

## Whale Watcher: Gray Whale Migration

*Material adapted from:*

[Jean-Michel Cousteau Ocean Adventures: Whale Watcher Game](#)

[Jean-Michel Cousteau Ocean Adventures: The Gray Whale Obstacle Course](#)

### Introduction:

Jean-Michel Cousteau and his team trail gray whales from their birthplace in the warm waters of Baja California, Mexico, to their nutrient-rich feeding grounds in the Bering Sea in Alaska in order to document and understand the variety of natural and man-made hurdles that these creatures must overcome in order to survive. This amazing expedition unlocks seldom-seen views of tragedy and triumph along a route that is nearly 12,000 miles long. Based on the experiences of the *Ocean Adventures* team along the migration route, this activity takes a look into the many behaviors gray whales exhibit that help them to survive along the coast of North America.

Playing the part of an *Ocean Adventures* volunteer team member, students will look at various whale behaviors on film as well as gather additional information about the threats the whales face on their long journey. This online game takes students above and below the water in five different locations along the migration route -- Baja California, Mexico; San Diego, California; Monterey, California; Depoe Bay, Oregon; and the Bering Sea in Alaska. Points are earned by capturing behaviors on film in a dwindling amount of time, and additional points can be accumulated by reading more in-depth information about the behaviors and threats discovered. Upon completion of the game, students analyze their data and compile a report.

### Objectives:

Students will be able to:

- Describe the gray whale migration route and reasons for the migration
- Draw a gray whale food chain
- Graph the relationship between rising ocean temperature and declining gray whale population
- Evaluate human impacts on gray whale migration

### Ocean Literacy Principles

These activities support:

- Essential Principle #1: Earth has one big ocean with many features
- Essential Principle # 5: The ocean supports a great diversity of life & ecosystems
- Essential Principle #6: The ocean and humans are inextricably interconnected

### Materials:

Writing Materials

Computers with Internet Access

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Handouts/Transparencies:

**Student Booklet, which includes:**

- Migration Data Sheet**
  - Gray Whale Behavior Data Sheet**
  - Migration Threats Data Sheet**
  - Reporting Data**
- Game Background**  
**Answer Key**

Procedure

1. Before the class begins familiarize yourself with the Whale Watcher Obstacle Course online game. Using blank student handouts, play Whale Watcher yourself; paying particular attention to where you think your students will need extra guidance. Review the Game Background and Answer Key teacher sheets.
2. Introduce whale migration and adaptation to the class. Have the class watch this introductory video: **Jean-Michel Cousteau Ocean Adventures Gray Whale** (<http://www.youtube.com/watch?v=mMFznXz-Uh4>)
3. Divide the class into small groups and assign them each a computer to use. Direct them to the Gray Whale Obstacle Course Website (<http://www.pbs.org/kqed/oceanadventures/episodes/whales/>). Have students click on “Trace the Migration”, read the opening paragraph and click “Launch Interactive Map” for an introductory activity.
4. Provide students with a copy of the Student Booklet. Give the students an overview of how to play Whale Watcher and have them fill out their hypotheses on the Migration Data Sheet. Once this is completed students can begin game play.
5. Allow students sufficient time to play the online game and collect data.
6. Once game play has ended, have students write down the score they received from the game. The higher the score, the faster the groups were at filming whale behavior and the more they read about the individual whale threats. Give out prizes for best score if you wish, or test their threat knowledge! Let students gather in their groups to review their data.
7. Using the Reporting Data sheet, have the students answer the questions using the data they have collected.
8. Wrap up the session by having a discussion with the class about their answers to the reporting data questions. How concerned are they for the survival of gray whales?

Teacher Notes

- Depending on the number of computers available, you might want to make adjustments, such as having students play the game on alternate days

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- When students are working in groups, it may be advantageous for each group member to collect different information for the organizer, and then share it with the rest of the group (be sure to have group members rotate who actually plays the game).
- Another option is to have separate individuals/pairs/groups collect different information, then share their data in small groups after game play. For example, pair #1 collects behavior data and pair #2 collects data on threats facing the whales; after game play, the two pairs join together to share and explain the data they have collected.

Extensions

1. Have students investigate the various sides of the debate on the best use of the San Ignacio lagoon in Mexico where gray whales calve. Use the lesson plan at <http://www.pbs.org/kqed/oceanadventures/educators/pdf/OceanAdv-Lagoon.pdf> as a guide.
2. Have students research the human threat to whales further. Have groups research individual threats and the policies/laws that are already in place to offset them. Use the lesson plan at <http://www.vanaqua.org/conservationinaction/lessonplans/3 - KW Threats.pdf> as a guide.

Vocabulary:

**Gray Whale**

One of the baleen whale species found frequently in the North Pacific Ocean

**Migration**

Animals, typically birds or fish, moving from one region or habitat to another regularly. Often associated with changing seasons