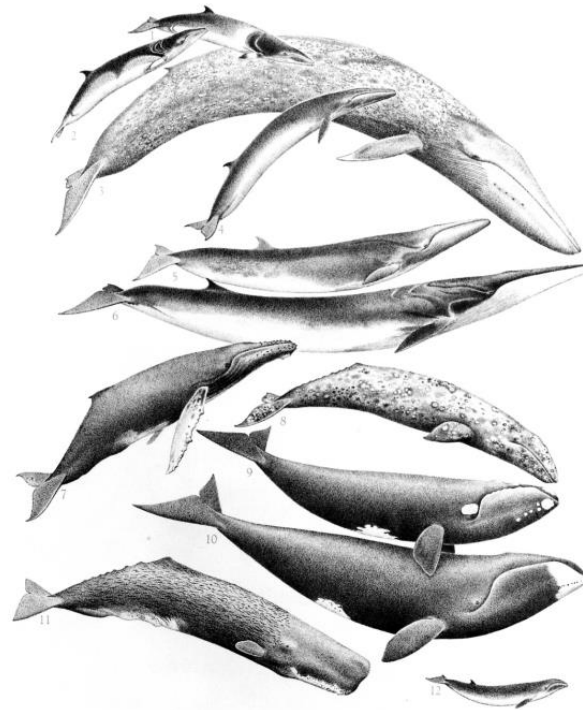


# Whales – Giants of the Ocean

Life Science Curriculum for Fourth Grade

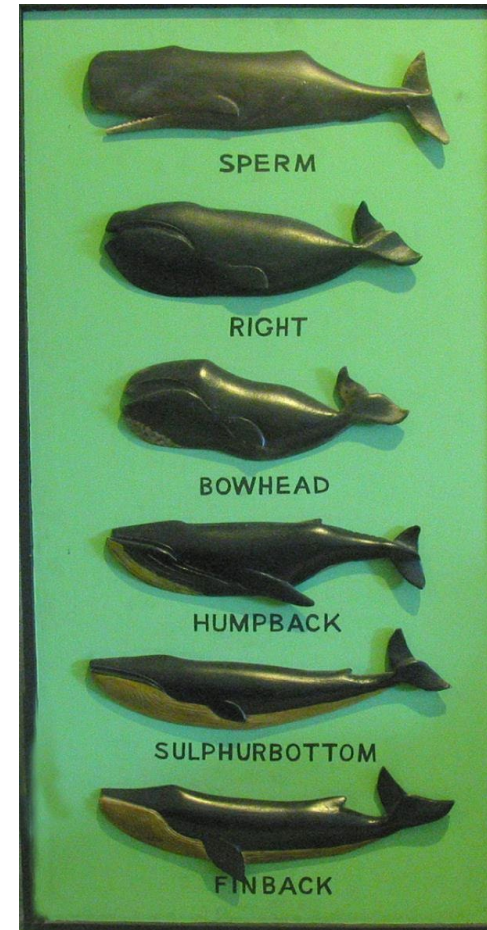


## THE GREAT WHALES

1 Northern Minke Whale *Balaenoptera acronotata* 2 Southern Minke Whale *Balaenoptera acronotata* 3 Blue Whale *Balaenoptera musculus* 4 Bryde's Whale *Balaenoptera edeni*  
5 Sei Whale *Balaenoptera borealis* 6 Fin Whale *Balaenoptera physalus* 7 Humpback Whale *Megaptera novaeangliae* 8 Gray Whale *Eschscholus robustus*  
9 Right Whale *Falisteria glacialis* 10 Bowhead Whale *Balaena mysticetus* 11 Sperm Whale *Physeter macrocephalus* 12 Pygmy Right Whale *Caperea marginata*

Whale Illustrations by Lou Silva

Marine Mammal Fund, Ft. Mason Center, Bldg. E, San Francisco, CA 94123



## Lesson 3 – What Are Cetaceans?

# Cetaceans

The term cetacean refers to all whales, dolphins and porpoises.

The term whales refers to all of the baleen feeders and the larger toothed cetaceans.

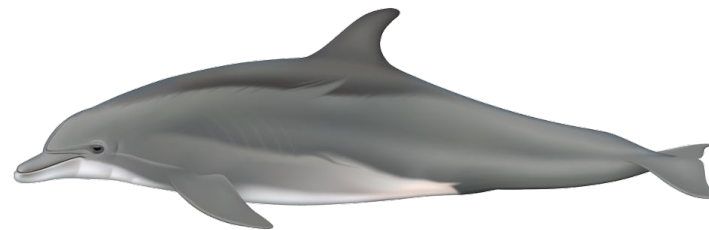
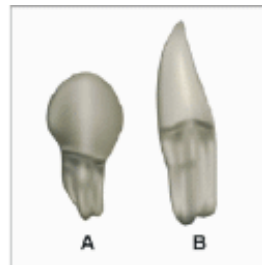
Dolphins have conical teeth, a curved dorsal fin and a beak shaped snout.

Porpoises have paddle shaped teeth, a triangular dorsal fin and a rounder, non-beak snout. They are typically shorter and stouter than dolphins.

According to the Society for Marine Mammalogy there are 90 species.



Underwatertimes.com



# Cetaceans

All cetaceans possess the following characteristics:

Aquatic (they live in water)

Mammals (hair, live birth, lungs, milk for young, spine, warm-blooded)

Torpedo shaped bodies (shaped to cut through the water quickly)

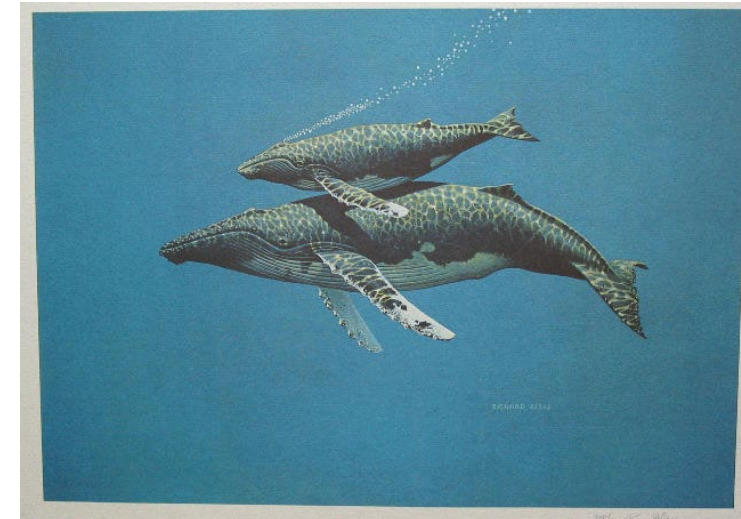
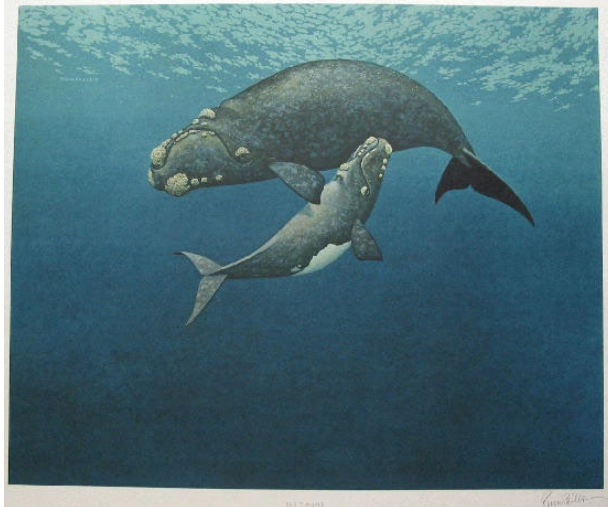
Horizontal tails (move up and down, push the animals through the water)

Front flippers for steering

Layer of blubber (under the skin, helps hold in heat)

Swallow food whole (no time to chew)

Multiple stomachs (to hold large amounts and to grind food, like our back teeth)



# Cetacean Taxonomy- Mysticeti (baleen whales)

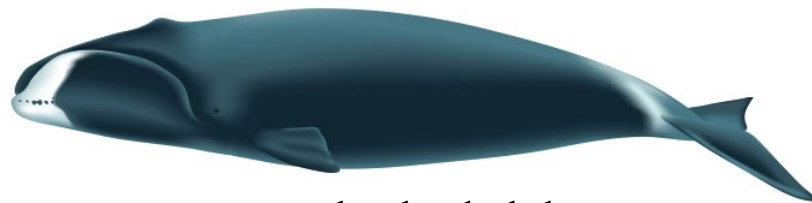
14 different species

Family: Balaenidae (bowhead & right whales), 4 species

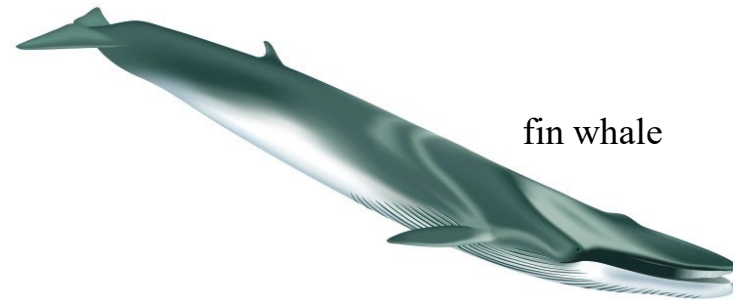
Family: Balaenopteridae (rorquals – blue, humpback, minke, etc.), 8 species

Family: Eschrichtiidae (gray whale), 1 species

Family: Neobalaenidae (pygmy right whale), 1 species



bowhead whale



fin whale



gray whale



pygmy right whale



# Cetacean Taxonomy- Odontoceti (toothed whales)

76 species

Delphinidae (dolphin, killer, pilot and relations), 37 species

Kogiidae (pygmy and dwarf sperm whales), 2 species

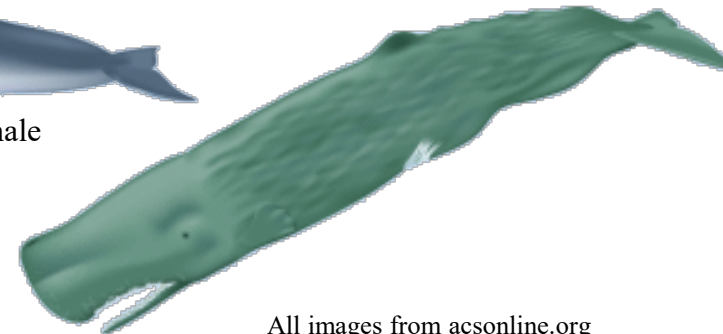
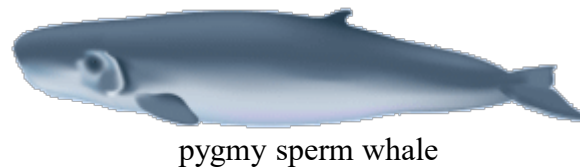
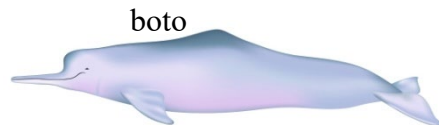
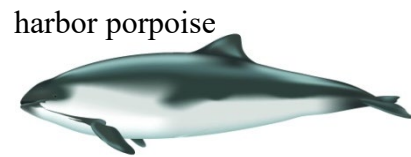
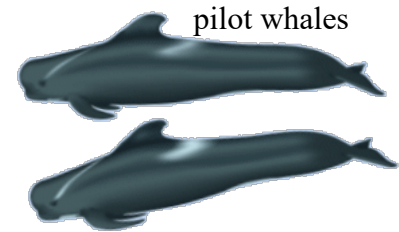
Monodontidae (narwhal and beluga), 2 species

Phocoenidae (porpoises), 7 species

Platanistidae + others (river dolphins), 4 species

Physeteridae (sperm whales), 1 species

Ziphiidae (beaked whales), 23 species



All images from aconline.org

# Cetacean or Not?

Several animals will appear on the slide. As each one appears decide whether or not it is a cetacean.



Gray whale is a cetacean



Harbor porpoise is a cetacean

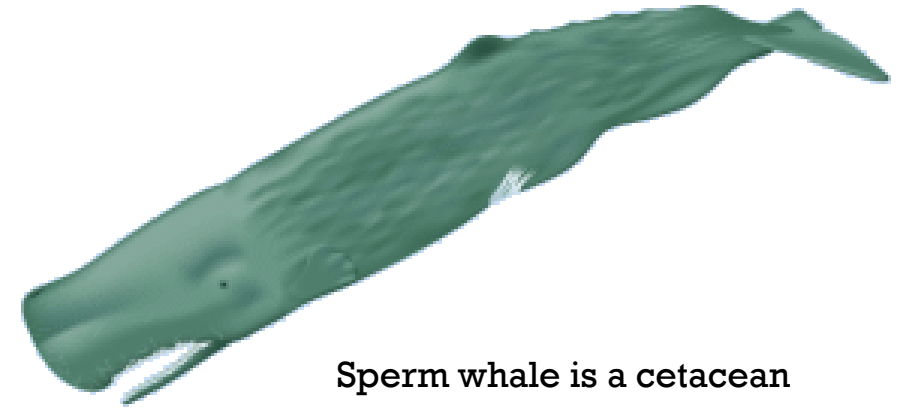


# Cetacean or Not?

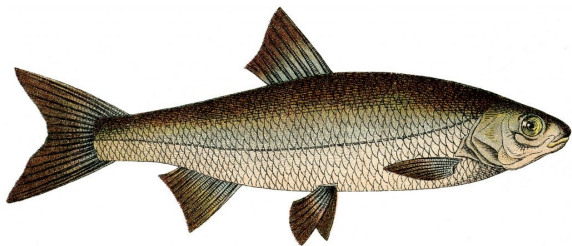
Several animals will appear on the slide. As each one appears decide whether or not it is a cetacean.



Narwhal is a cetacean



Sperm whale is a cetacean



Blue whale is a cetacean





# Cetaceans and Other Animals

- Now that you can tell a cetacean (whale, dolphin or porpoise) from other animals, you can learn other animal groups
- Then you will be able to do a classification (sorting) activity in which you will sort animals with spines (amphibians, birds, fishes, mammals and reptiles) from animals without spines.
- In other words, Vertebrates vs.
- Invertebrates

