Classroom Activity

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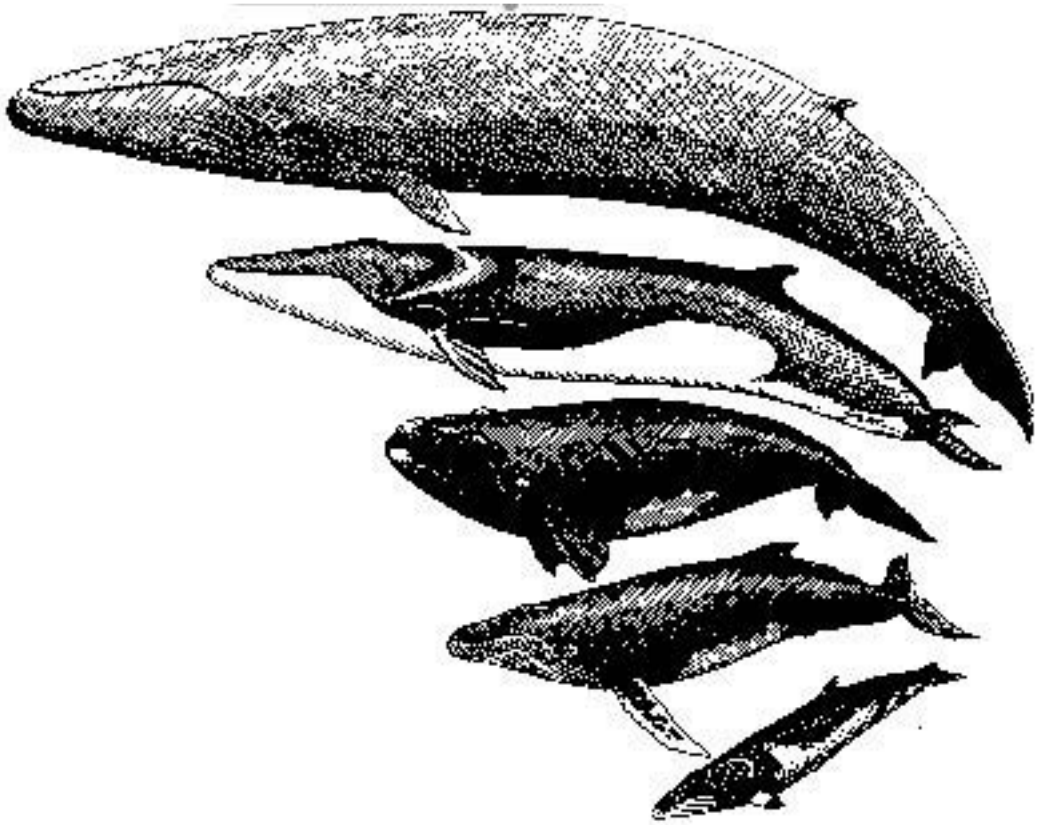
Whale Migrations



From top to bottom, these are blue whale, fin whale, right whale, humpback and minke whale.

Grade Level: Grades 4-9

Concepts: In this activity, students will study the migration patterns in the North Atlantic of whales. They will study the great distances traveled by these marine mammals.

Background: Whales travel to cold waters for feeding; they go to warmer waters to give birth. One of the most dramatic whales that visits the Gulf of Maine is the humpback whale, whose Latin name Megaptera novaeangliae means "big-winged New Englander." It is known for its spectacular leaps and long, white side flippers. About 100 humpback whales arrive on Stellwagen Bank, a newly designated marine sanctuary off Massachusetts, in the spring to feed on slender, five-inch-long fish called sand launce.

The Dominican Republic has made these whales' birthing grounds on Silver Banks, just north of that Caribbean country, a marine sanctuary. After giving birth during the winter or early spring, mothers bring their calves to the rich feeding grounds of Stellwagen Bank or other parts of the Gulf of Maine. Like all mammals, the mothers nurse their young. A 10-15 foot baby humpback may nurse as long as a year, adding

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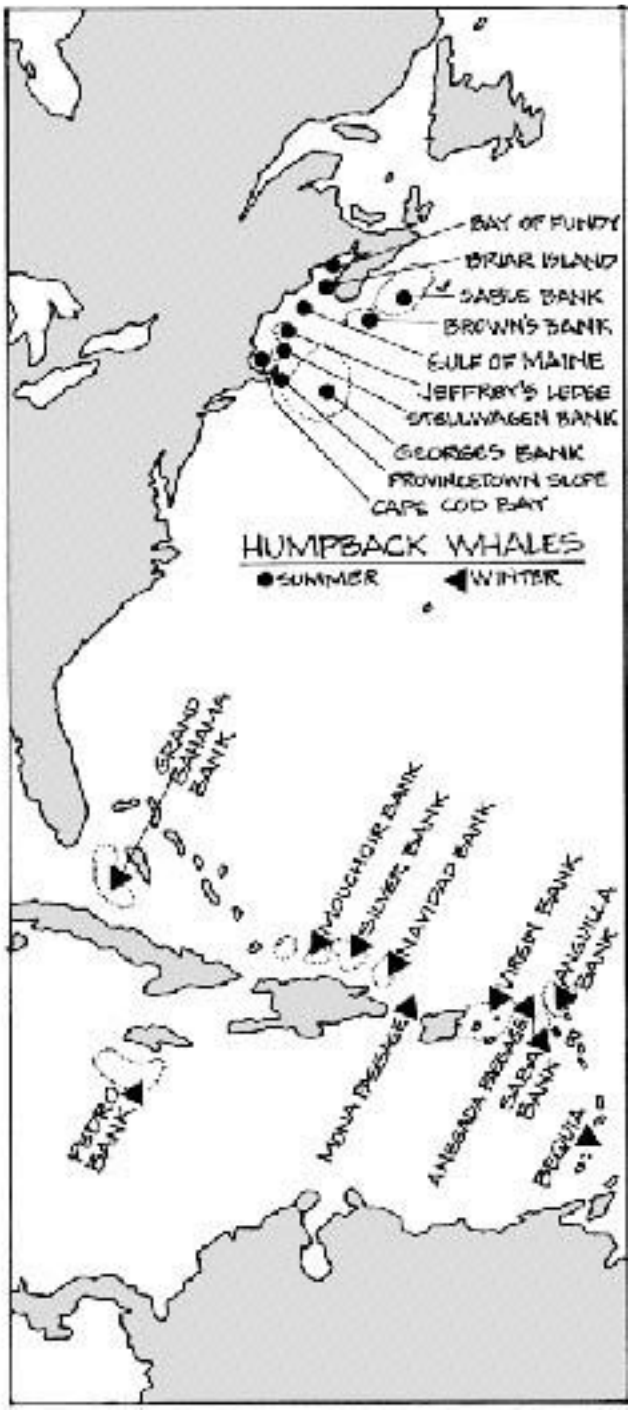
up to 15 feet in length each month. An adult humpback may grow to be up to 50 feet long.

Massachusetts Science Frameworks:

LS 3-5 #3 Recognize that plants and animals have life cycles, which vary for different things.

LS 3-5 #6 Give examples of how changes in the environment have caused some plants and animals to die or move to new locations (migration).

Activity: Research the migration patterns of whales which visit both the Gulf of Maine and the Caribbean.



1. Discuss why whales migrate such long distances.

2. Read aloud or have students read a book on humpback whales or whale watching. The bibliography section of this book suggests several books geared to various age levels.

After reading these books or various science magazine articles, discuss the dangers whales face during their migration.

3. Locate the two ends of the humpback whales' migration routes. (See map)

On a chart of the western Atlantic Ocean, Mark the two ends of the humpbacks' annual migration between Stellwagen Bank, off Massachusetts, and Silver Banks, off the Dominican Republic

Compare temperature readings of these locations.

4. Have teams of students create a board game of whale migration using a map of the Atlantic Ocean from the Gulf of Maine to the Caribbean as the game board. Have them make up chance cards to show hazards and benefits along the way.

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Whale migration routes

Have students research the migration routes of several other species of whales. One source is National Geographic, "The Great Whales, Migration and Range," December, 1976. (Scientists often know where whales summer and winter but may not know the routes they take to get there.) Another source is the satellite tracking program implemented by WhaleNet. WhaleNet provides blank charts, weather maps, and the latitude and longitude of the whales and other marine mammals.

Materials

Chart of whale migrations, books, magazine articles and information from WhaleNet discussing the dangers facing the whales.
With the following sites as resources, students can map the migration of humpback whales, predict and then check when humpbacks have been spotted in the Gulf of Maine, compare locations where they feed and breed by viewing satellite images of temperatures and plankton, and determine the total migration distance.

WhaleNet Blank Maps [try: North Atlantic Color GIF (large)]

Maine DMR's Recent Whale Sightings Map

Seasonal sea surface temperature (NASA image)

Sea surface temperature - U.S. east coast (NASA image)

Phytoplankton of the North Atlantic Ocean

Distance Calculator

Humpback Whale Bibliography

Be sure to check out other student activities on our website at
http://www.massmarineeducators.org/curriculum/