

SCIENCE·3D

MASTERS OF THE DEEP: SPERM WHALES

In this packet, sample student answers are provided in **red** and notes to teachers are in **blue**.

In this **Mission Research**, students dive deeper into sperm whale ecology based on information they learned from the **Mission Reader**. A selection of these questions or activities can be completed to address specific standards (science or language arts) that you want to emphasize.



Background Research Investigation

This activity can be done independently or in small groups. Based on the information from the **Mission Reader**, have the students answer the following questions, write their own essays, or create posters or presentations. Consider assigning particular questions to different groups to focus on.

The first step in a scientific investigation is to conduct background research. We need to gather important information about sperm whales. The following questions will help us get started.

1. What kind of animals are sperm whales? What are their closest relatives?

Sperm whales are mammals. Their closest living relatives are other whales and dolphins.

The closest land-dwelling relative of sperm whales are hippopotamuses.

2. How long do sperm whales live?

Sperm whales are thought to live up to 60 - 70 years old.

3. What kinds of groups do sperm whales live in?

The kinds of groups sperm whales live in are female-led family groups and male bachelor groups.

4. How deep do sperm whales dive?

Sperm whales can dive up to 2,000 meters or 1.25 miles deep.

5. What do sperm whales eat?

Sperm whales eat fish, squid (including giant squid), and other deep-sea animals.

6. **Describe** the life of a *male* sperm whale.

When young, male sperm whales live with their mother's family group and nurse from their mother. Upon maturity, they leave the group to live alone or join male bachelor groups.

Male sperm whales travel between warm waters (where female groups live) and the arctic regions in search of food.

7. **Describe** the life of a *female* sperm whale.

Female sperm whales live with the family group that they are born into. They live in equatorial and tropical waters around the world and dive deep to search for food.

8. What are threats to sperm whales today?

The biggest threats to sperm whales today are boating accidents, oil spills, over-fishing, pollution, climate change, etc.

9. Why did people hunt sperm whales?

Sperm whales were hunted for their blubber, meat, and oil.

10. In what ways do scientists study sperm whales?

Scientists study sperm whales in many ways. They use satellite tags, underwater acoustics, transects, video recordings, etc.

11. **Compare** and **contrast** sperm whales and elephants.

Students could use a Venn Diagram to answer this question. Some of the shared characteristics include: breathe air, feed young milk, born alive, live in social groups led by females, must travel long distances for resources. Some differences include: sperm whales live in water, elephants live on land, different diets, etc.