

Name Game

OBJECTIVES

Students investigate what killer whales are called in other countries. They increase their awareness of geography by mapping the names. Finally, students explore Greek and Latin root words to develop a scientific vocabulary.

BACKGROUND

Most animals can be identified two ways – by a common name and by a scientific name. Common names can be confusing. For instance, killer whales live in all oceans of the world. Many of the people around the world have a name for killer whales in their own language. At right is a list of some of those names.

How do scientists know when they're talking about the same whale? Their system for naming animals gives each living thing a genus name and a species name. Throughout the world, killer whales are known to scientists as *Orcinus orca*. *Orcinus* is the genus, and *orca* is the species. Most scientific names are derived from Latin and Greek, and they often describe physical features of an animal. Some names are derived from the names of scientists.

MATERIALS

- world maps, atlases, or globes
- double-sided copies of the *Name Game* funsheet on pages 14–15.
- photos or illustrations of the whales listed on Side Two of the Funsheet. (Use the Whale Cards in this Guide, reference materials listed on page 24, or the Internet.)
- extra paper and pens or pencils

Alaska Tlingit	keet (KEET)
Aleutian Islands . . .	agluk (ug-ul-OOK)
France	orque gladiateur (ORK glad-e-ah-TOOR)
Germany	shwertval (SHVAIRT-vahl)
Greenland Eskimo .	aardusak (AAH-ur-duh-sok)
Iceland	háhyrningar (how-HIT-nuh-guh)
Japan	shyachi (SHAW-chee)
Korea	pomkore (POM-ko-RAY)
Mexico, Spain	orca (OR-kuh)
Norway	spekkhogger (spek-HOHG-ed)
Russia	kasatka (kah-SAHT-kah)

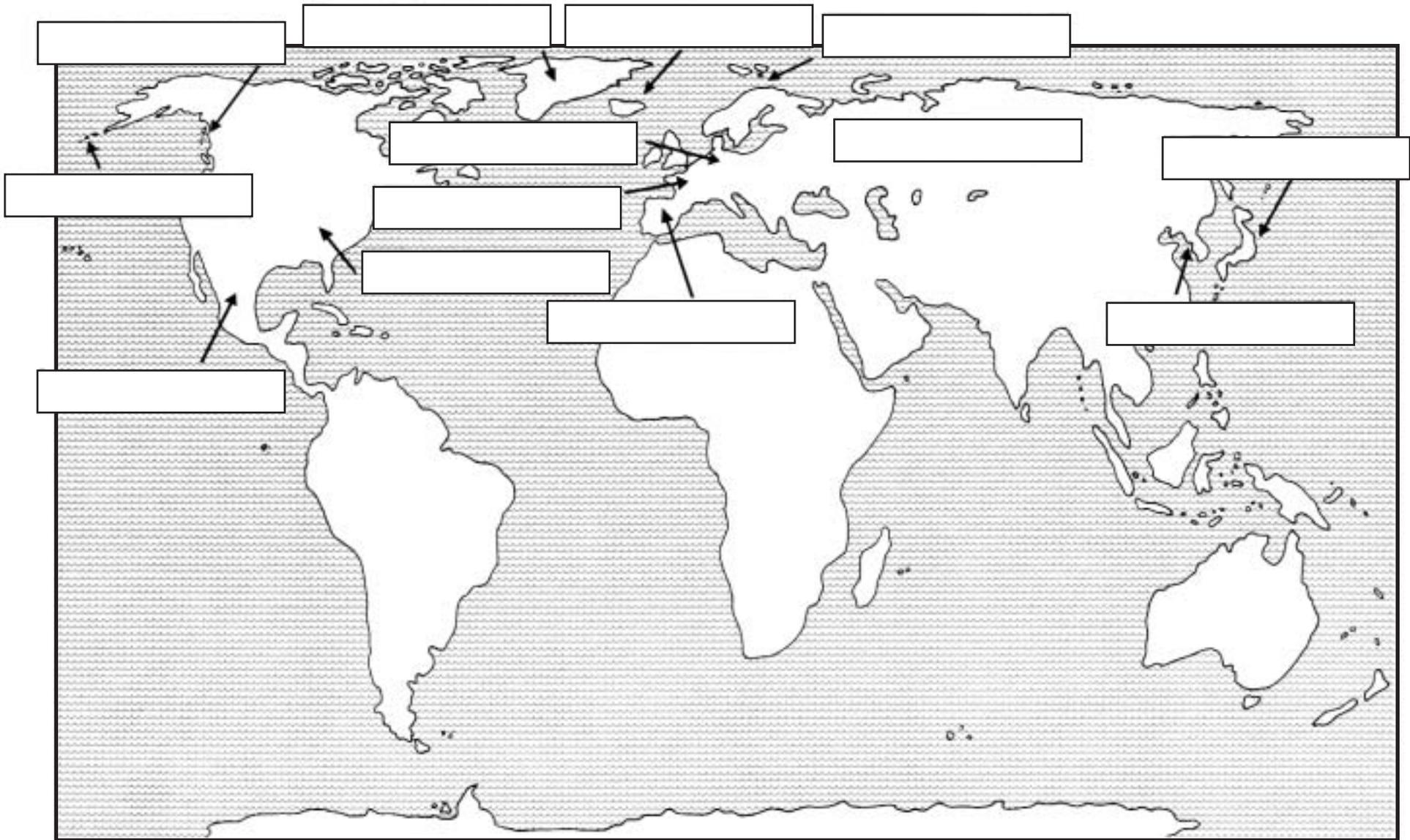
ACTION

1. On the board, write the locations and names for killer whales given here. Discuss how people who speak different languages have different names for the same animal. Help students pronounce the names.
2. Distribute *Name Game* funsheets and maps or globes.
3. Students locate and label oceans and the countries listed above. They write the native words for killer whales in the appropriate boxes.
4. Students “decode” whale scientific names. They use books or the Internet to see how each genus and species name describes the animal.

Name _____

Name Game—Part One

Many languages have a name for killer whales. Write the names in or near the appropriate country on this map. Use a globe or atlas to help you.



Name Game—Part Two

Scientists use Greek and Latin words to form an animal's scientific name. Use the word fragments below to help you decode whale names.

alb — white (<i>Latin</i>)	-inus — like (<i>Greek</i>)	orca — great killer (<i>Latin</i>)
anglic — English (<i>Latin</i>)	-is — daughter of (<i>Greek</i>)	orcinus — belonging to the underworld (<i>Latin</i>)
-atus — provided with (<i>Latin</i>)	lagen — flask (<i>Greek</i>)	-ops — appearance (<i>Greek</i>)
balaena — whale (<i>Latin</i>)	leuc — white (<i>Greek</i>)	phocaen — porpoise (<i>Greek</i>)
cavus — hollow (<i>Latin</i>)	lip — (1) fat, lard. (2) to quit or fall. (3) perseverance (<i>Greek</i>)	physeter — blower (<i>Greek</i>)
cephal — head (<i>Greek</i>)	long — long (<i>Latin</i>)	pseud — false (<i>Greek</i>)
cer — horn (<i>Greek</i>)	macro — long or large (<i>Greek</i>)	pter — wing or fin (<i>Greek</i>)
cet — whale, sea monster (<i>Greek</i>)	meg — great (<i>Greek</i>)	robustus — strong, robust (<i>Latin</i>)
crass — thick, heavy (<i>Latin</i>)	mon — single (<i>Greek</i>)	rostr — beak, snout (<i>Latin</i>)
delphin — dolphin (<i>Greek</i>)	musculus — muscle (<i>Latin</i>)	rhynch — beak, snout (<i>Greek</i>)
dens — tooth (<i>Latin</i>)	myst — (1) mystic. (2) mustache (<i>Greek</i>)	sten — narrow, straight (<i>Greek</i>)
-ella — suffix added to noun stem to indicate “small” (<i>Latin</i>)	nov — new (<i>Latin</i>)	-tes — having to do with (<i>Greek</i>)
eu — true (<i>Greek</i>)	obliqu — slanting sideways (<i>Latin</i>)	trunc — trunk, stem (<i>Latin</i>)
fero — to bear (<i>Latin</i>)	odon — tooth (<i>Greek</i>)	tursi — porpoise (<i>Latin</i>)
glacialis — frozen (<i>Latin</i>)	-oides — like (<i>Greek</i>)	vexill — banner, flag (<i>Latin</i>)
glob — globe, ball (<i>Latin</i>)		ziph (from xiph) — sword (<i>Greek</i>)

- Balaena mysticetus*
- Balaenoptera musculus*
- Cephalorhynchus commersoni*
(Commerson was an 18th-century French medical doctor and botanist.)
- Delphinapterus leucas*
- Delphinus delphis*
- Eschrichtius robustus*
(Eschricht was a 9th-century Danish Zoology professor.)
- Eubalaena glacialis*
- Globicephala macrorhynchus*
- Lagenorhynchus albirostris*
- Lipotes vexillifer*
- Megaptera novaeangliae*
- Orcinus orca*
- Phocoenoides dalli*
(Dall was an American zoologist.)
- Physeter macrocephalus*
- Pseudorca crassidens*
- Stenella longirostris*
- Tursiops truncatus*
- Ziphius cavirostris*

Whale Cards

Use the cards on this insert to get started exploring whales. Each of the nine families of whales are represented by one or more of the following species. Each card includes a scale for reference; note that not each illustration is drawn to the same scale.

Here are some ideas for ways to use these cards in your classroom:

- ◆ Use the facts on the cards to help you prepare lessons and lead discussions in class.
- ◆ Copy and cut apart the cards. Distribute a different card to each cooperative learning group. Visit the school library to learn more about the whales. Groups may even adopt that species as their “mascot” while working on the Whales unit.
- ◆ Copy and cut apart the cards. Distribute a complete set to each student or group of students. Students compare similarities and differences among species.

blue whale

Balaenoptera musculus



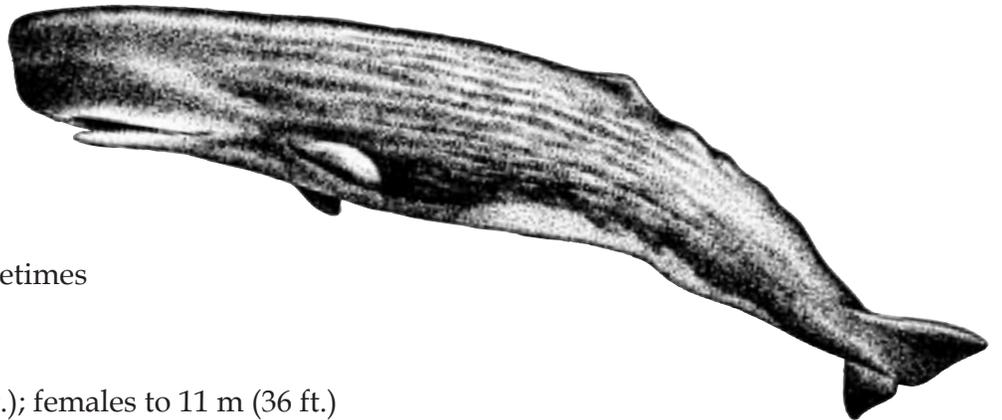
Suborder	Mysticeti
Family	Balaenopteridae, the rorqual whales
distribution	worldwide
prey	krill (A single blue whale may eat as much as 8 tons in one day.)
predators	killer whales
adult length	to about 26 m (85 ft.), although the largest recorded blue whale measured 34 m (112 ft.). Blue whales are the largest animal in the world. Females grow larger than males.

1 in. = 4 m

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sperm whale

Physeter macrocephalus



Suborder	Odontoceti
Family	Physeteridae, the sperm whales
distribution	worldwide
prey	mostly squids, sometimes octopus and fishes
predators	killer whales
adult length	males to 15 m (49 ft.); females to 11 m (36 ft.)

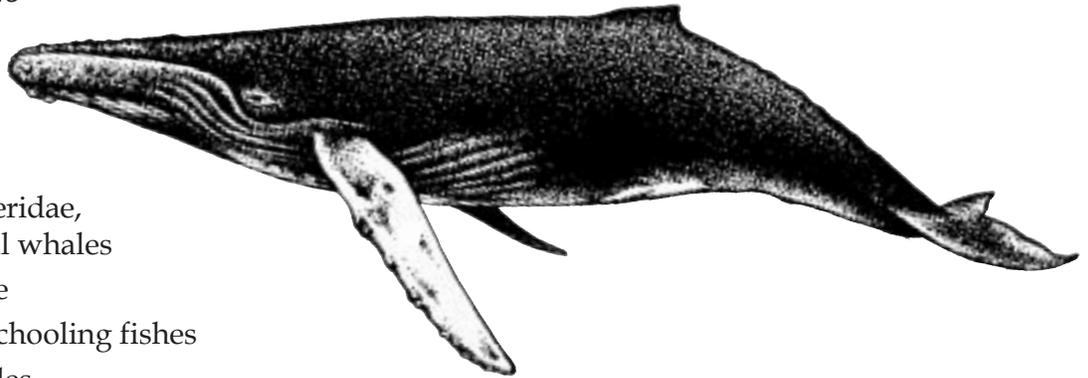
1 in. = 3 m

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humpback whale

Megaptera novaeangliae

Suborder	Mysticeti
Family	Balaenopteridae, the rorqual whales
distribution	worldwide
prey	krill and schooling fishes
predators	killer whales
adult length	to about 16 m (52 ft.)



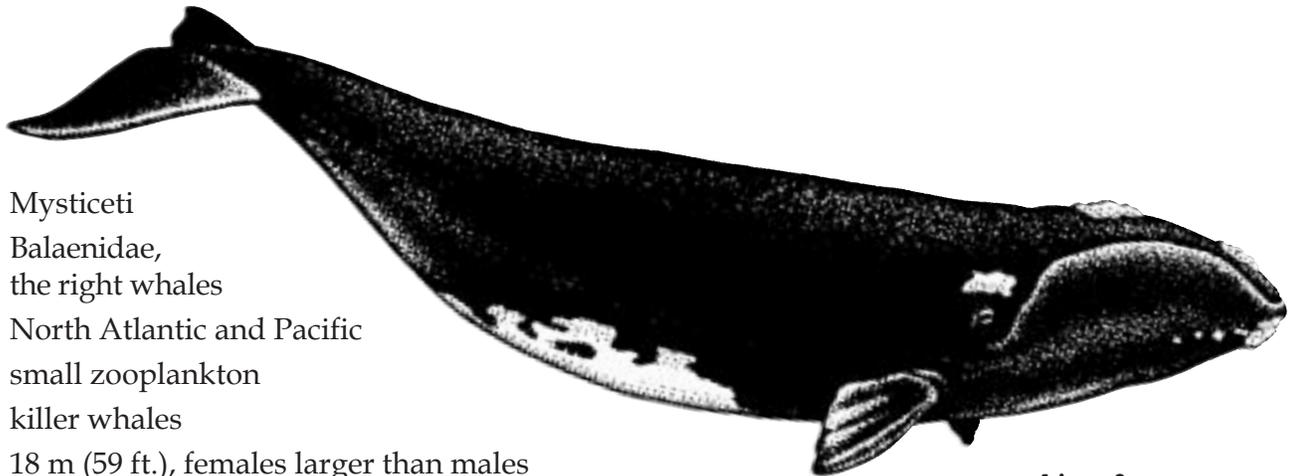
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Northern right whale

Eubalaena glacialis

Suborder	Mysticeti
Family	Balaenidae, the right whales
distribution	North Atlantic and Pacific
prey	small zooplankton
predators	killer whales
adult length	18 m (59 ft.), females larger than males



1 in. = 3 m

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gray whale

Eschrichtius robustus

Suborder	Mysticeti
Family	Eschrichtiidae, the gray whales
distribution	Eastern North Pacific
prey	mostly benthic amphipods
predators	killer whales
adult length	14 m (46 ft.)

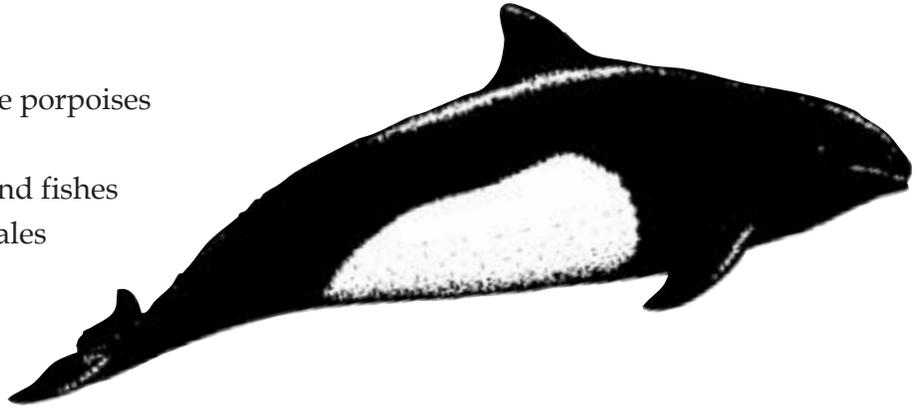


1 in. = 3 m

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Dall's porpoise*Phocoenoides dalli*

Suborder	Odontoceti
Family	Phocoenidae, the true porpoises
distribution	North Pacific
prey	squid, crustaceans, and fishes
predators	sharks and killer whales
adult length	2.2 m (7.2 m)

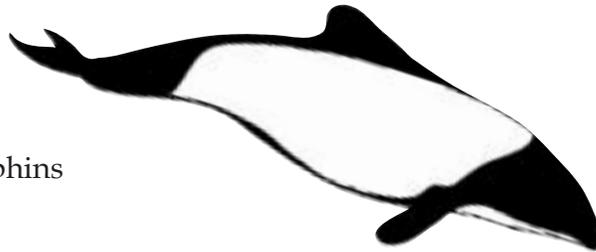


2 in. = 1 m

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Commerson's dolphin*Cephalorhynchus commersoni*

Suborder	Odontoceti
Family	Delphinidae, the oceanic dolphins
distribution	southern Pacific, Atlantic, and Indian Oceans
prey	invertebrates including krill and small fishes
predators	killer whales and sharks
adult length	1.5 m (5 ft.)

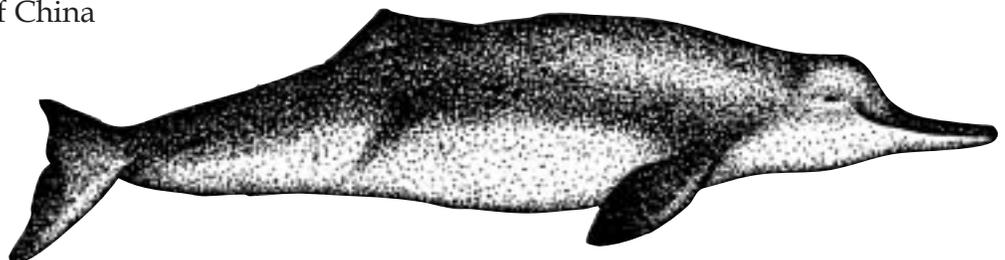


2 in. = 1 m

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baiji (Chinese river dolphin)*Lipotes vexillifer*

Suborder	Odontoceti
Family	Platanistidae, the river dolphins
distribution	Yangtze River of China (fresh water)
prey	fishes
predators	unknown
adult length	2.5 m (8.2 ft.)



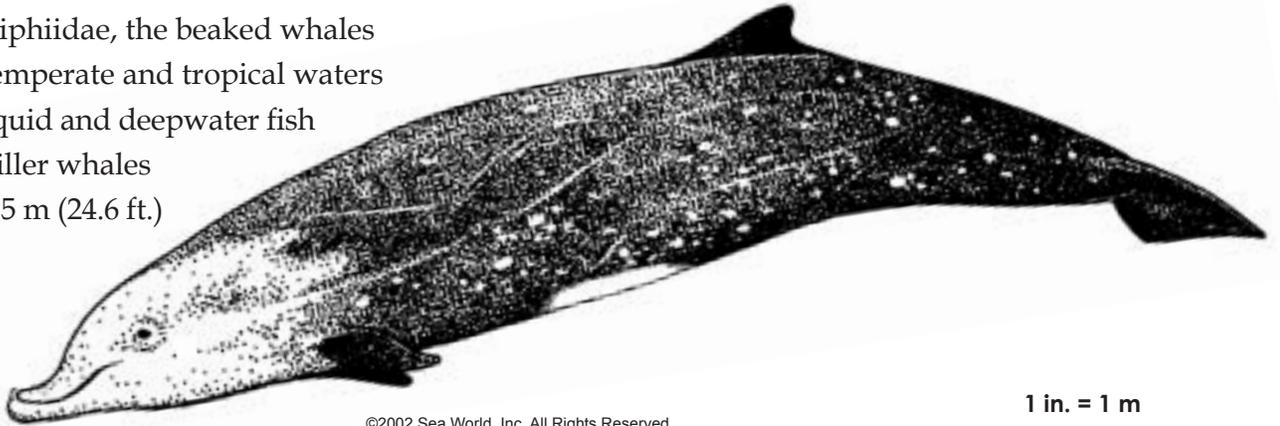
2 in. = 1 m

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Cuvier's beaked whale

Ziphius cavirostris

Suborder	Odontoceti
Family	Ziphiidae, the beaked whales
distribution	temperate and tropical waters
prey	squid and deepwater fish
predators	killer whales
adult length	7.5 m (24.6 ft.)



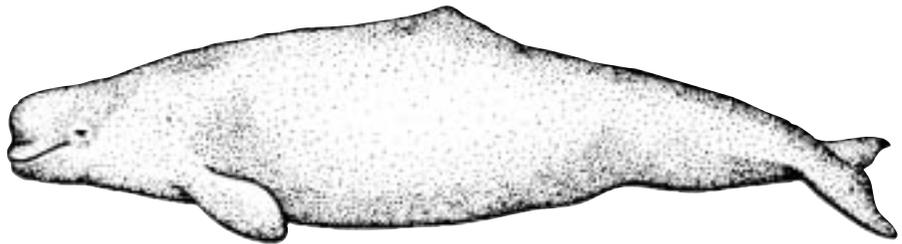
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1 in. = 1 m

beluga whale

Delphinapterus leucas

Suborder	Odontoceti
Family	Monodontidae, the narwhal and beluga
distribution	arctic and subarctic seas
prey	bottom-dwelling invertebrates and fishes
predators	killer whales and polar bears
adult length	males to 4.6 m (15.1 ft.); females to 4 m (13.1 ft.)



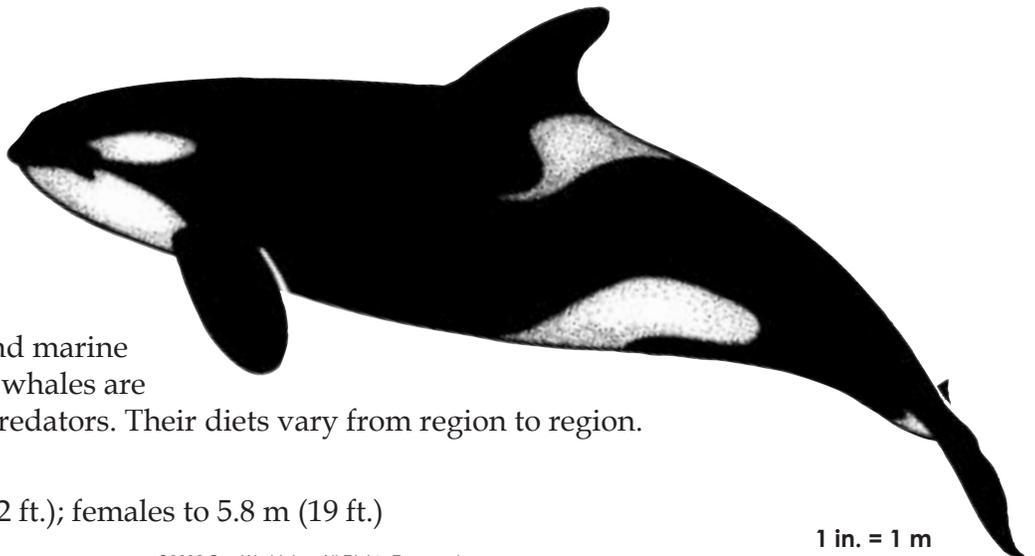
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1 in. = 1 m

killer whale

Orcinus orca

Suborder	Odontoceti
Family	Delphinidae, the oceanic dolphins
distribution	worldwide
prey	Fishes, squids, and marine mammals. Killer whales are the oceans' top predators. Their diets vary from region to region.
predators	none
adult length	males to 6.7 m (22 ft.); females to 5.8 m (19 ft.)



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1 in. = 1 m