

Student Discussion Worksheet

Directions: After reading the online *Science News* article "[A beaked whale's nearly four-hour-long dive sets a new record](#)," answer the first set of questions with your class. Your teacher will then assign you to a group to answer the remaining questions.

Changing conditions

1. As a beaked whale descends from the ocean's surface to as far down as 3,000 meters, what ocean conditions vary depending on the whale's depth?
2. How do the conditions change as depth increases? Use scientific concepts you've learned to explain why the changes occur.
3. What characteristics might marine mammals, such as beaked whales, need to survive traveling between in these changing conditions?
4. What are some of the benefits to an ability to travel to significantly different ocean depths?
5. What is the ocean zone model? Why do you think scientists find this model useful? Explain.

Exploring the ocean zone model

In your group, discuss and answer the following questions about your assigned zone. Use additional resources as necessary, and make sure to cite your sources. Be prepared to present your answers to the class. Assign one member of your group to add your zone to the class's ocean zone diagram while the other group members present.

1. Briefly describe the depth range and conditions — sunlight, nutrients, temperature, pressure and dissolved oxygen — in your assigned ocean zone.

2. Name at least three organisms that live at least part-time in your zone. Provide details on their diet, physical features and behavior.

3. Choose one of the characteristics from each organism in question No. 2. Use what you know of about the conditions in your zone to explain why the organism might have this characteristic. Why is that characteristic beneficial to that zone?

Summarizing the model's purpose

As a class, discuss the benefits and limitations to this scientific model of ocean zones. Are there variations in the model based on the resources you used? Explain why this might be. What are reasons why a scientific model might change over time?