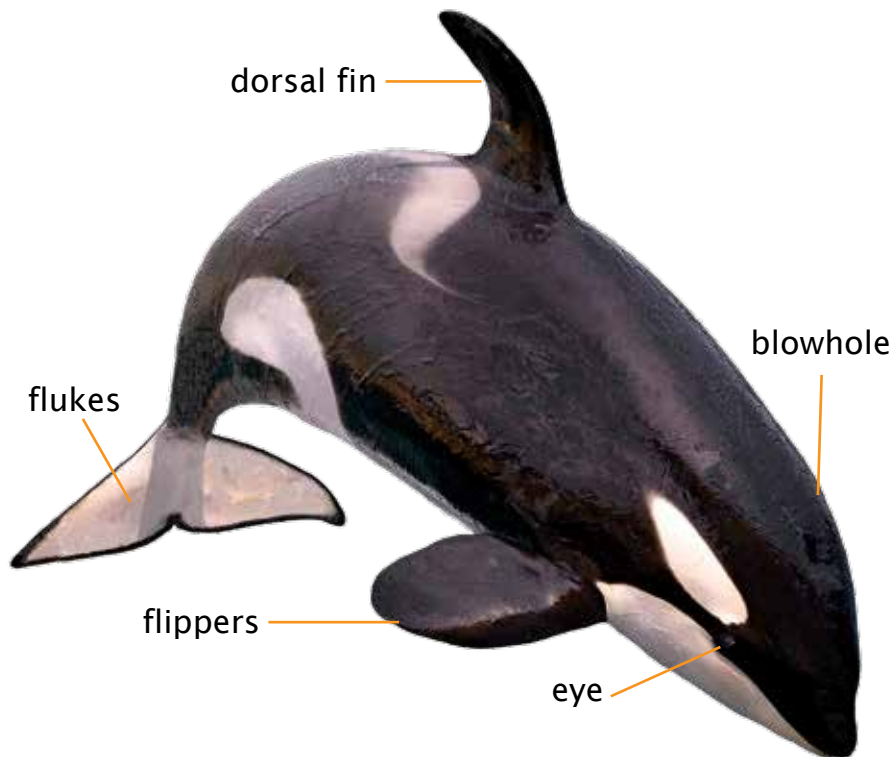


For Creative Minds

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Whale Adaptations

All animals have body parts or behaviors, called adaptations, that help them live in their habitat. A whale's adaptations make them best suited to live in water. While some dolphins live in rivers, most cetaceans live in the ocean.



Mammals get oxygen from the air. Whales come to the surface and breathe through their blowholes. Because they spend most of their time underwater, they can hold their breath for long periods of time.

Sperm whales hold their breath for up to 90 minutes.

When a baleen whale opens their mouth, it fills with water full of fish, krill or other prey. The pleats along their throat, called rorquals (roar-kwöl), can expand to hold these large mouthfuls. When they close their mouth, the water is pushed out through the plates of baleen. The prey gets trapped in the fringed edges of the baleen, ready for swallowing!

Bowhead whales have the longest baleen, with plates reaching 14 feet.

Unlike other mammals, whales don't have hair or fur covering their bodies. Instead, they have a layer of blubber to keep them warm. How thick their blubber is depends on the temperature of the water where they live.

Whales use their tails (flukes) to push themselves through the water. They use their paddle-like flippers to change direction, like the rudders on a boat. Their dorsal fin helps them with balance so they can stay upright during fast turns.

Whale Sizes

Use the following chart to answer the questions below. This information was obtained from the National Oceanic and Atmospheric Administration (NOAA) Fisheries Species Directory.

type	whale	up to length in feet	
		adult	newborn
toothed	beluga	16	?
baleen	blue whale	110	?
baleen	bowhead	62	13
toothed	common bottlenose dolphin	13	?
baleen	fin whale	85	18
baleen	gray whale	49	16
baleen	humpback	60	16
toothed	long-finned pilot whale	25	6.5
toothed	narwhal	18	5.2
baleen	North Atlantic right whale	52	?
baleen	North Pacific right whale	64	?
toothed	orca / killer whale	32	?
toothed	pygmy killer whale	8.5	?
toothed	pygmy sperm whale	11.5	?
baleen	sei Whale	60	15
toothed	short-finned pilot whale	24	?
toothed	Sperm whale	52	13
toothed	spinner dolphin	7	?

How tall are you? Which adult whale has a length closest to your height?

Which newborn whale has a length closest to you in height?

Ask an adult (parent, grandparent, teacher) how tall they are. Are there any whales similar in length to your adult's height?

Which adult whale is the longest?

Which newborn whale is the longest?

Which adult whale is the shortest?

Which newborn whale is shortest?

In general, are toothed whales or baleen whales longer?

The whale lengths are given in feet.

Pick a whale and determine their length in yards, feet and inches.

Optional: convert measurements to meters.



Toothed or Baleen?

Using what you learned in the book, identify whether the whale is toothed or baleen.

1



2



3



4



5



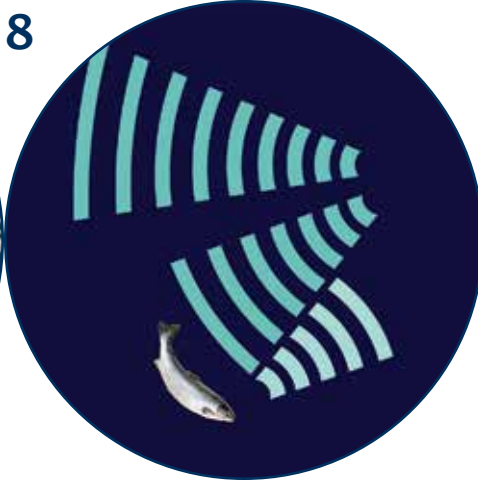
6



7



8



9



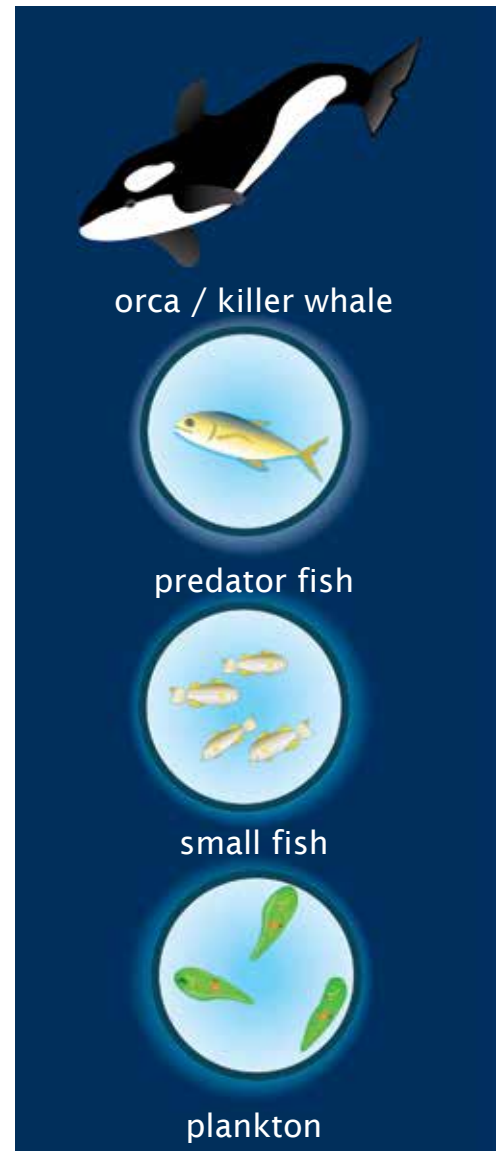
Answers: 1: baleen-small dorsal fin, 2: toothed-large dorsal fin for balance; 3: toothed-Narwhal identified as toothed (tusk is actually a long tooth); 4: toothed-single blowhole; 5: baleen-two blowholes; 6: baleen-baleen visible, 7: toothed-teeth visible; 8: toothed-echolocation; 9: toothed-dolphin

Conservation

Many years ago, people hunted whales for food, oil and cultural traditions. Overhunting nearly caused the extinction of some whale species. With the exception of some native tribes, it is now illegal to hunt or kill whales. Whales in US waters are protected by The Marine Mammal Protection Act. Some whales are also protected by the Endangered Species Act. Both of these laws are designed to help protect animals.

Even though it is illegal for most people to hunt whales, there are some things that negatively affect them and things that people are doing to try to help them. Do you think the following things hurt or help whales? Can you explain why?

1. Oil and gas exploration, dredging ports, and pile driving can all change offshore habitats where whales may live or through which they migrate.
2. Some whales may get caught on the beach or in shallow water (stranded). There are teams of people trained to help these stranded whales.
3. Pollution from land that runs off into the ocean and plastic may affect the ocean food chain.
4. Overfishing may affect the food chain. Whales may also get tangled in fishing lines or nets.
5. Southern Resident Killer Whales that live in the Pacific Northwest mainly eat endangered Chinook salmon. Recovery efforts are underway to protect the salmon spawning grounds.
6. Ships and boats may hit whales causing injury. Or the noise from some ships may affect their ability to communicate.
7. Whale SENSE programs educate whale watch boat captains on how to best keep whales safe during whale-watching tours and education programs.
8. Research projects help scientists learn more about whales and how we can help protect them.



Simple Food chain

Answers: 1: hurt, 2: help, 3: hurt, 4: hurt, 5: help, 6: hurt, 7: help, 8; help