

*For Teachers: When you use Dual method, please have the students do the shadowing after you. Then have them read by them self. And correct their pronunciation, **through all of this material.***

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eTOC Part2 Lesson8.Pre1-3.1-2018.3chobundokai スマホの方は横にしてご覧ください

1. Stranded Whales

2. In January and February 2016, more than two dozen male **sperm whales**
3. found **washed up on** European beaches around the North. These whales
4. had entered shallow waters with sand or mud on the bottom, which
5. prevented them from using sonar clicks to navigate.

6. They became trapped in these shallow areas, and without enough water to
7. support their tremendous weight, their lungs collapsed, and the whales
8. died of **respiratory** failure.

9. It was initially thought the whales had entered the areas in pursuit of
10. squid, a favorite prey food, or that they might have swallowed fatal
11. quantities of plastic. However, these theories were quickly **disproved**.

sperm whale マッコウクジラ washed up on 打ち上げられる respiratory 呼吸の disprove 誤っていることを示す

Further Questions & Sample Answers *For Teachers: Please use the direct method like CALLAN for this part. 1. Ask student to answer the question on their own at first. 2. Then read the "sample answer". 3. Tell student to close their eyes. 4. Let them repeat after you again. Because student can't see the answer. 5. Have the student try to memorize the answer. 6. Once they have memorized the answer, ask the question one last time.*

1) Why did two dozen male sperm whales wash up on European beaches?

1) They had entered shallow waters with sand or mud on the bottom, which prevented them from using sonar clicks to navigate.

2) What theories did people have about why the whales entered the areas?

2) It was thought the whales entered the areas in pursuit of squid or that they might have swallowed fatal quantities of plastic.

12. After further research, an alternative explanation emerged. Whales use
13. both sonar and Earth's magnetic field to navigate.

14. In December 2015, when sperm whales were migrating south from the
15. Norwegian Sea, the aurora **borealis** was visible.

16. These bright lights in the northern sky are caused by storms that occur on
17. the sun, and they are a sign that these storms are strongly interfering
18. with Earth's magnetic field.

19. Such storms can confuse **migratory** animals such as birds, and probably
20. also caused whales relying on the magnetic field to become **disoriented** and
21. enter shallow waters.

Migrate～へ移住する borealis 北の migratory 移住性の disorient 混乱させる

Further Questions & Sample Answers



3) What happened in December 2015?

3) As the whales were migrating south from the Norwegian sea, the arura borealis was visible.

4) What do storms that occur on the sun do?

4) They interfere with the Earth's magnetic field and can confused migratory animals such as birds and probably whales.

22. All the stranded whales were young males. In general, female sperm whales and their babies remain in waters around the **equator**.
23. Males, on the other hand, migrate in what are known as “bachelor groups”
24. once they become independent between the ages of 10 and 15.
25. Older, experienced males are more solitary and travel alone, leaving the
26. **inexperienced** males to **fend** for themselves. Scientists believe the young
27. males were relying on magnetic sensing and did not realize they had
28. **strayed** from their migration route. In contrast, more experienced whales
29. would have known to use other navigation methods, such as sonar clicks,
30. to **reorient themselves** before it was too late.

strand 立ち往生させる equator 赤道 inexperience 無経験 fend 受け流す stray はぐれる reorient oneself 自分の位置を知る

Further Questions & Sample Answers

5) What do male whales do between the ages of 10 and 15?

5) *They migrate in what are known as “bachelor groups”.*

6) Why weren't experienced male whales confused by the magnetic sense?

6) *They would have known to use other navigation methods, such as sonar clicks, to reorient themselves before it was too late.*

*Choose the correct answer from these choices.

32. (32) *What happened to the whales that were found on North Sea beaches?*

33. 1. The large amounts of sand and mud in the waters they swam into entered their lungs and affected their breathing.
34. 2. The squid they were hunting led them to unfamiliar territory, where they consumed harmful plastic waste.
35. 3. They swam into shallow areas where their heavy weight resulted in their being unable to breathe.
36. 4. They consumed a type of animal that happened to be toxic, making them too ill to swim to deeper waters.

37.

38. (33) *What is true of the aurora borealis in the context of the passage?*

39. 1. It was so much brighter than usual that many sea animals became distracted by the lights and were unable to orient themselves.
40. 2. It was a result of the same phenomenon that had likely caused the whales to become confused and navigate incorrectly.
41. 3. Its presence over the Norwegian Sea caused many birds to fly toward the North Sea, which led the whales to follow.
42. 4. Its appearance farther south than usual weakened the whales' ability to use sonar clicks to confirm the depth of the waters.

43.

44. (34) *If the whales had been older, they would have*

45. 1. realized that they had traveled off course and tried to find their way again using a different method.

46. 2. been less independent and therefore swum back toward the equator to return to the females.
 47. 3. known to follow the lead of the females, which generally travel more and have better navigation skills.
 48. 4. been unable to use sonar clicks to request help from other whales that were nearby.
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49. Answer: (32) 4 (33) 3 (34) 1



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