

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。

3[B] – 密猟 (みつりょう) **Anti-Poaching Enforcers Turn to** 犯罪科学 (はんざいかがく) の **Forensics** **Version3 G1 09-3**

1. In 1989, after a decade in which over 700,000 African elephants were killed for their ivory, and worldwide public sentiment began to demand action to 抑制 (よくせい) する **curtail** 残虐 (ざんぎゃく) な **this wanton** 虐殺 (ぎゃくさつ) **slaughter**, all international trade in elephant 強制措置 (きょうせいそち) **products was banned. Strict enforcement measures** 密輸 (みつゆ) **contraband trade** **dry.**

Further Questions*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.

- 2. **1) What happened to elephants the 1980's?**
 - 3. 1980年代に、象たちに何が起こりましたか。
 - 4. **2) What action was taken to curtail this wanton slaughter?**
 - 5. ひどい虐殺を取り締まるためにどんな措置が取られましたか。
-
- 6. **1) 700,000 African elephants were killed for their ivory.**
 - 7. **2) All international trade in elephant products was banned.**

8. In recent years, however, with Western financial aid for law enforcement becoming scare and demand once again on the increase, black-market exports of ivory have returned with a vengeance. The rise of globalization has connected the world's economies, but it has also facilitated the international movement of 密輸品 (みつゆひん) **contraband**.

9. At a time when efforts to halt terrorism and human-rights abuses have resulted in reduced outside financing and put a growing strain on local resources, the legal authorities of the countries involved have either been 起訴 (きそ) する **unwilling or unable to invest in effective strategies to solve and prosecute** 犯罪組織 (はんざいそしき) **contraband crimes. This has meant that the major crime** 多様化 (たようか) する **syndicates** お金 (かね) になる **that** 密輸 (みつゆ) **have recently diversified** おとがめがないこと **into the lucrative ivory-smuggling trade have** **been operating with impunity, as have many small poaching operations.**

- Further Questions**
- 10. **3) What has the rise of globalization done?**
 - 11. グローバリゼーションのたか高まりがなに何をしましたか。

12. 4) What has resulted in reduced outside financing?

13. 何の結果、外部融資が減りましたか。

14. 3) *It has connected the world's economies, but it has also facilitated the international movement of contraband.*

15. 4) *Efforts to halt terrorism and human-rights abuses have resulted in reduced outside financing.*

16. In the fight against illegal trafficking of ivory, it has become necessary for law enforcement officials to concentrate their efforts. One priority is the identification of the herds from which elephants are being poached. Help is at hand from the forensic science that has been a key tool in cracking murder cases and other crimes against people for decades.

17. Until recently, these methods were rarely used for crimes against animals, but now scientists have begun using standard forensic techniques to extract DNA samples from confiscated shipments of tusks, analyze them, and create DNA “fingerprints” of the slaughtered elephants. These fingerprints can be compared to an Africa-wide map of elephant DNA to identify where poached animals came from.

Further Questions

18. 5) What has forensic science been a key tool in?

19. 犯罪科学捜査は、何における重要な手段になりましたか。

20. 6) How can the DNA “fingerprints” of slaughtered elephants be used?

21. 虐殺された象の「指紋」はどのように使われますか。

22. 5) *Forensic science has been a key tool in cracking murder cases and other crimes for decades.*

23. 6) *The fingerprints can be compared to an Africa-wide map of elephant DNA to identify where poached animals came from.*

24. This DNA map was created by analyzing samples of elephant feces from across Africa in order to plot where herds live and how far they roam . Collecting DNA samples for all herds has proved impossible, however. To fill in the gaps, forensic experts are utilizing software that relies on the fact that herds close to one another tend to have more genetic similarities than those that are far apart.

25. By comparing the similarities or differences to the DNA of known herds, experts can estimate where elephant tusks came from even when their DNA does not exactly match DNA on the map. Since this technology allows the

identification of key poaching areas, it helps determine where best to station anti-poaching personnel.

Further Questions

26. 7) How are forensic experts filling the gaps in their DNA map of Africa?
27. 犯罪科学捜査の専門家たちは、どうやって、アフリカのDNAマップに生じたギャップを埋めましたか。
28. 8) How does the technology determine where best to station anti-poaching personnel?
29. その技術ではどうやって、反密猟の職員を配置するのにどこが最適かを決めるのですか。
- 30.
31. 7) *They are utilizing software that relies on the fact that herds close to one another tend to have more genetic similarities than those that are far apart.*
32. 8) *It allows the identification of key poaching areas.*
33. This forensic information can also indicate what kinds of organizations are involved. If DNA evidence show a large proportion of an ivory shipment comes from a single herd, for example, law enforcement agents can assume the involvement of a major crime syndicate able to handle such large quantities. On the other hand, a shipment of ivory from many locales suggests that 悪徳商人 (あくとくしょうにん) traffickers have collected tusks from a network of smaller groups of poachers and dealers. Different poaching methods need different 対応策 (たいおうさく) countermeasures, so knowing who the enemies are and how they operate helps お金 (かね) に困 (こま) っている cash-strapped 合理化 (ごうりか) する officials streamline their approach. With forensics on their わずかな望 (のぞ) み side, African elephants may once again have a fighting chance.

Further Questions

34. 9) What can law enforcement agents assume if DNA evidence shows a large proportion of an ivory shipment comes from a single herd?
35. 象牙の大半が単独の群れのものだとDNA鑑定で証明されたら、捜査当局はどう推測する事ができるのですか。
36. 10) How can knowing what kinds of organizations are involved help cash-strapped officials streamline their approach?
37. どんな組織が関わっているのか知る事が、どうして財政運営の厳しい当局がやり方を合理化するのに役立つのですか。
38. 9) *They can assume the involvement of a major crime syndicate abl to handle such large quantities.*
39. 10) *Different poaching methods need different countermeasures.*

*Choose the correct answer from these choices.

- 40.
41. (35) What is one cause of the recent sharp increase in contraband ivory shipments?
42. 象牙の密輸が近年非常に増えている原因の一つは何ですか。

43. 1. Larger shares of the law enforcement budgets of aid-providing nations are being directed toward problems considered to be a higher priority.
44. 2. Larger criminal groups have taken over the less significant ivory poaching operations that were previously run by local groups.
45. 3. A rise in corruption among local legal authorities has meant that there have been fewer restrictions on the activities of poaching operations.
46. 4. While the enforcement of the ivory trading ban has obstructed small poaching operations, it has failed to 阻止 (そし) する deter well-organized crime syndicates.
47. (36) Scientists are now trying to determine the sources of smuggled ivory
48. かがくしや たちは 密輸 された 象牙 の 出所 を 見つけよう として います
49. 1. by tracking the movements of known poaching operations to determine which herds of elephants they are most likely to have come into contact with.
50. 2. by analyzing the feces of the slaughtered elephants to see which part of the African continent the animal originally came from.
51. 3. by employing software that links the DNA from illegal ivory to whichever herds in Africa have the most similar DNA.
52. 4. by adapting forensic techniques developed by anti-poaching officials in the field to make DNA identification techniques applicable to elephants.
53. (37) Which of the following is a way DNA evidence can reveal who is responsible for a particular shipment of ivory?
54. つき の うち、ある 特定 の 象牙 輸送 の 責任 者 が 誰 か を 明らか に する DNA 鑑定 の 方法 は どれ ですか。
55. 1. If it is found that the ivory from confiscated tusks indicate they were poached recently, it points towards the involvement of smaller networks of poachers and dealers.
56. 2. If DNA samples from particular tusks indicate they were poached recently, it points towards the involvement of smaller networks of poachers and dealers.
57. 3. If DNA fingerprints are linked to specific areas of Africa, it suggests collaboration between local officials and international crime syndicates.
58. 4. If the DNA of tusks indicates they come from herds in different areas of Africa, it is likely that the traffickers gathered ivory from smaller poaching operations.

Answers for "Further Questions"

59. 1) What happened to elephants the 1980's?
60. *700,000 African elephants were killed for their ivory.*
61. 2) What action was taken to curtail this wanton slaughter?
62. *All international trade in elephant products was banned.*
63. 3) What has the rise of globalization done?
64. *It has connected the world's economies, but it has also facilitated the international movement of contraband.*

65. 4) What has resulted in reduced outside financing?
66. *Efforts to halt terrorism and human-rights abuses have resulted in reduced outside financing.*
67. 5) What has forensic science been a key tool in?
68. *Forensic science has been a key tool in cracking murder cases and other crimes for decades.*
69. 6) How can the DNA “fingerprints” of slaughtered elephants be used?
70. *The fingerprints can be compared to an Africa-wide map of elephant DNA to identify where poached animals came from.*
71. 7) How are forensic experts filling the gaps in their DNA map of Africa?
72. *They are utilizing software that relies on the fact that herds close to one another tend to have more genetic similarities than those that are far apart.*
73. 8) How does the technology determine where best to station anti-poaching personnel?
74. *It allows the identification of key poaching areas.*
75. 9) What can law enforcement agents assume if DNA evidence shows a large proportion of an ivory shipment comes from a single herd?
76. *They can assume the involvement of a major crime syndicate able to handle such large quantities.*
77. 10) How can knowing what kinds of organizations are involved help cash-strapped officials streamline their approach?
78. *Different poaching methods need different countermeasures.*

79. 解答: (35)1 (36)3 (37)4

Type B 日本語訳なし

3[B] – Anti-Poaching Enforcers Turn to Forensics

Version3 G1 09-3

80. In 1989, after a decade in which over 700,000 African elephants were killed for their ivory, and worldwide public sentiment began to demand action to curtail this wanton slaughter, all international trade in elephant products was banned. Strict enforcement measures squeezed the contraband trade dry.

Further Questions *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.

81. 1) What happened to elephants the 1980's?
82. 2) What action was taken to curtail this wanton slaughter?

83. In recent years, however, with Western financial aid for law enforcement becoming scarce and demand once again on the increase, black-market exports of ivory have returned with a vengeance. The rise of globalization has connected the world's economies, but it has also facilitated the international movement of contraband.
84. At a time when efforts to halt terrorism and human-rights abuses have resulted in reduced outside financing and put a growing strain on local resources, the legal authorities of the countries involved have either been unwilling or unable to invest in effective strategies to solve and prosecute contraband crimes. This has meant that the major crime syndicates that have recently diversified into the lucrative ivory-smuggling trade have been operating with impunity, as have many small poaching operations.
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Further Questions

85. 3) What has the rise of globalization done?
86. 4) What has resulted in reduced outside financing?
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87. In the fight against illegal trafficking of ivory, it has become necessary for law enforcement officials to concentrate their efforts. One priority is the identification of the herds from which elephants are being poached. Help is at hand from the forensic science that has been a key tool in cracking murder cases and other crimes against people for decades.
88. Until recently, these methods were rarely used for crimes against animals, but now scientists have begun using standard forensic techniques to extract DNA samples from confiscated shipments of tusks, analyze them, and create DNA "fingerprints" of the slaughtered elephants. These fingerprints can be compared to an Africa-wide map of elephant DNA to identify where poached animals came from.
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95. This forensic information can also indicate what kinds of organizations are involved. If DNA evidence show a large proportion of an ivory shipment comes from a single herd, for example, law enforcement agents can assume the involvement of a major crime syndicate able to handle such large quantities. On the other hand, a shipment of ivory from many locales suggests that traffickers have collected tusks from a network of smaller groups of poachers and dealers. Different poaching methods need different countermeasures, so knowing who the enemies are and how they operate helps cash-strapped officials streamline their approach. With forensics on their side, African elephants may once again have a fighting chance.
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Further Questions

96. 9) What can law enforcement agents assume if DNA evidence shows a large proportion of an ivory shipment comes from a single herd?
97. 10) How can knowing what kind of organizations are involved help cash-strapped officials streamline their approach?
-
98. ***Choose the correct answer from these choices.**
99. (35) What is one cause of the recent sharp increase in contraband ivory shipments?
100. 1. Larger shares of the law enforcement budgets of aid-providing nations are being directed toward problems considered to be a higher priority.
101. 2. Larger criminal groups have taken over the less significant ivory poaching operations that were previously run by local groups.
102. 3. A rise in corruption among local legal authorities has meant that there have been fewer restrictions on the activities of poaching operations.
103. 4. While the enforcement of the ivory trading ban has obstructed small poaching operations, it has failed to deter well-organized crime syndicates.
104. (36) Scientists are now trying to determine the sources of smuggled ivory
105. 1. by tracking the movements of known poaching operations to determine which herds of elephants they are most likely to have come into contact with.
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114. 解答: (35)1 (36)3 (37)4

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