

For Teachers: Please have the students read the sentences one at a time and correct their pronunciation of each sentence then have them repeat after you. Wait until after they read the sentence (use the number in place of the missing word) to have the students choose the correct answer to fill in the blank. When the students finish the article, move on to the further questions.

日本語訳なしタイプ B もございます。スクロールダウンするとございますので好きな方をご利用下さい。

4[C] – Saving a Copy

eTOC のレッスン以外で使用禁止 11.1(4C)A2E

1. In 1993, director Steven Spielberg had a big ^{監督 (かんとく)} hit ^{成功 (せいこう) した} with his movie *Jurassic*
2. *Park*. The movie was about a ^{テーマパーク} theme park where people could see ^{そっくりの} cloned
3. dinosaurs, but it was ^{批判 (ひはん) された} criticized by some ^{科学者 (かがくしゃ)} scientists as ^{非現実的 (ひげんじつてき) な} unrealistic .
4. Dinosaurs, they say, could never be brought back to life by ^{クロンをつくること} cloning . What those
5. scientists did not know, though, was how much ^{発達 (はったつ)} progress cloning would make
6. after the movie was ^{製作 (せいさく) された} produced . In particular, a new ^{特 (とく) に} method ^{方法 (ほうほう) ~として知 (し) られている} known as
7. “ interspecies ^{異 (こと) なる生物種 (せいぶつしゅ) の間 (あいだ) の コピーをつくること} cloning ” has brought the world of Spielberg’s movie
8. much closer to ^{もっと近 (ちか) づく} reality . Interspecies cloning means using the egg of ^{現実 (げんじつ)}
9. one species of animal to ^{動物 (どうぶつ) の一種 (いっしゅ)} produce ^{~を作 (つく) り上 (あ) げる} a clone of another species.
10. First, an egg is ^{持 (も) ち出 (だ) された} taken out of a female animal and the DNA is ^{メスの} removed ^{取 (と) り去 (さ) られた} .
11. Then the DNA of another animal is put into the egg.
12. Electricity is ^{電気 (でんき)} passed through ^{通過 (つうか) した} the egg, ^{それが成長 (せいちょう) し始 (はじ) める原因 (げんいん) だ} causing it to start growing ^{~に進化 (しんか)} .
13. The egg is then put back into the mother’s body, where it ^{なんとか~する} develops into a normal
14. baby. Scientists have so far managed to ^{創造 (そうぞう) する} create ^{たくさんの} a number of animal clones
15. in this way.

Further Questions&A

*Ask student to answer the question on their own at first. If the student can't answer correctly, have him look at the last page and read the “example answer” for the question. Have the student try to memorize the answer, if it's too long or difficult, you should divide the sentence into 2 or 3 parts to make it easier to remember. Once they have memorized the answer, the teacher should ask the question one last time so that the student can practice answering. Also if you find any mistakes, please mark the page and let me know ASAP.

16. 1) Why do you think scientists said it was impossible to clone dinosaurs like in the movie *Jurassic Park*?
17. あなたはなぜ ^{かがくしゃ} 科学者たちが映画 “Jurassic Park” ように ^{えいが} 恐竜 ^{きょうりゆう} のクローンを ^{つく} 作ることは ^{ふかのう} 不可能だと言った ^い と思いますか。 ^{おも}
18. *The process used in the movie would not work in real life.* ^{過程 (かてい)}
19. 2) What is interspecies cloning? ^{いしゅかん} 異種間クローニングとは ^{なんですか。}
20. *A clone of one species is created using the embryo of a different species.* ^{クローン} ^{種 (しゅ)} ^{胚 (はい)}
21. 3) How does interspecies cloning work? ^{いしゅかん} 異種間クローニングは ^{どのように} 作用 ^{さよう} しますか。 ^{胚 (はい)}
22. *The DNA of one species is put into the embryo of a different species.*
23. One scientist who has been working on interspecies cloning is Betsy Dresser of ^{しかしながら}
24. the Audubon Nature Institute in New Orleans. Dresser’s goal, however,

25. has not been to bring extinct animals back to life.
もたらすことはなかった 絶滅(ぜつめつ)した
26. Rather, she hopes to prevent animals from becoming extinct in the future.
むしろ 防(ふせ)ぐ 絶滅(ぜつめつ)
27. So far, she has produced clones of African wildcats by putting their DNA
今までのところ 作(つく)り上(あ)げた アフリカヤマネコ
28. into the eggs of ordinary pet cats. (普通の猫の卵細胞にアフリカヤマネコのDNAを入れる事によってアフリカヤマネコのコピーを作り上げた) The clones she has produced
普通(ふつう)の 彼女(かのじょ)によって作(つく)られた
29. have not only been healthy, but have also given birth to kittens themselves.
健康的(けんこうてき) 産(う)む 出産(しゅっさん)する
30. She believes that this kind of cloning will allow scientists to increase
動物(どうぶつ)の集団(しゅうだん) それが必要(ひつよう)なときに ~を増(ふ)やす
31. animal populations when it is necessary.

Further Questions&A

32. **4) What is Betty Dresser's goal?** Betty Dresser の 目標 はなんですか。
ひとつひとつ列挙(れっきょ)する 絶滅(ぜつめつ)しそうな
33. *To catalogue all the DNA of endangered species so that they might be recreated in the future if they go extinct.*
再創造(さいそうぞう)させられる
34. **5) Have the clones she has made been healthy?** 彼女が作り上げたクローンたちは健康 ですか。
健康(けんこう)
35. *Yes, and some have even had children.*

36. With this goal in mind, Dresser has been creating a “frozen zoo” of
よく憶(おぼ)えておく 絶滅(ぜつめつ)に瀕(ひん)した 冷凍(れいとう)の
37. endangered animals. She has collected tiny pieces of skin containing the
種(しゆ) ちっちゃな かけら ~を含(ふく)む
38. DNA of hundreds of different species from around the world.
入(い)れ物(もの)
39. She keeps these frozen in small containers so that if it becomes necessary in the
専門家(せんもんか) 賛成(さんせい)する
40. future, clones can be created. Not all experts agree with the idea of
防(ふせ)ぐ 損害(そんがい)
41. creating clones. Some of them say that it is more important to prevent damage
環境(かんきょう) このように 続(つづ)ける
42. to the environment. In this way, animals could continue to live
彼(かれ)らがどこにいても 反論(はんろん)する 選択(せんたく)
43. where they are. Dresser agrees but argues that if it is a choice between
絶滅(ぜつめつ) ~を選(えら)ぶ
44. extinction and cloning, it is better to choose cloning.

Further Questions&A

45. **6) Why do some people** disagree with Betty Dresser's method?
反対(はんたい)する
46. なぜ一部の人々は Betty Dresser の方法に反対しているのですか。
いちぶ ひとびと ほうほう はんたい
47. *They feel it would be better to focus energy on preserving the environment rather than rely on cloning to fix it after it is too late.*
保存(ほぞん)する 頼(たよ)る 決定(けつてい)する
48. **7) Do you think it would be possible to bring extinct species back using Betty Dresser's methods?** あなたは 絶滅種 を Betty Dresser の方法で呼び戻すことができるとおもいますか。
絶滅種(ぜつめつしゆ) 呼び戻す(よびもどす)
49. *We can create individuals if we have the DNA, but not whole species.*
個体(こたい)
50. **8) What is an extinct animal you would** bring back if you could?
呼(よ)び戻(もど)す
51. もし絶滅種 を 1つ呼び戻すことができるならあなたは 何を 呼び戻したいですか。
絶滅種(ぜつめつしゆ) なに 呼(よ)び戻(もど)す

52. *Seeing the flying dinosaurs might be nice.*

53. (41) Why did some scientists criticize *Jurassic Park*? 批評 (ひひょう) する

54. なぜ科学者は Jurassic Park を非難しましたか。 か がく し ゃ ひ な ん

55. 1 They disliked using dinosaurs for entertainment. 嫌 (きら) った

56. 2 They opposed the idea of creating fake dinosaurs. 反対 (はんたい) した 作り物の

57. 3 They doubted that dinosaurs could ever be cloned. 疑 (うたが) った

58. 4 They thought the dinosaurs in it were the wrong size.

59. (42) What is one way that scientists have been able to create animal clones? 産 (う) み出 (だ) す

科学者が動物のクローンを生み出すことができている一つの方法は何ですか。 か がく し ゃ どうぶつ う だ ひ と ほうほう なん

60. 1 By replacing the DNA in an animal's egg with the DNA of another animal. ～と取 (と) り替 (か) える

61. 2 By raisings many different kind animals to be used collecting DNA. 育 (そだ) てることによつて ～に使用 (しよう) される 集 (あつ) めること

62. 3 By gradually changing DNA to create a new animal. 除々 (じょじょ) に

63. 4 By using electricity to create DNA in a laboratory. 実験室 (じっけんしつ)

64. (43) What is Better Dresser trying to do? なに Better Dresser は何をしようとしていますか。

65. 1 Increase the variety of pets that people keep. 様々 (さまざま) な

66. 2 Create new species that can avoid extinction. ～を避 (さ) ける

67. 3 Show that cloned animals are not healthy.

68. 4 Make it possible stop species from dying out.

69. (44) Why are some experts against cloning? 専門家 (せんもんか) ～に反対 (はんたい) する

70. ある専門家たちがクローン化に反対しているのはなぜですか。 せんもんか か はんたい

71. 1 They are concerned about the effect of clones on other animals. 心配 (しんぱい) している

72. 2 They worry that cloning will only be able to help a few species.

73. 3 They think that it would be better to protect the places where animals live. ～を守 (まも) る

74. 4 They believe that storing animal DNA for the future will be too expensive. ～だと思 (おも) う 貯蔵 (ちょぞう) すること 未来

75. (45) Which of the following statements is true? 後 (あと) ににつづく 次の陳述のうち、正しいものを選びなさい。 つぎ ちんじゆつ ただ えら

76. 1 *Jurassic Park* seems much more realistic now than when it was first shown. 現実的 (げんじつてき) な それが初 (はじ) めて現 (あら) れたとき

77. 2 Dresser has collected clones of many different species from all over the world.

78. 3 There is a possibility that even ordinary pets like cats will become endangered. 可能性 (かのうせい) 普通 (ふつう) の 絶滅 (ぜつめつ) しそうな

79. 4 It is still impossible to create clones that are able to produce babies of their own. 不可能 (ふかのう) な 産 (う) む

Review Questions

80. 1) Why do you think scientists said it was impossible to clone dinosaurs like in the movie Jurassic Park?

81. *The process used in the movie would not work in real life.*

82. **2)** What is interspecies cloning?

83. *A clone of one species is created using the embryo of a different species.*

84. **3)** How does interspecies cloning work?

85. *The DNA of one species is put into the embryo of a different species.*

86. **4)** What is Betty Dresser's goal?

87. *To catalogue all the DNA of endangered species so that they might be recreated in the future if they go extinct.*

88. **5)** Have the clones she has made been healthy?

89. *Yes, and some have even had children.*

90. **6)** Why do some people disagree with Betty Dresser's method?

91. *They feel it would be better to focus energy on preserving the environment rather than rely on cloning to fix it after it is too late.*

92. **7)** Do you think it would be possible to bring extinct species back using Betty Dresser's methods?

93. *We can create individuals if we have the DNA, but not whole species.*

94. **8)** What is an extinct animal you would bring back if you could?

95. *Seeing the flying dinosaurs might be nice.*

解答: (41) 3 (42) 1 (43) 4 (44) 3 (45) 1

Type B 日本語訳なし

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96. In 1993, director Steven Spielberg had a big hit with his movie *Jurassic Park*.
 97. The movie was about a theme park where people could see cloned dinosaurs, but
 98. it was criticized by some scientists as unrealistic. Dinosaurs, they say, could
 99. never be brought back to life by cloning. What those scientists did not know,
 100. though, was how much progress cloning would make after the movie was
 101. produced. In particular, a new method known as "interspecies cloning" has
 102. brought the world of Spielberg's movie much closer to reality.
 103. Interspecies cloning means using the egg of one species of animal to produce a
 104. clone of another species. First, an egg is taken out of a female animal and the
 105. DNA is removed. Then the DNA of another animal is put into the egg.
 106. Electricity is passed through the egg, causing it to start growing.
 107. The egg is then put back into the mother's body, where it develops into a normal
 108. baby. Scientists have so far managed to create a number of animal clones in this
 109. way.

Further Questions&A

110. 1) Why do you think scientists said it was impossible to clone dinosaurs like in the movie *Jurassic Park*?
111. 2) What is interspecies cloning?
112. 3) How does interspecies cloning work?

113. One scientist who has been working on interspecies cloning is Betsy Dresser of
 114. the Audubon Nature Institute in New Orleans. Dresser's goal, however, has not
 115. been to bring extinct animals back to life. Rather, she hopes to prevent animals
 116. from becoming extinct in the future. So far, she has produced clones of African
 117. wildcats by putting their DNA into the eggs of ordinary pet cats. The clones
 118. she has produced have not only been healthy, but have also given birth to kittens
 119. themselves. She believes that this kind of cloning will allow scientists to increase
 120. animal populations when it is necessary.

Further Questions&A

121. 4) What is Betty Dresser's goal?
122. 5) Have the clones she has made been healthy?

123. With this goal in mind, Dresser has been creating a "frozen zoo" of endangered
 124. animals. She has collected tiny pieces of skin containing the DNA of hundreds of
 125. different species from around the world. She keeps these frozen in small
 126. containers so that if it becomes necessary in the future, clones can be created.
 127. Not all experts agree with the idea of creating clones. Some of them say that it is
 128. more important to prevent damage to the environment. In this way, animals
 129. could continue to live where they are. Dresser agrees but argues that if it is a
 130. choice between extinction and cloning, it is better to choose cloning.

Further Questions&A

131. 6) Why do some people disagree with Betty Dresser's method?
132. 7) Do you think it would be possible to bring extinct species back using Betty Dresser's methods?
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134. (41) Why did some scientists criticize *Jurassic Park*?

135. 1 They disliked using dinosaurs for entertainment.
136. 2 They opposed the idea of creating fake dinosaurs.
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138. 4 They thought the dinosaurs in it were the wrong size.

139. (42) What is one way that scientists have been able to create animal clones?

140. 1 By replacing the DNA in an animal's egg with the DNA of another animal.
141. 2 By raisings many different kind animals to be used collecting DNA.
142. 3 By gradually changing DNA to create a new animal.
143. 4 By using electricity to create DNA in a laboratory.

144. (43) What is Better Dresser trying to do?

145. 1 Increase the variety of pets that people keep.

146. **2** Create new species that can avoid extinction.

147. **3** Show that cloned animals are not healthy.

148. **4** Make it possible stop species from dying out.

149. **(44)** Why are some experts against cloning?

150. **1** They are concerned about the effect of clones on other animals.

151. **2** They worry that cloning will only be able to help a few species.

152. **3** They think that it would be better to protect the places where animals live.

153. **4** They believe that storing animal DNA for the future will be too expensive.

154. **(45)** Which of the following statements is true?

155. **1** *Jurassic Park* seems much more realistic now than when it was first shown.

156. **2** Dresser has collected clones of many different species from all over the world.

157. **3** There is a possibility that even ordinary pets like cats will become endangered.

158. **4** It is still impossible to create clones that are able to produce babies of their own.

Review Questions

159. **1)** Why do you think scientists said it was impossible to clone dinosaurs like in the movie *Jurassic Park*?

160. **2)** What is interspecies cloning?

161. **3)** How does interspecies cloning work?

162. **4)** What is Betty Dresser's goal?

163. **5)** Have the clones she has made been healthy?

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165. **7)** Do you think it would be possible to bring extinct species back using Betty Dresser's methods?

166. **8)** What is an extinct animal you would bring back if you could?

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