


4[B] – Genetic Clues  Lesson9 G2 Chobun TypeB eTOC 以外で使用禁止 10.3(4B)A2E

1. In recent years, it has become common for police to use DNA analysis to solve
2. crimes.
3. This usually involves a technique known as “genetic fingerprinting”.
4. Most of the genetic information in DNA is the same for everyone, but a small
5. percentage is unique to each individual.
6. By comparing someone’s DNA to that found at the scene of the crime, it is possible
7. to prove that he or she was there.
8. Now, though, the police have begun expanding this DNA analysis to cats.

Further Questions & Sample Answers

9. 1) What technique has become for police to use to solve crimes?
10. *They use genetic fingerprinting.*

9) Is most DNA in people different?

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23. different from that of the other cats.
24. This showed that the jacket belonged to the man and he was sent to prison for the
25. crime.

Further Questions & Sample Answers

26. 3) Where was genetic fingerprinting for cats first used?
27. *It was first used on a murder case in Canada.*

28. 4) Why did the police take DNA samples from other cats in the neighborhood?
29. *They took DNA from other cats to find out how different they were from the white*
30. *hairs.*

31. The biggest difficulty with genetic fingerprinting is making sure which part of the
32. DNA is unique.
33. For this reason, it is important to have some examples of DNA of genetically
34. related animals to identify which genes are shared and which are not.
35. With this in mind, the United States Federal Bureau of Investigation (FBI) requested

36. scientists to establish databases of animal DNA.

37. In response, a team led by Robert Grahn, a scientist at the University of California at Davis, began to collect DNA from cats around the world.

39. The team's database now has DNA from 1,394 different cats.

Further Questions & Sample Answers

40. 5) What has the FBI requested scientists to establish?

41. *The FBI asked scientists to establish a database of animal DNA.*

42.

43. 6) How many different cats does the database now have the profiles of?

44. *It contains the DNA profiles of 1,394 different cats.*

45.

46. Although the scientists plan to include the DNA of dogs and other animals, they believe that cat DNA will be especially useful.

48. This is because cats leave fur behind wherever they go.

49. This makes it almost impossible for people nearby to avoid getting fur on their clothes.

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59. 1 was first tested on cats but is now also being used for human beings.

60. 2 relies on the fact that the DNA of each individual is slightly different.

61. 3 can be used to determine the types of people likely to commit crimes.

62. 4 is a way of discovering similarities between two separate crime scenes.

63. (38) What did genetic fingerprinting show the police in Canada?

64. 1 That the white hairs found on the jacket belonged to the victim of a murder.

65. 2 That the jacket found at the crime scene belonged to the murderer's father.

66. 3 That a man they suspected of murder had been at the scene of the crime.

67. 4 That a man had been wrongly sent to prison for murdering someone.


68. (39) What is one thing that the new database will do?

69. 1 Show which genes are shared by genetically related animals.

70. 2 Provide a list of cats that have been at crime scenes around the world.

71. 3 Store information about experts on genetic fingerprinting.

72. 4 Identify which types of DNA are unique to humans.

73. (40) Why do the police think cat DNA will be more useful to them than DNA from other animals?
74. 1 Cats are less likely to be noticed at a crime scene. 
75. 2 Cats have a wider variety of DNA than other animals.
76. 3 Cat fur tends to remain at a crime scene for a longer time.
77. 4 Cat fur is more likely to be found on criminals' clothes.

Review Questions

1. 1) What technique has become for police to use to solve crimes?
 2. *They use genetic fingerprinting.*
3. 2) Is most DNA in people different?
 4. *No. Only a small amount of the DNA is different from person to person.*
5. 3) Where was genetic fingerprinting for cats first used?
 6. *It was first used on a murder case in Canada*

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18. *so it's more useful for studying the genome than solving crime.*

*genome = 生物が機能的に完全な生活をするために必要な遺伝子群を含む染色体の一組

解答: (37) 2 (38) 3 (39) 1 (40) 4



日本語訳付

4[B] Genetic Clues 

Lesson9 G2 Chobun dokkai

10.3(4B)A2E

78. In recent years, it has become common for police to use DNA analysis to solve crimes.
79. This usually involves a technique known as “genetic fingerprinting”.

遺伝子 (いでんし) の

80. Most of the genetic information in DNA is the same for everyone, but a small percentage is unique to each individual.

割合 (わりあい) 独特 (どくとく) な 個々 (この) の

比較 (ひかく) すること きづいた

81. By comparing someone's DNA to that found at the scene of the crime, it is possible to prove that he or she was there.

だけでも 拡大 (かくだい) する 分析 (ぶんせき)

82. Now, though, the police have begun expanding this DNA analysis to cats.

Further Questions & Sample Answers

83. 1) What technique has become for police to use to solve crimes?

技術 (ぎじゅつ)

解決 (かいけつ) する 犯罪 (はんざい)

84. 犯罪を解決するために使う警察官の技術は何ですか。

85. They use genetic fingerprinting.

86. 2) Is most DNA in people different? ほとんどの DNA は異なりますか。

量 (りょう)

87. No. Only a small amount of the DNA is different from person to person

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97. This showed that the jacket belonged to the man and he was sent to

証明 (しょうめい) した

~のものであった

刑務所 (けいむしょ) 犯罪 (はんざい)

98. prison for the crime .

Further Questions & Sample Answers



99. 3) Where was genetic fingerprinting for cats first used?

100. 初めて猫の遺伝子鑑定をしたところはどこですか。

殺人 (さつじん) 事件 (じけん)

101. It was first used on a murder case in Canada.

102. 4) Why did the police take DNA samples from other cats in the neighborhood?

標本 (ひょうほん)

103. 警察が近所の他の猫から DNA 標本を取ったのはなぜですか。

104. They took DNA from other cats to find out how different they were from the white hairs.

105. The biggest ^{困難 (こんなん)} difficulty with genetic fingerprinting is ^{確実 (かくじつ) にしている} making sure which part of the DNA is ^{特有 (とくゆう) で} unique .
107. For this reason, it is important to have some ^{例 (れい)} examples of DNA of ^{遺伝的 (いでんてき) に} genetically related ^{関連 (かんれん) した} animals to identify which ^{見分ける} genes are ^{遺伝子 (いでんし)} shared and ^{役割 (やくわり) をあたえられた} which are not.
110. With this ^{念頭 (ねんとう) において} in mind, the United States Federal Bureau of Investigation (FBI) ^{捜査 (そうさ)} requested ^{頼 (たの) む} scientists to ^{制定 (せいてい) する} establish ^{検索可能 (けんさくかのう) にする為 (ため) の機能 (きのう)} databases of animal DNA.
112. In response, a team ^{応 (こた) えて} led ^{導 (みちび) かれた} by Robert Grahn, a scientist at the ^{大学 (だいがく)} University of California at Davis, began to ^{集 (あつ) める} collect DNA from cats around the world.
114. The team's database now has DNA from 1,394 different cats.

Further Questions & Sample Answers

要請 (ようせい) した 設立 (せつりつ) する

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124. almost impossible for people nearby to avoid getting fur on their clothes.
125. For this ^{理由 (りゆう)} reason, police ^{自信 (じしん) をもって} confidently ^{期待 (きたい) する} expect the DNA of cats ^{役割 (やくわり) をはたす} to play a part ^{将来 (しょうらい)} in many ^{犯罪 (はんざい)} future ^{捜査 (そうさ)} crime investigations.
127. *DNA = deoxyribonucleic ^{デオキシ・リボ核 (かく) の} acid = ^{酸 (さん)} 生化学 ^{せいかがく}

Further Questions & Sample Answers

128. 7) Why do scientists believe that cat DNA will be more useful than other animals?
129. なぜ ^{かがくしゃ} 科学者たちは ^{ねこ} 猫の DNA は ^{ほか} 他の動物より ^{やく た} 役に立つと ^{しんじ} 信じているのですか。 ^{ありふれた}
130. *Cats leave fur behind more than other common pets.*
131. 8) How helpful do you think that this database will be in ^{役立つ} solving ^{解決 (かいけつ) する} future crimes?
132. このデータベースは ^{しょうらい} 将来の ^{はんざい} 犯罪にどのくらい ^{やくた} 役立つ ^{おも} と思いますか。 ^{ありそうもない}
133. *It's unlikely criminals will come ^{犯罪 (はんざい) の} in contact ^{接触 (せつしょく) において} with the cats in the database,* ^{ゲノム}
134. *so it's more useful for studying the genome than solving crime.*

***Choose the correct answer from these choices.**

135. (37) The technique of “genetic fingerprinting” 技術 (ぎじゅつ) 遺伝子鑑定 (いでんしかんてい) いでんしかんてい ぎじゅつ 遺伝子鑑定の技術は…
136. 1 was first tested on cats but is now also being used for human beings. 人間 (にんげん)
137. 2 relies on the fact that the DNA of each individual is slightly different. 信頼 (しんらい) する 事実 (じじつ) 個人 (こじん) の わずかに
138. 3 can be used to determine the types of people likely to commit crimes. 決意 (けつい) する ~しそうな 犯罪 (はんざい) を犯 (おか) す
139. 4 is a way of discovering similarities between two separate crime scenes. ~の方法 (ほうほう) 発見する 似ている点 切り離 (はな) す 場面 (ばめん)
140. (38) What did genetic fingerprinting show the police in Canada? 示 (しめ) す
141. いでんしかんてい 遺伝子鑑定によってカナダの警察は何がわかりましたか。
142. 1 That the white hairs found on the jacket belonged to the victim of a murder. ~についていた 犠牲者 (ぎせいしゃ) 殺人 (さつじん)
143. 2 That the jacket found at the crime scene belonged to the murderer’s father. 疑 (うたが) わしい
144. 3 That a man they suspected of murder had been at the scene of the crime. 不法 (ふほう) に 刑務所 (けいむしょ)
145. 4 That a man had been wrongly sent to prison for murdering someone.

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155. 2 Cats have a wider variety of DNA than other animals. ~しがちである 残 (のこ) る
156. 3 Cat fur tends to remain at a crime scene for a longer time. よく見 (み) つかりそうな 犯罪者 (はんざいしゃ) の
157. 4 Cat fur is more likely to be found on criminals’ clothes.

Review Questions

158. 1) What technique has become for police to use to solve crimes? 技術 (ぎじゅつ) 解決 (かいけつ) する 犯罪 (はんざい)
159. *They use genetic fingerprinting.*
160. 2) Is most DNA in people different? 量 (りょう)
161. *No. Only a small amount of the DNA is different from person to person.*
162. 3) Where was genetic fingerprinting for cats first used? 殺人 (さつじん) 事件 (じけん)
163. *It was first used on a murder case in Canada.*
164. 4) Why did the police take DNA samples from other cats in the neighborhood? 標本 (ひょうほん)
165. *They took DNA from other cats to find out how different they were from the white hairs.*

要請 (ようせい) した

設立 (せつりつ) する

166. 5) What has the FBI requested scientists to establish ?

167. The FBI asked scientists to establish a database of animal DNA.

プロフィール

168. 6) How many different cats does the database now have the profiles of?

倉 (ふく) む

169. It contains the DNA profiles of 1,394 different cats.

170. 7) Why do scientists believe that cat DNA will be more useful than other animals?

ありふれた

171. Cats leave fur behind more than other common pets.

役立つ

解決 (かいけつ) する

172. 8) How helpful do you think that this database will be in solving future crimes?

ありそうもない 犯罪 (はんざい) の

接触 (せつしょく) において

173. It's unlikely criminals will come in contact with the cats in the database, so it's more useful for studying the genome than solving crime.

ゲノム

*genome = 生物が機能的に完全な生活をするために必要な遺伝子群を含む染色体の一組



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