws out to capture prey.

AMAZON RAINFOREST

Only the vast expanses of tropical rainforests rival coral reefs in the richness of their diversity of life—and their riotous kaleidoscopic colours. The steamy, hot South American forest contains innumerable animal and plant species and is one of the most complex ecosystems on the planet.

Rainforest animal and plant species fill specialized niches, with the life histories of many plants and animals intricately intertwined with their habitats. In each layer of the forest a different set of animals is adapted for life in this particular habitat, adding to the jungle's diversity. Specific communities dwell in the canopy at the top of the forest in the crowns of huge trees, while others thrive in the tangled foliage of the filtered-sunlit depths of forest. Still others live in the massive, black or white rivers that pour through the jungle down to the ocean. Many animals and plants in rainforests are endemic (ehn-DEH-mick), or unique to one area.

A consistently warm climate, constant availability of food, a variety of habitats, and South America's lengthy isolation from other continents have created a unique cradle which has given birth to some of the world's most bizarre creatures. In the waters of the Amazon, electric fishes use jolts of electricity to stun prey, arapaima fishes breathe air at the surface of opaque, oxygen-deficient rivers, and catfishes make use of their huge barbels to grope about in the turbid waters. Sloths suspend themselves upside down in the rainforest canopy camouflaged by the algae gardens that grow in their fur, while tiny poison dart frogs advertise their poisonous, neon skins to all near and far, and vibrant, green vine snakes dangle from tree branches indistinguishable from the surrounding foliage.

Like a giant, green sponge, the Amazon rainforest retains its moisture by daylight. With the nightfall, the forest generates its own rainfall by releasing its moisture in the form of violent thunderstorms and instant showers. The

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clay-like earth beneath the forest contains little nourishment. When a forest is cut, rains wash away the limited amount of nutrients, and the equatorial sun bakes the soil as hard as rock. The soil can only be farmed for a few years and new forests cannot reclaim the hardened soil.

Sloth (camouflage)

The sloth is a mammal that spends most of its life eating leaves while hanging upside down in the rainforest canopy. Once a week, a sloth will descend to the forest floor to defecate. If they were to defecate while suspended high in the trees, their excrement would leave a visible calling card for their predators such as the Harpee eagle. This would be a serious threat to a sloth, as they are normally among the slowest-moving animals on land, although they are also capable of great speed.

The sloths slow movements and green-tinted shaggy coats help it to blend with its surroundings and avoid notice. Algae, giving the animals a greenish hue colonize the hollow shafts of hairs in a sloth's fur. Their coats are also homes to small moths.

Sloths are good swimmers and this activity may rid them of these moths.

Their fur is parted "backwards" along the centre of their chests and stomachs so that rainwater will flow off them as they hang upside down.

Caimans (camouflage)

Caimans are relatives of alligators and crocodiles. They lie still in the water like logs, with only their eyes and nostrils protruding above the surface, prepared to lunge at any unwary birds, fishes, or mammals that stray too close to their tooth-lined jaws.

Their almost invisible surveillance of potential prey also makes it difficult for their predators, including the anaconda, to see them.

All of the toes on their short legs are partly webbed, allowing them to maneuver easily on land and in water.

Anacondas (camouflage)

Anacondas live on the ground near rivers or ponds and grow to more than eight meters in length and can weigh up to 230 kilograms. They lie camouflaged on the forest floor, waiting for their prey. With one lightning-bolt strike, they have their prey securely in the grasp of their inward-pointing teeth. They then coil themselves around their prey, constricting more tightly each time it exhales. Over a period of a couple of minutes the prey suffocates. Anacondas can devour prey from the size of a small rodent to a caiman nearly two meters long, although the latter may take more than a week to digest.

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Arapaima

Arapaimas (AIR-ah-pye-mahs) are very ancient, very large freshwater fishes.

They grow over two meters in length and can weigh up to 125 kilograms—as big as an extremely large man. They are “gape and suck” feeders, opening their gigantic mouths to suck in fishes and anything that lives at the water’s surface. These fishes also take gulps of air at the water’s surface every 4 to 5 minutes. Denied access to atmospheric O₂, an arapaima will drown. While they have gills, they are not used for O₂ uptake, but rather the excretion of CO₂. The air-breathing adaptation enables arapaimas to live in murky, oxygen-poor rivers.

Electric Eels (electricity for protection)

Electric eels superficially resemble slimy snakes more than they do other fishes.

The electric eel is an obligate air-breather - denied access to the surface it will drown. They take up oxygen by way of an extensively diverticulated and richly vascularized mucosa which is distributed on the floor, and roof, of the mouth. They excrete most of their CO₂ via the skin. Very little is excreted via the gills.

Electric eels use modified muscles arranged like tiny batteries to generate low voltages of electricity.

They use this electricity to navigate, for protection and to stun their prey.

They mostly hunt small fishes using 500-volt shocks to stun them.

Vine Snakes (camouflage)

The vibrant, green vine snakes pass a great part of their lives draped from the branches in the canopy of trees, hanging motionless. Their slender bodies blend well amongst the greens of the forest, where they hunt birds. Vine snakes use vision as well as special touch and chemical sensors to monitor their surroundings. Poisonous fangs supplement these capabilities for hunting. Like other snakes, vine snakes do not have eyelids, eardrums or legs.

Poison Dart Frogs (warning colouration)

These tiny, jewel-like frogs boldly advertise their highly poisonous nature to potential predators. The skins of poison arrow frogs display classic warning colours—red, yellow and orange. These small frogs have added shocking greens and iridescent blues to their colour palette to complete their gaudy and dazzling arrays of stripes, dots and swatches. True to their warning colours, poison dart frogs secrete a venomous mucus through their skins to keep them moist. Native peoples of the Amazon rainforest extract the poison from these frogs and apply it to the tips of arrows used in bows or blow

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pipes. One species' toxin is so virulent that the tips of the arrows only need to be brushed against the frogs' backs.

Frogs and other amphibians must live near water, even though they never swallow it. They drink through their skins. They are capable of breathing through their skins, but for the most part, use their lungs. They eat insects that also live on the rainforest floor.

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PACIFIC NORTHWEST COAST

The cool waters off the west coast of B.C. are rich in marine life. Seasonal upwelling, where water rises from as deep as 300 metres to replace the surface water moved by winds and currents, occurs along the coast annually between February and July. These cool upwelled waters are loaded with food. Rivers also bring nutrients to the sea.

Marine plants, from the tiny, single-celled floating species to the giant kelp, use the dissolved nutrients delivered from deep waters and lengthy rivers, in combination with sunlight, to grow.

Many different types of sea life live in different sorts of habitats whether they are deep or shallow, rocky or sandy, covered or bare. Some organisms prefer relatively quiet waters in narrow inlets or along coasts sheltered by islands. Others live best in wild waters along coasts exposed to the ocean or in narrow, current-swept passages.

Each habitat has a unique cast of species that is interconnected. In most habitats, excluding the deep, open ocean where little grows, algae capture light from the sun and nutrients from the salt water, and in turn provide food for sea snails, sea urchins, chitons and other plant eaters. Predators, including sea stars, sea anemones and fishes, eat these plant eaters. In turn, harbour seals, Steller sea lions, sea otters and whales hunt these predators. Scavengers, such as shrimps and crabs, eat live and dead plant and animal matter. Barnacles, mussels, baleen whales and other filter feeders sift tiny animals and plants called plankton out of the water for dinner. Algae recolonize areas where plant eaters have cleared surfaces, and the cycle of growing, grazing, and predating continues.

Extensive forests of kelp sway above the rocky sea bottoms in the cold waters of many of the world's oceans. Along the west coasts of North and South America, kelp forests provide homes for a greater variety and a higher density of plants and animals than almost any other type of marine community. Like terrestrial forests, kelp forests harbour a myriad of living spaces. Fishes, sea otters, and other creatures swim through the long stipes, or stems, of kelp that extend 6 to 30 metres to the water's surface. Others hover in the dense canopy of kelp blades at the water's surface, while sea urchins, brittle stars and crabs are sheltered and nourished in the tangled rootlike holdfasts at the bottom. Anemones thrive in the darker patches of the forest.

Some animals, including killer whales, herring and salmon, live in the open ocean. These fishes and whales have streamlined bodies that facilitate continuous, rapid swimming. Frequently they are pale on the bottom, and darker on their backs, or dorsal surfaces. This patterning, called countershading, makes it more difficult to see these animals from any angle. The majority of fishes and whales in open waters are predators. Many of

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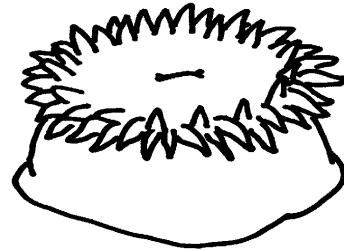
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these predators rely on their vision to hunt, and must remain in the upper 100 metres of water where there is enough light for them to see their prey. Most of the creatures they hunt— plankton, and the fishes and invertebrates that feed on plankton— also live near the surface of the ocean.

Sea Anemones (camouflage)

Sea anemones are simple, well-armed animals. Their many, petal-like tentacles are laced with stinging cells that immobilize prey, such as small shrimps and crabs. Once anemones have successfully captured their dinner, they use their tentacles to manoeuvre it into their centrally located mouths.

Anemones spit out the indigestible parts of their meals, including pieces of shell.



At low tide, sea anemones that are attached to rocks or burrowed into sandy beaches prevent themselves from drying out by tucking their tentacles into the middle of their cylindrical bases. This action traps water inside their central cavities. Sea anemones often stick pieces of shells or tiny rocks to their columns to camouflage themselves. Many exposed anemones look more like drab stewed tomatoes with beach flotsam decorations than the exquisite aquatic flowers they resemble when seen “open” underwater.

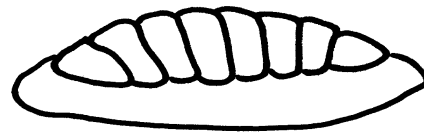
Even when their tentacles are “out” in tidepools, or underwater, the stinging cells of sea anemones are harmless to most humans. Take care to gently use your pinky finger if you wish to touch one of these soft creatures.

Sea Snails (cryptic colouration)

Sea snails make the shells that they carry on their backs and use them as mobile homes. They use their single, large foot to move slowly and for holding onto the ocean bottom. Most snails can pull their foot into their shells and firmly seal the “door” shut with the operculum (oh-PER-kew-lum), a tough, oval-shaped piece of material. Many snails scrape and eat algae from rocks with their sandpaper-like tongues, often leaving a maze of clear snail-trails behind them. Some sea snails use their rasping radulas to bore holes in other creatures’ shells to feast on the animals inside.

Chitons (camouflage)

The flattened bodies of chitons (KYE-tons) are covered by eight partially overlapping shell plates. Chitons’ strong feet and low profiles allow them to cling to rocks in turbulent surf and strong currents. Some chitons have eyespots that sense light. Many chitons feed at night, using their toothed tongues to scrape algae off rocks.



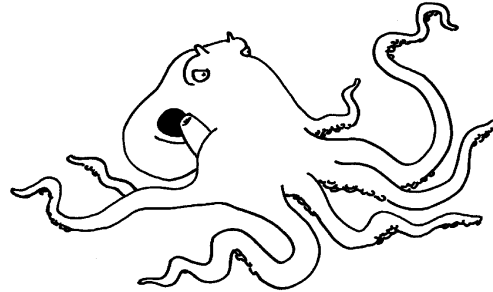
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Octopus (camouflage, shape and colour shifter)

All octopuses use their well-developed eyes to scan for prey and predators. They use their eight sucker-lined arms to grasp potential dinner items, such as crabs, snails, oysters, abalone, clams, mussels and small fishes. They transfer their prey to their mouth, located on their undersides, in the middle of their many arms.

When octopuses see predators, they flee as quickly as possible, often hidden by murky clouds of ink that they squirt behind them into the water to confuse any pursuers.



Octopuses use other talents to avoid predators and hunt prey—they shape-shift and colour-change. They can squeeze their soft bodies through very, very small openings under rocks and at the entrances of caves, where they often live. Octopuses are also masters of skin-colour changes, either blending with their surroundings or pulsating red when alarmed. These disguise artists can even alter the texture of their skin to match their backgrounds.

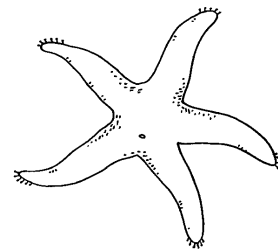
Crabs (predators)

Most crabs have hard shells that cover their bodies, antennae, powerful claws, and two-to-four pairs of walking legs. Crabs use their specialized pincers and appendages as knives, forks and spoons to eat everything from marine worms to seaweeds. Most crabs use eight legs to move quickly—sideways.

When the crabs' hard shells become too small and tight for them, they develop a soft, new covering underneath the old shells. The smaller, older shells split along the back and the crabs reverse out of them. They are very vulnerable to predators during this process and usually hide while their newly exposed shells are hardening. This process is called moulting. Crabs moult many times before they are fully grown animals, scrubbing themselves with tiny grooming brushes.

Sea Stars (protection)

Most sea stars have five arms, but some species, such as the sunflower star, can have up to 26! If sea stars lose any of their arms, they can usually grow a new one. These animals use hundreds of suction-tipped tube feet located on the undersides of each arm to move slowly along the bottom of the ocean. Most sea stars eat by using their tube feet to pry apart the shells of their mussel, clam or snail dinners. Once they have "opened" their prey, they push their stomachs out of their bodies through their mouths. Sea stars digest the soft meat of their prey outside their bodies.



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They use eyespots located at the tip of each arm to detect how light or dark their surroundings are.

Sea Urchins (protection)

Sea urchins are bristling balls of spines. Like porcupines, sea urchins use spines as protection. They use five double rows of tube feet to anchor themselves to the sea bottom, to move slowly, to seize bits of food, and to keep their spines free of debris. They also use five interconnecting teeth on their undersides to graze kelp and other seaweeds. This feeding apparatus is called Aristotle's lantern.

Sea Cucumbers (protection)

Most sea cucumbers are the shape of—yes cucumbers—and some are the consistency of jello. Although some sea cucumbers do have soft spines and hundreds of tube feet, sea cucumbers do not outwardly resemble their close relatives, the sea stars and the sand dollars. The internal organs of sea cucumbers are arranged into five equal parts, in a similar fashion to their relatives. Some sea cucumbers mop up food from the water or the ocean bottom using the sticky feeding trees, or tentacles, around their mouths. Others are filter feeders that sift tiny plants and animals out of the water.

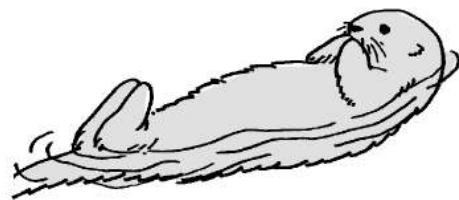
Herring (schooling behaviour)

Herring hunt for prey and baffle predators as they dart about in huge schools. These small, silvery fish group together in search of waters thick with plankton. Herring gain protection from predators through their immense numbers. When a predator approaches a school, it may be overwhelmed by the flashing silver sides of thousands of herring, and be unable to pick out one individual prey. A dense school of herring moving in unison may also discourage a predator by appearing as a single, much bigger creature.

Sea Otters (tool use and grooming behaviour)

Sea otters live in the cold waters of the North Pacific Ocean, ranging from Japan to California. Unlike other marine mammals, sea otters do not have a thick layer of blubber to keep them warm. Instead, they consume great quantities of food—up to one quarter of their body weights each day, or approximately 11 kilograms. Sea otters recline on their backs at the water's surface often enveloped in blades of the kelp forest, frequently employing tools to hammer and pry open abalones, sea urchins, crabs and clams.

Sea otters also use their baggy fur coats to keep warm. They grow the densest fur of any animal on earth. Their constant grooming ensures that a layer of insulating air becomes trapped in their coats and that their fur remains clean enough to insulate them from the chilly waters they live in.



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Harbour Seals (blubber and fur for warmth)

These rounded, doe-eyed seals are called Harbour seals because they live in shallow "harbour" waters near beaches, sandbars, rocks or other flat land areas. They prefer these flat places because they cannot move easily on land. Seals come on shore to rest and to give birth. In the water, Harbour seals dart about gracefully using their hind flippers for power and their front ones to steer. They eat fishes, shrimps, and other invertebrates.

Steller Sea Lions (blubber for warmth)

Steller sea lions are huge, eared seals. Males grow to be the size of two record-sized grizzly bears! They have very powerful front flippers that they use for propulsion. Steller sea lions hunt fishes, squids, octopuses, and some eat seals. They are much more comfortable on land than harbour seals, and come ashore to rest, lounge in the sun, and to breed.

Pacific White-sided Dolphins (camouflage)

Pacific white-sided dolphins travel in schools of between 2 and over 1000 individuals. They are the most active and playful cetacean in northeast Pacific waters. They are among the fastest dolphin species and can reach up to 40 kilometers per hour. They hunt for squid, herring, sardines, anchovies, salmon, cod and hake and swallow their food whole. They use echolocation to find their way around and to catch their food. Killer whale and sharks are predators of dolphins.

ARCTIC OCEAN

In the Arctic, the margins between land and water shift to and fro as the ice advances and recedes with the seasons. Life in the Arctic seas is prolific in contrast with the barren northern lands which are poor in soils, vegetation and species of wildlife.

Arctic waters exceed the diversity and density of life on land because they provide a more sheltered and abundant habitat for the plants and animals that live there. Unlike the terrestrial tundra, the ocean does not freeze solid in winter, and the marine life is insulated from truly frigid air temperatures by two metres of ice. The water temperature is uniformly cold, hovering at the freshwater freezing mark of 0°C, but is mild in comparison to the air temperature above.

Arctic marine life is supported by nutrients lifted to the surface when warm and cold currents collide. Phytoplankton (FYE-toe-planktuhn), single-celled plants that float in the water, absorb these nutrients. These minute plants are so numerous that they colour the Arctic seas a deep shade of blue-green. The relatively constant currents and saltwater temperature make the ocean hospitable to a rich marine life throughout the year.

Many Arctic fishes are well-adapted to freezing ocean temperatures, complete with anti-freezelike chemicals in their tissues. Most of these fine-

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tuned, cold-blooded fishes cannot tolerate a change of more than a few degrees in temperature.

Marine mammals, including seals, walruses and whales, conserve heat through adaptations such as growing thick layers of blubber and having body shapes that minimize surface area (through small fins and extremities). Marine mammals also limit their heat loss by minimizing the flow of heat-bearing blood to their skins and extremities. Skin temperatures remain warm enough to prevent tissues from freezing, but low enough to stop substantial heat loss.

Beluga Whales (camouflage)

Belugas are grey when they are young and become paler as they grow older. Their mature white bodies blend well with the snow and floating ice in the Arctic, where most Belugas live. This is excellent camouflage! Belugas do not have dorsal fins, but do have hard dorsal ridges which they use to crack open ice up to 7.5 cm thick. As much as 40 percent of their body weight is blubber, so they can keep warm in icy waters. All this blubber, however, does not make them fast swimmers. They are fast enough to catch some schooling fishes to eat, but also feed on slower animals that live on the bottom of the ocean. They have jointed necks that enable them to pick up the mud that they sift through for food.

