



Top Predators

Killer whales are the ocean's top predators. These powerful hunters are known to eat several hundred different types of animals, including fish, squid, seabirds, sea turtles, seals, sea lions, walruses, otters, penguins, whales, and polar bears. One killer whale was even found with the carcass of a moose in its stomach.

Because killer whales are very active, they need a lot of food. An adult killer whale eats about 3 to 4 percent of its body weight in food each day. A growing calf needs to take in as much as 10 percent of its body weight during each twenty-four-hour period. Finding all this food is no problem for the killer whale, which is one of the world's most skilled predators.



Adult killer whales are the ocean's top predators, and they eat hundreds of different kinds of animals.

Finding Food

Killer whales have many ways to find food. The most important way involves a skill called **echolocation**. Echolocation is the use of sound to “see” distant objects. It is similar to the sonar that is used on ships, but it works much better than the best human systems.

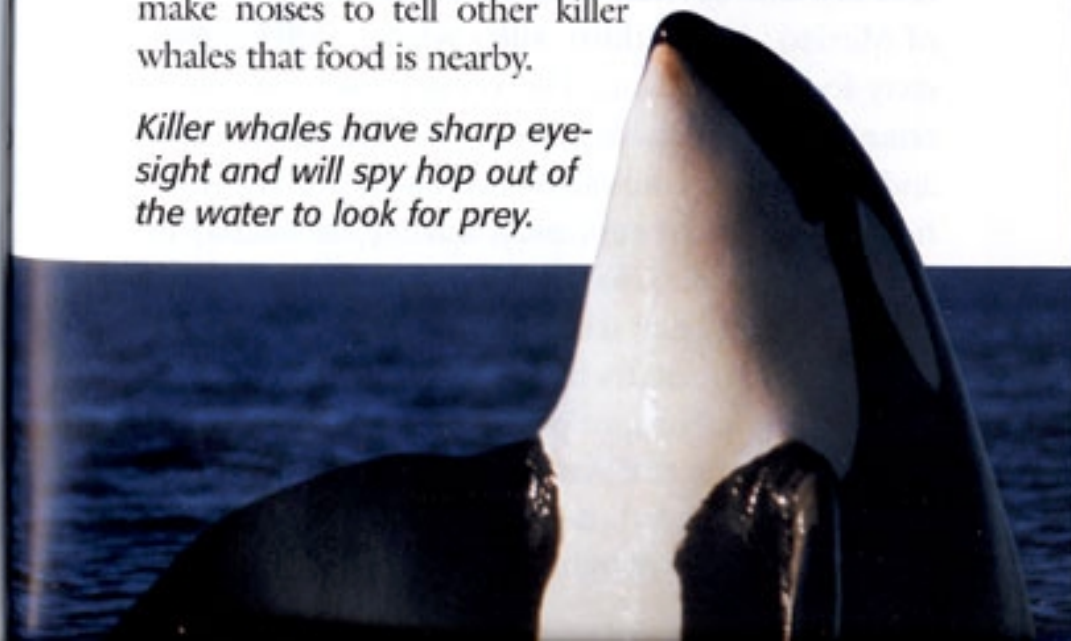
To echolocate, a killer whale uses air sacs in its head to produce a fast series of clicking sounds. It sends these clicks out through its forehead, which contains an oil-filled organ called the **melon**. The killer whale uses muscles to change the shape of the melon. This organ acts as a lens to focus the clicks into a tight beam of sound. The beam shoots out in front of the killer whale. When it hits an object, part of the sound

bounces back toward the killer whale as an echo. The killer whale receives this echo with its fat-filled lower jawbone. From there, the echo is sent to the brain, which translates the sound into a picture. If the picture shows a fish, a seal, or another tasty animal, the orca may move in for the kill.

Killer whales also have sharp eyesight. Vision is helpful when a killer whale is traveling through clear, calm water during the daytime. It is also useful when killer whales want to spot seals, penguins, or other animals above the water's surface. To find these animals, killer whales simply poke their massive heads out of the water and look around. This behavior is called **spy hopping**.

When a killer whale finds food, it lets the other members of its group know right away. A killer whale might signal by leaping or splashing. It might also make noises to tell other killer whales that food is nearby.

Killer whales have sharp eyesight and will spy hop out of the water to look for prey.



Hunting Techniques

Killer whales usually chase prey in groups. They change their method depending on the circumstances and the prey. When hunting a school of fish, for example, killer whales sometimes use a technique called carousel feeding. In this technique, a group of killer whales swims beneath and around a school of fish to herd it into a tightly packed ball. The killer whales then take turns swimming through the school, smacking the fish with their powerful tails as they go. An orca leaves dozens of dead and stunned fish in its path. It eats the prey, then returns to its herding duties so another killer whale can go on the attack.

Killer whales also use group hunting techniques to overcome large animals, such as whales. Scientists saw one of these attacks in action off the coast of Mexico. About thirty killer whales surrounded a sixty-foot blue whale. The orcas took turns biting chunks of flesh and blubber from the whale's back and sides. They continued their attack for about five hours. Then they swam away, leaving the severely injured whale to die from its wounds.

Sometimes killer whales work together to tip animals off ice floes. In this hunting method, a killer whale spy hops to spot prey that is resting on floating chunks of ice. Then the killer whale swims beneath the edge of the floe. It pushes the edge upward so seals, penguins, or any other creatures



Killer whales hunt in groups and work together to attack prey.

on the floe slide off the other side—right into the open mouths of more hungry killer whales.

The most spectacular hunting method of all can be seen along the beaches of Punta Norte, Argentina, and the Crozet Islands in the south Indian Ocean. In these areas, killer whales bodysurf onto rocky beaches to seize careless seals and sea lions. With their prey clamped firmly between their jaws, the killer whales wriggle their huge bodies to work their way back into deeper water.