

Seal Scientist

OBJECTIVE

Students will review their knowledge of time and clocks during imaginary seal watching.

BACKGROUND

Scientists in the Arctic study a seal's breathing pattern by waiting on the ice beside a seal's "breathing hole." This is the place where seals come up to the surface to take a breath of air. Often the hole is no larger than the size of a seal's neck.

MATERIALS

- Diving Time* funsheet on page 13
- clock teaching tool with movable arms (available at most education supply stores)
- 3" x 5" cards with one of the following written on each: 9 a.m., 9:10 a.m., 9:25 a.m., and 10:44 a.m.
- pencils
- enlarged image of the ringed seal animal card on page 8 or color photo of a ringed seal from book or magazine. *National Geographic* 189 (1), July 1991, p. 30 has one.



ACTION

1. Copy and distribute the *Diving Time* funsheet and pencils to students.
2. For reading students: Choose one to four students to read the story at the top of the page. As times are read, have students pick out the correct time on the 3" x 5" card. Discuss any question students might have about the story.

For non-reading students: Read the story to them as they follow along on their paper. As a time is read, ask students to pick the card with the correct time. Or show the time on the clock teaching tool.

3. Ask students to answer questions. Students can write answers on the board and tell how they found the answer. Younger students can move

the hands on the clock teaching tool and count minutes. Students copy answers on their worksheets.

4. After answering questions, ask students to make believe they are scientists. What will happen in the afternoon? Students can also draw a picture of themselves and the seal at the research camp.

DEEPER DEPTHS

Watch a dog or cat or any other animal's movements. Have students draw or write what they see. Can students determine a pattern? Share the results with the class.

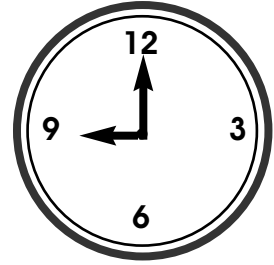
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My Day on the Ice

It was May 1 and the weather was mild, a warm 1.6°C (35°F). I picked up my folding chair and walked a short distance from the research camp onto the ice. I looked at my watch. It was 9 a.m. I began my study of seals.

As I walked toward the hole in the ice, a ringed seal rolled over and slipped into the water. I set up my chair, sat down, and waited quietly. At 9:10 a.m. the seal peeked through the hole to look at me, but slipped back into the water. I picked up my chair and moved back. At 9:25 a.m. the seal came out onto the ice. It stayed on the ice until 10:44 a.m. Then it dove and stayed under water for 10 minutes. The next time I saw the seal, it took a quick breath and dove again. My watch showed 10:55 a.m. I was getting cold. I walked back to the research camp for a hot chocolate.

Questions



What time did you start your study? _____ a.m.

What time did you end your study? _____ a.m.

How long did you stay to study the seal? _____ minutes (____ hrs. _____ min.)

How long did the seal stay under water the first time? _____ minutes

How long did the seal stay under water the second time? _____ minutes

How long did the seal stay under water the third time? _____ minutes

How long did the seal stay under water during the study time? _____ minutes

How long did the seal stay on top of the ice during the study time? _____ minutes

bowhead

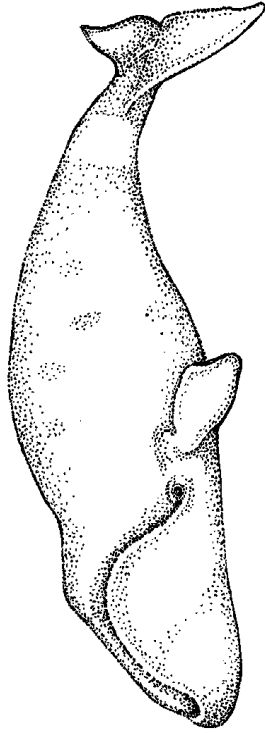
Balaena mysticetus

size: 18.5 m (60.7 ft.) and 100 metric tons (220,400 lb.)
Females generally larger than males

distribution: circumpolar in the Arctic but usually in the Bering, Chukchi, and Beaufort Seas

prey: mostly planktonic swarms of krill and other small crustaceans

predators: none, but hunted by humans



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harp seal

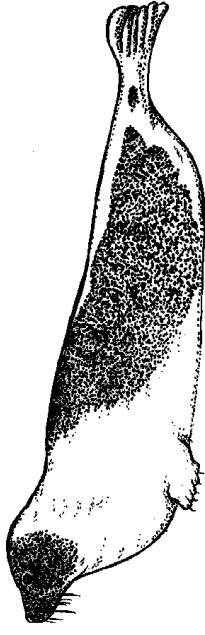
Phoca groenlandica

size: to 1.7 m (5.6 ft.) and 130 kg (287 lb.)
Males somewhat larger than females

distribution: population centers in the northwest Atlantic Ocean around Newfoundland

prey: pelagic crustaceans and fishes such as capelin and herring. During the summer they also feed on arctic cod and polar cod found at high latitudes.

predators: polar bears and killer whales



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beluga

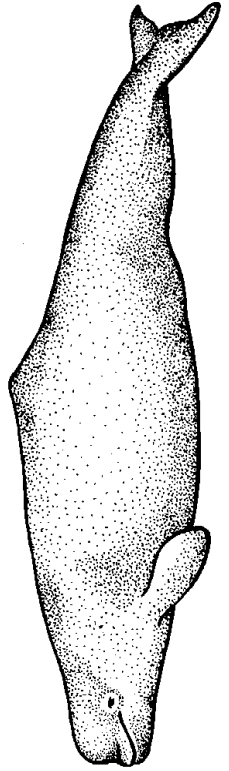
Delphinapterus leucas

size: Males to 4.6 m (15.1 ft.), 1,500 kg (3,307 lb.)
Females to 4 m (13.1 ft.), 1,360 kg (2,998 lb.)

distribution: Arctic Ocean and adjoining seas

prey: primarily bottom-dwelling animals such as flounder, octopuses, crabs, shrimps, clams, snails, and sandworms

predators: killer whales and polar bears



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ringed seal

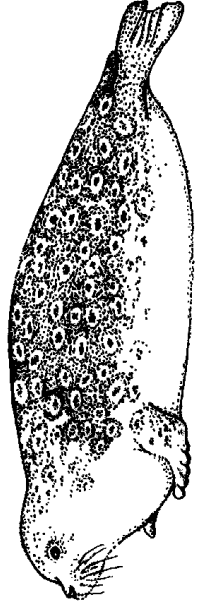
Phoca hispida

size: to 1.5 m (4.9 ft.) and to 70 kg (154 lb.)
Males somewhat longer than females

distribution: widespread and abundant in arctic waters; they breed and dig out birthing lairs in land-fast ice.

prey: depending on location and season, amphipods, shrimps, squids, cods, and sculpins

predators: polar bears and killer whales



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