

Whale Watcher: Answer Key

Migration Data Sheet Answers:

1. What type of behaviors do you expect to see during the expedition?

Individual hypotheses

2. What dangers do you think gray whales run into along their migration?

Individual hypotheses



Use the information found in the interactive Gray Whale Migration Map, as well as the “More About Gray Whales” and “What’s This?” features of the Whale Watcher Game to answer the following questions.

Migration start point: *Magdalena Bay, Mexico*

Migration end point: *Bering Sea in Alaska*

Length of migration route: *Approximately 12,000 miles*

Name of surrounding ocean basin: *Pacific Ocean*

Reasons for migration:

Warm waters of Mexico good for calving; plenty of food available in the cold waters of Alaska

Reasons for low numbers of gray whales in the 1800s and early 1900s:

Almost hunted to extinction

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Gray Whale Behavior Data Sheet Answers

BEHAVIOR	Describe the behavior	Why is this behavior helpful to the whales?	Sketch the behavior if possible	Give one additional interesting fact
Mating	High-speed chases, lunging, bow waves	Keeps the species going	<i>Answers will vary</i>	Maturity between 5 and 11; 12-month gestation period; calves about 1250 lbs and 15 ft long
Social behavior/nature	Hanging out in groups of 3-16; calls, moans, rumbles, growls, knocking	Safety (not stated in game)	<i>Answers will vary</i>	Varied
Rubbing	Whales rub skin on rocks and gravel on ocean floor	Scratches itchy skin and helps to remove lice/barnacles	<i>Answers will vary</i>	A single whale can have 1000 lbs of barnacles and sea lice
Blowing	Misty air shoots out of 2 blowholes on top of head	Lets them breathe	<i>Answers will vary</i>	Whales can hold their breath for 15 mins; they breathe faster when nervous
Nursing	Calves nurse from mothers for many months	The high fat content in the milk helps calves gain blubber to stay warm	<i>Answers will vary</i>	Gray whale milk is 53% fat; mothers can lose up to 16000 lbs while nursing
Fighting Orca	Fight for their life; mothers use their bodies as shields to save calves	If they don't fight back they will die	<i>Answers will vary</i>	Packs of orcas attack together
Swimming in kelp	Swim through thick kelp beds in Monterey	Hide from orcas; find a mid-migration snack	<i>Answers will vary</i>	Orcas can't swim through the kelp very well
Spy hopping	Poking their heads out of the water	A way for whales to see what is going on at the surface of the water	<i>Answers will vary</i>	Some whales can hold half their bodies out of the water for 15-30 secs
Feeding	Roll onto one side, suck in sediment and water from bottom, push it out through baleen plates, and lick critters off the baleen with their tongue	Get nourishment	<i>Answers will vary</i>	Gray whale tongues can weight up to 2000 lbs
Breaching	Leap out of the water and splash	May serve as communication or help dislodge barnacles/lice	<i>Answers will vary</i>	Most common when whales are in groups

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Migration Threats Data Sheet Answers

THREAT	Why is this a danger to the whales?	Can whales avoid it? If so, how?	What can people do to help?
Whale-watching boats	Boats travel too close to whales; whales change speed and direction, messing up migration route	May travel out of their way to avoid the boats	Whale-watching companies can follow regulations and stay 100 yards away
Ship traffic	Collisions with ships can injure or kill whales; breathing rates increase; mothers and calves are separated; ship noise can confuse or deafen whales	Hard to avoid because the ships are so much faster than the whales.	Boats can travel slower and avoid migration routes.
Fishing nets	Nets can trap and drown whales.	Hard to avoid because nets are miles wide with hundreds of hooks	Discontinue discarding nets in the ocean; make a better effort to clean up discarded nets
Chemicals and pollution	Chemicals enter the whales' body when they eat plankton that has already absorbed the toxins; makes it difficult for whales to fight infections; have trouble reproducing.	No way for whales to avoid	Be vigilant about not polluting the ocean and waterways.
Orcas	Gray whales are part of the orca's food web; orcas hunt the gray whales.	Some whales stick closer to the coastline, where fewer orcas hunt.	N/A
Sonar	Noise created by ships may harm whales' hearing, disorient them and lead to beach strandings.	No way for whales to avoid.	Be very careful about using harmful types of sonar within the range of the whales.
Global warming	Warming ocean temperatures causes a loss of amphipods, the whales' main food source.	No way for whales to avoid.	Lessen impact on global climate change
Ice	Ice can trap late-leaving whales, eventually drowning them.	Leaving the Bering Sea at the proper time.	N/A

Reporting Data Sheet Answers

1. Describe the gray whale migration: Where do the whales migrate to and from? Why?

Migration takes place between Baja California, Mexico, and the Bering Sea in Alaska. Whales migrate to the warmer waters to mate and give birth, then return to the older waters of Alaska for the plentiful food.

2. What do you think would happen to a whale that did not exhibit the behaviors you filmed? List a possibility for each behavior, for example “If a whale did not rub its skin on the bottom of the ocean floor, it would.....”

Answers will vary. Students should have a possible scenario for each threat encountered.

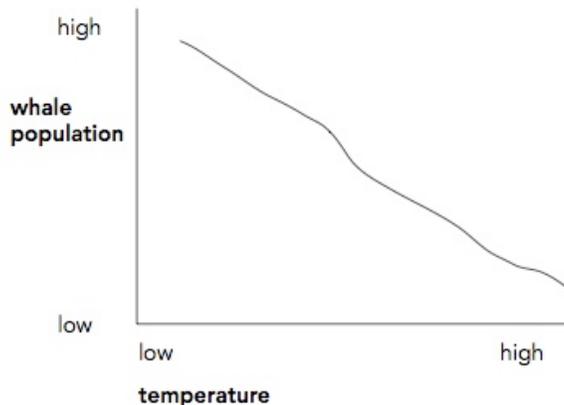
3. Which threat do you think is the most dangerous to the migrating whales? Why?

Answers will vary.

4. Draw a possible food chain from the animals you encountered in the game

Amphipods/mysid ⇒ shrimps ⇒ gray whales ⇒ orca whales

5. According to the following (fictitious) graph, how does rising ocean temperature affect gray whales? Use your data to explain this connection.



Rising temperature results in fewer amphipods, which then results in fewer gray whales

6. Draw a comic strip from the point of view of a migrating gray whale calf. Describe the lagoons in Mexico, some of the behaviors you watch the adults exhibit, and the threats you and your mother run into along the trip. What do you wish humans would do differently to make your trip easier?

Answers will vary