

Answer Key

Migration Data Sheet Answers:

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*

Reason for low numbers of gray whales in the 1800s and early 1900s: *Almost hunted to extinction*

Gray Whale Behavior Data Sheet Answers

BEHAVIOR	Describe the behavior.	Why is this behavior helpful to the whales?	Draw a picture of the behavior.	Give one additional interesting fact. (Answers will vary; samples are given below.)
Mating (Level 1)	High-speed chases, lunging, bow waves.	Keeps the species going.	Answers will vary.	Maturity between 5 and 11; 12-month gestation period; calves are about 1,250 pounds and 15 feet long.
Social behavior (Level 1)	Hanging out in groups of three to 16; calls, moans, rumbles, growls, knocking.	Safety (not stated in game).	Answers will vary.	Varied.
Rubbing (Level 1)	Whales rub skin on rocks and gravel at the bottom of the ocean.	Scratches itchy skin and helps to remove lice and barnacles.	Answers will vary.	A single whale can have 1,000 pounds of barnacles and sea lice.
Blowing (Level 2)	Misty air shoots out of two blowholes on the top of their head.	Lets them breath.	Answers will vary.	Whales can hold their breath for 15 minutes; they breathe faster when nervous.
Nursing (Level 2)	Calves nurse from mothers for many months.	The high fat content in the milk helps calves gain blubber to stay warm.	Answers will vary.	Gray whale milk is 53 percent fat; mothers can lose up to 16,000 pounds while nursing.
Fighting orcas (Level 3)	Fight for their life; mothers use their bodies as shields to save their calves.	If they don't fight back, they will die	Answers will vary.	Packs of orcas attack together.
Swimming in kelp (Level 3)	Swim through thick kelp beds in Monterey.	Hide from orcas; find a mid-migration snack.	Answers will vary.	Orcas can't swim through the kelp very well.
Spyhopping (Level 4)	Poking their heads out of the water.	A way for whales to see what is going on at the surface of the water.	Answers will vary.	Some whales can hold half of their bodies out of the water for 15 to 30 seconds.

Answer Key

Gray Whale Behavior Data Sheet Answers

BEHAVIOR	Describe the behavior.	Why is this behavior helpful to the whales?	Draw a picture of the behavior.	Give one additional interesting fact. (Answers will vary; samples are given below.)
Feeding (Levels 4 and 5)	Roll to one side, suck in sediment and water from the bottom of the ocean, push it out through their baleen plates, and lick the critters off the baleen with their tongues.	Get nourishment.	Answers will vary.	Gray whale tongues can weigh up to 2,000 pounds.
Breaching (Level 5)	Leap out of the water and land with a big splash.	May serve as communication or to help dislodge barnacles and lice.	Answers will vary.	Most common when whales are hanging out in groups.

Answer Key

Migration Threats Data Sheet

THREAT	Why is this a danger to the whales?	Can whales avoid it? If so, how?	What can people do to help? (Answers will vary; samples are given.)
Whale-watching boats (Level 1)	Boats travel too close to whales; whales change speed and direction, messing up their migration routes.	Many travel out of their way to avoid the boats.	Whale-watching companies can follow regulations and stay 100 yards away from whales.
Ship traffic (level 2)	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 (Levels 2 and 4)	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 (Level 2)	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 (Level 3)	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.	
Sonar (Level 4)	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 (Level 5)	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 (Level 5)	Ice can trap late-leaving whales, eventually drowning them.	Leaving the Bering Sea at the proper time.	N/A

Reporting Data Answers:

1. 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 colder waters of Alaska for the plentiful food.
2. Answers will vary. Students should have a possible scenario for each threat encountered.
3. Answers will vary.
4. Amphipods/mysid shrimps → gray whales → orca whales
5. Rising temperature results in fewer amphipods which then results in fewer gray whales.
6. Answers will vary.