

Lesson 5
Roots & Shoots

ルーツアンドシューツ

Jane Goodall is famous not only for her work with chimpanzees but also for her effort to conserve nature.	ジェーン・グドールは有名だ チンパンジーの研究だけでなく 環境保全活動においても
Here, Ken interviews her about her life and work.	ここで 健は彼女にインタビューする 彼女の人生と活動について
1 Ken: Dr. Goodall, thank you for taking time for this interview.	1 グドール博士 時間をとっていただきありがとうございます このインタビューのために
I know that you spent many years studying chimpanzees in Africa.	あなたは長い年月を費やしたと私は知っている アフリカでチンパンジーを研究して
When did you first decide to go to Africa?	あなたはいつ最初にアフリカへ行く決心をしたのか
Jane: It was after I had read the Doctor Dolittle and the Tarzan books.	それは私がドリトル先生の本とターザンの本を読んだあと だった
When I was 11, I knew that somehow I would go to Africa to live with animals, study them, and write books about them.	私が11歳のとき 私はなんとかして私はアフリカに行くだろうと知っていた 動物たちといっしょに暮らすために 彼らの研究をするために そして彼らについての本を書くために
Ken: I'm sure there are lots of young people who want to work with animals someday.	私は確信している 若者がたくさんいる いつか動物とともに[のために]働きたいと思っている
How can they prepare themselves?	彼らはどのように準備することができるか
Jane: There are a lot of things you can do in order to understand animals.	できることがたくさんある 動物を理解するために
It is very important that you watch them and observe their behavior.	それはとても大切だ 彼らを見ること そして彼らの行動を観察することが
It is also important that you write notes and ask questions.	それもまた大切だ メモを取ったり質問をしたりすることが

If you are really determined, you'll have to work really hard.	もし本当に決心したら あなたは懸命に努力しなければならない
Take advantage of every opportunity, and don't give up.	あらゆる機会を活かしなさい そしてあきらめてはいけない
2	2
Ken: You did a lot of fieldwork, observing chimpanzees in the wild.	あなたは多くのフィールドワークをした 野生のチンパンジーを観察して
Are they in any way like humans?	彼らはなんらかの点で人間に似ているか
Jane: Chimpanzees and humans have a lot in common, sharing 98.6 percent of DNA.	チンパンジーと人間は多くの共通点がある DNAの98.6パーセントを共有している
Their brains are very much like ours and much of their behavior is like ours.	彼らの脳は私たち人間のものとたいへんよく似ている そして彼らの行動の多くは私たちと似ている
The members of a chimp family are very close, often helping one another.	チンパンジーの家族のメンバーはとても親密だ しばしばお互い助け合う
They can feel sad, happy, afraid, and angry.	彼らは悲しみ、よろこび、恐れ、怒りを感じることができる
Ken: What about their character — I mean, are they friendly?	彼らの性格はどうか つまり 彼らは友好的なのか
Are they cruel?	彼らは残酷か
Jane: They are usually friendly, but they can be cruel, just like humans.	彼らはたいていはお互い友好的だ しかし彼らは残酷なこともある まさに人間と同じように
Ken: Really?	本当に？
Jane: The males sometimes attack chimps from another community to protect their territories.	オスは時には違う集団のチンパンジーを襲う 自分たちの縄張りを守るために
But they can be very kind and loving too.	しかし彼らはとても親切で、愛情深くもある

Once, when he was about three years old, a chimp called Mel lost his mother and was left alone.	あるとき (彼が)3歳くらいのときに メルと呼ばれるチンパンジーが母親を亡くした そしてひとり残された
We all thought he'd die.	私たちはみな彼は死んでしまうだろうと思った
But, to our surprise, a 12-year-old male chimp called Spindle took care of him.	しかし驚いたことに スピンドルという12歳のオスのチンパンジーが 彼の世話をした
Ken: In what way?	どのようにして?
Jane: Mel would ride on his back and share his nest at night.	メルは彼の背中によく乗ったものだ そして夜には棲みかを共有した
He shared his food if Mel asked for it.	彼は餌を分け与えた もしメルがそれを求めたら
Chimps can indeed be loving and caring.	チンパンジーは実に愛情深く、思いやりがあることがある
3	3
Ken: You travel all over the world, giving talks about the conservation of nature.	あなたは世界中を旅行している 自然保護についての講演をしながら
Do you have any comment?	なにかコメントはあるか
Jane: Yes, we humans must understand that wild animals have the right to live.	はい 私たち人間は理解しなければならない 野生動物に生きる権利があることを
They need wild places.	彼らには自然のままの場所が必要だ
Besides, there are some kinds of living things that we must not destroy.	さらに ある種の生物がいる 私たちが滅ぼしてはいけない
Many drugs for human diseases come from plants and insects.	人間の病気のための多くの薬は 植物や昆虫からきている
When we destroy a wild area, maybe we are destroying the cure for cancer without knowing it.	私たちが自然のままの地域を破壊するとき おそらく私たちはガンの治療薬を破壊している 知らない間に

Ken: I see.	なるほど
Jane: Everything in nature is connected.	自然にあるものすべてがつながっている
Plants and animals make up a whole pattern of life.	植物と動物が生命の全体像を作り上げている
If we destroy that pattern, all kinds of things can go wrong.	もし私たちがそのパターンを壊すとあらゆることがうまくいかなくなる可能性がある
Ken: Could you say more about that?	それについてもう少し詳しくお話ししていただけますか
Jane: Sure.	もちろん
One time in England, rabbits were destroying farmers' grain.	あるときイングランドでウサギが農家の穀物をだいなしにしていた
The farmers killed the rabbits.	農家の人々はウサギを殺した
Then foxes didn't have enough to eat and they started killing the farmers' chickens.	するとキツネが十分な食べ物を得られなくなったそして彼らは農家のニワトリを殺しはじめた
The farmers then killed the foxes, and rats quickly increased in number and destroyed just as much grain as the rabbits had eaten.	農家はそれでキツネを殺したするとネズミが急増したそしてちょうど同じくらいの量の穀物をだめにしたウサギが食べてしまったものと(同じくらいの量を)
We humans are in danger of destroying our environment and ourselves along with it.	私たち人間は環境を破壊する危険にさらされているそして同時に私たち自身もいっしょに
4 Ken: Are you worried about our future?	4 あなたは私たちの将来が心配なのか
Jane: Yes, I am.	はい、そうだ
But my hope lies in young people.	しかし私の希望は若者にある
That's why I started Roots & Shoots.	それで私はルーツアンドシューツをはじめた
It began with a group of high school students in Tanzania	それはタンザニアの高校生の集団からはじまった

in 1991.	1991年に
It is called Roots & Shoots because roots can work their way through rocks to reach water.	それはルーツアンドシューツと呼ばれている なぜなら根は岩の間をゆっくり進むことができる 水に到達するために
And shoots can break through a wall to reach the sunlight.	また芽は壁を突き破ることができる 日光に到達するために
The rocks and wall are the problems humans have caused to our earth.	岩と壁は問題だ 人間が地球にもたらした
Ken: Is it a kind of club for young people?	それは若者のクラブのようなものか
Jane: Yes.	そうだ
We now have groups all over the world and each group chooses three projects: one to help people, one to help animals, one to help the environment.	現在では私たちは世界中にグループがある そしてそれぞれのグループは3つのプロジェクトを選ぶ 人を支援するもの 動物を支援するもの 自然環境を支援するもの
The world is a better place when a sad person smiles at you, when a dog wags its tail for you, or when you give water to a thirsty plant.	世界はもっとよい場所になる 悲しんでいる人があなたに笑うとき イヌがあなたにしっぽをふるとき またあなたが渴いている植物に水をあげるとき
That's what Roots & Shoots is all about.	ルーツアンドシューツとはそういうものだ
Ken: Some final words?	最後にひと言お願いできますか
Jane: People should think about the consequences of the little choices they make each day.	人々は結果について考えなければならない 彼らが日々おこなう小さな選択の
What to buy?	なにを買うべきか
What to eat?	なにを食べるべきか
What to wear?	なにを着るべきか
You are just one person, but what you do affects the whole world.	あなたはひとりの人間にすぎない しかしあなたがおこなうことは世界に影響を与える
The changes you make may be small, but if a thousand,	あなたが生み出す変化は小さいかもしれない しかしもし千の

then a million,	それから100万の
finally a billion people	ついには10億の人々
all make those changes,	全員がそうした変化を生み出せば
this is going to make a big difference.	それは大きな違いをもたらすことになるだろう

Ken: Dr. Goodall,	グドール博士
thank you very much for sharing your ideas	あなたの考えを私たちと共有してくれて本当にありがとうご
with us.	ざいました

Lesson 5 **Roots & Shoots** <Section 1>



【STEP 1】 <Vocabulary> Find a word that matches the following definition.

- | | |
|--|--------------------------|
| a: to protect something and prevent it from being changed or damaged | () |
| b: to view, watch, especially for anything unusual | () |
| c: the way a person or animal behaves or does things | () |

【STEP 2】 <Rapid Reading> Grasp the meaning as putting in slash between sense groups.

Jane Goodall is famous not only for her work with chimpanzees but also for her effort to conserve nature. Here, Ken interviews her about her life and work.

Ken :Dr. Goodall, thank you for taking time for this interview. I know that you spent many years studying chimpanzees in Africa. When did you first decide to go to Africa?

Jane : It was after I had read the Doctor Dolittle and the Tarzan books. When I was 11, I knew that somehow I would go to Africa to live with animals, study them, and write books about them.

Ken :I'm sure there are lots of young people who want to work with animals someday. How can they prepare themselves?

Jane : There are a lot of things you can do in order to understand animals. It is very important that you watch them and observe their behavior. It is also important that you write notes and ask questions. If you are really determined, you'll have to work really hard. Take advantage of every opportunity, and don't give up.

【STEP 3】 <True or False> "Is it true that ...?" "I think it's true / false." "Why do you think so?"

- | | |
|--|-----------|
| 1. Dr. Goodall spent many years studying elephants in Africa. | (T / F) |
| 2. Dr. Goodall began reading books about Africa when she was four years old. | (T / F) |
| 3. A lot of young people want to work with animals. | (T / F) |

【STEP 4】 <Comprehension> Answer the questions (1) - (3) in English.

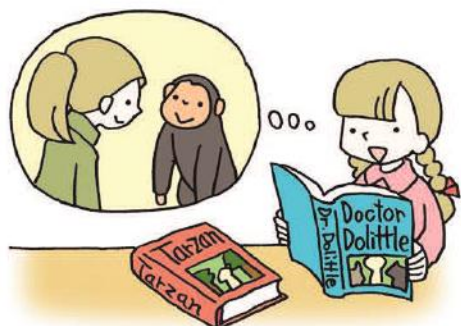
(1) When Dr. Goodall was 11, what did she want to do in the future?

(2) What can young people do in order to understand animals?

(3) Dr. Goodall first decided to go to Africa after

- a. seeing Tarzan movies with her family.
- b. studying chimpanzees at her university with Doctor Dolittle.
- c. reading children's books about an animal doctor and about life in Africa.

【STEP 5】 < Retelling > Make an oral retelling of Section1, using the words and phrases listed below.



Key Words

Jane Goodall / chimpanzees / conserve nature / work with animals in Africa / young people /
observe / take notes / ask questions / never give up

MEMO

【STEP 6】 <Review> Put each group of words in the correct order.

(1) I know that (chimpanzees / spent / you / studying / many years) in Africa.

(2) It is (you / very / them / important / watch / that) and observe their behavior.

【STEP 7】 <Your Reaction> Ken says, “I’m sure there are lots of young people who want to work with animals today.” How about you?



Roots & Shoots

<Section 2>



【STEP 1】 < Vocabulary > Find a word that matches the following definition.

- a: wanting to cause pain and suffering; very mean ()
- b: a group of people or animals living in the same place, helping one another ()
- c: an area defended by an animal or animals against others of the same species ()

【STEP 2】 <Rapid Reading> Grasp the meaning as putting in slash between sense groups.

Ken : You did a lot of fieldwork, observing chimpanzees in the wild. Are they in any way like humans?

Jane :Chimps and humans have a lot in common, sharing 98.6 percent of DNA. Their brains are very much like ours and much of their behavior is like ours. The members of a chimp family are very close, often helping one another. They can feel sad, happy, afraid, and angry.

Ken : What about their character—I mean, are they friendly? Are they cruel?

Jane :They are usually friendly, but they can be cruel, just like humans.

Ken : Really?

Jane : The males sometimes attack chimps from another community to protect their territories. But they can be very kind and loving too. Once, when he was about three years old, a chimp called Mel lost his mother and was left alone. We all thought he'd die. But, to our surprise, a 12-year-old male chimp called Spindle took care of him.

Ken : In what way?

Jane : Mel would ride on his back and share his nest at night. He shared his food if Mel asked for it. Chimps can indeed be loving and caring.

[STEP 3] <True or False> “Is it true that ...?” “I think it’s true / false.” “Why do you think so?”

1. The brains of humans and chimpanzees are very much alike. (T / F)
2. Chimpanzees do not feel happy or sad like people. (T / F)
3. Chimpanzees are kind, but only to members of their own family. (T / F)

【STEP 4】 <Comprehension> Answer the questions (1) - (3) in English.

- (1) What can you say about the character of chimpanzees?
- (2) What did Spindle do to help Mel?
- (3) Dr. Goodall says that chimpanzees and humans share 98.6 percent of DNA. What does that fact tell us?
 - a. Chimps don't have families like humans.
 - b. Humans do many things that chimps do not.
 - c. Humans and chimps feel and act in similar ways.

【STEP 5】 < Retelling > Make an oral retelling of Section1, using the words and phrases listed below.



Key Words

fieldwork / similar to human beings / 98.6 percent of DNA / brain / behavior / families
emotions / loving / take care

MEMO

【STEP 6】 <Review> Put each group of words in the correct order.

- (1) You did (a / in / lot / chimpanzees / of / observing / fieldwork / , / the wild).
- (2) Chimps and human have (of / a / 98.6percent / lot / sharing / in / , / common) DNA.

【STEP 7】 <Your Reaction> Can you think of what humans do that chimpanzees cannot do?



Lesson 5 **Roots & Shoots** < Comprehension Check >

[STEP 1] <True or False> “Is it true that ...?” “I think it’s true / false.” “Why do you think so?”

- | | |
|--|-----------|
| 1. Dr. Goodall is famous for her study on chimpanzees. | (T / F) |
| 2. Dr. Goodall spent many years studying chimpanzees in Africa. | (T / F) |
| 3. Dr. Goodall read the Doctor Dolittle and Tarzan in her childhood. | (T / F) |
| 4. At the age of 11, Dr. Goodall decided to go to Africa to live with Tarzan. | (T / F) |
| 5. Dr. Goodall says that it is very important to watch how animals behave. | (T / F) |
| 6. Dr. Goodall observed wild chimpanzees in Africa for a long time. | (T / F) |
| 7. The DNA of humans is very different from that of chimpanzees. | (T / F) |
| 8. The members of a chimp family never help one another. | (T / F) |
| 9. Dr. Goodall saw Mel and Spindle sharing food. | (T / F) |
| 10. Dr. Goodall travels all over the world giving talks about how important it is to conserve nature. | (T / F) |
| 11. Dr. Goodall says the conservation of nature is important not only for wild animals but also for ourselves. | (T / F) |
| 12. If we destroy a wild area, we may also destroy the cure for some diseases. | (T / F) |
| 13. After the farmers killed the rabbits, everything went wrong. | (T / F) |
| 14. If we humans destroy our environment, it can result in destroying ourselves. | (T / F) |
| 15. Dr. Goodall hopes young people will find solutions for environmental problems. | (T / F) |
| 16. Roots & Shoots is a club for high school students who are interested in growing plants. | (T / F) |
| 17. Dr. Goodall believes Roots & Shoots will help make the world a better place for humans, plants, and animals. | (T / F) |
| 18. Dr. Goodall says each of us has a role to play to change the world. | (T / F) |
| 19. Dr. Goodall says you are just one person, and it is impossible for one person to change the whole world. | (T / F) |

[STEP 2] <Comprehension> Answer the questions (1) - (16) in English.

(1) What is Dr. Goodall famous for?

(2) What books influenced her?

(3) When did Dr. Goodall first decide to go to Africa?

(4) What kind of fieldwork did Dr. Goodall do?

- (5) Why is the behavior of chimps like ours?
- (6) What do male chimpanzees sometimes do to protect their territories?
- (7) Why was Mel alone?
- (8) Why is it important not to destroy wild areas?
- (9) Why did the farmers kill the rabbits?
- (10) Why didn't the foxes have enough to eat?
- (11) What happened after the farmers killed the foxes?
- (12) Why did Dr. Goodall start Roots & Shoots?
- (13) What can roots do?
- (14) What can shoots do?
- (15) What kind of choice do we have?

Advanced Level

(16) Some of the statements below about chimpanzees are facts and others are conclusions drawn from the facts. Which are which?

- a. Chimps and humans have a lot in common.
- b. Chimps and humans share 98.6 percent of DNA.
- c. Chimps can be cruel.
- d. Chimps can be kind and cooperative.
- e. Chimps will attack chimps from a different community.
- f. Spidle let Mel ride on his back.
- g. Spindle shared his nest with Mel.



[Facts]

[Conclusion]

Answer

【STEP 1】

- (1) T (2) T (3) T (4) F (5) T (6) T (7) F (8) F (9) T (10) T
(11) T (12) T (13) T (14) T (15) T (16) F (17) T (18) T (19) F

【STEP 2】

- (1) She is famous for her work with chimpanzees and for her efforts to conserve nature.
(2) The Doctor Dolittle and the Tarzan books.
(3) She decided to go to Africa after reading the Doctor Dolittle and the Tarzan books.
(4) She observed chimpanzees in the wild.
(5) Because their brains are very much like ours.
(6) They sometimes attack chimps from another community.
(7) Because he had lost his mother.
(8) Many drugs for human diseases come from plants and insects in the wild.
(9) Because the rabbits were destroying the farmers' grain.
(10) Because the farmers had killed the rabbits.
(11) The rats increased in number and destroyed the farmers' grain.
(12) She started it because her hope for the future lies in young people.
(13) They can work their way through rocks to reach water.
(14) They can break through a wall to reach the sunlight.
(15) We have a choice of what to buy, what to eat, or what to wear.

Advanced Level

- (16) [Facts] b, d, e, g [Conclusions] a, c, f

Lesson 5 **Roots & Shoots** <Section 3>



【STEP 1】 <Vocabulary> Find a word that matches the following definition.

- | | |
|---|--------------------------|
| a: an illness or unhealthy condition | () |
| b: a medicine or medical treatment that can cure an illness or disease | () |
| c: surrounding conditions, especially those influencing development or growth | () |

【STEP 2】 <Rapid Reading> Grasp the meaning as putting in slash between sense groups.

Ken : You travel all over the world, giving talks about the conservation of nature. Do you have any comment?

Jane : Yes, we humans must understand that wild animals have the right to live. They need wild places. Besides, there are some kinds of living things that we must not destroy. Many drugs for human diseases come from plants and insects. When we destroy a wild area, maybe we are destroying the cure for cancer without knowing it.

Ken : I see.

Jane : Everything in nature is connected. Plants and animals make up a whole pattern of life. If we destroy that pattern, all kinds of things can go wrong.

Ken : Could you say more about that?

Jane : Sure. One time in England, rabbits were destroying farmers' grain. The farmers killed the rabbits. Then foxes didn't have enough to eat and they started killing the farmers' chickens. The farmers then killed the foxes, and rats quickly increased in number and destroyed just as much grain as the rabbits had eaten. We humans are in danger of destroying our environment and ourselves along with it.

【STEP 3】 <True or False> "Is it true that ...?" "I think it's true / false." "Why do you think so?"

- | | |
|---|-----------|
| 1. Dr. Goodall says that wild animals have the right to live. | (T / F) |
| 2. Nothing in nature is connected. | (T / F) |
| 3. The foxes were eating the farmers' grain. | (T / F) |

【STEP 4】 <Comprehension> Answer the questions (1) - (3) in English.

(1) Why does Dr. Goodall travel all over the world?

(2) What may happen when we destroy a wild area?

(3) Dr. Goodall tells a story about farmers who killed the rabbits that ate their grain. What lesson does she want us to learn?

- a. English farmers should study wild animals.
- b. If we break the pattern of nature, things go wrong.
- c. When animals lose a food source, they find another one quickly.

【STEP 5】 < Retelling > Make an oral retelling of Section 3, using the words and phrases listed below.



Key Words

wild animals / the right to live / drugs / diseases / destroy / everything is connected
farmers / grain / dangerous

MEMO

【STEP 6】 <Review> Put each group of words in the correct order.

(1) You travel (nature / all / of / over / the conservation / the world / about / , / talks / giving).

(2) We (environment / humans / our / are / destroying / in / of / danger).

【STEP 7】 <Your Reaction> Dr. Goodall says that “wild animals have the right to live.” Is it ever OK to kill an animal?





【STEP 1】 <Vocabulary> Find a word that matches the following definition.

- | | |
|--|--------------------------|
| a: (of a dog's tail) to move especially from side to side | () |
| b: an often bad or inconvenient result of a particular action, event, or situation | () |
| c: light that comes from the sun | () |

【STEP 2】 <Rapid Reading> Grasp the meaning as putting in slash between sense groups.

Ken : Are you worried about our future?

Jane : Yes, I am. But my hope lies in young people. That's why I started Roots & Shoots. It began with a group of high school students in Tanzania in 1991. It is called Roots & Shoots because roots can work their way through rocks to reach water. And shoots can break through a wall to reach the sunlight. The rocks and wall are the problems humans have caused to our earth.

Ken : Is it a kind of club for young people?

Jane : Yes. We now have groups all over the world and each group chooses three projects: one to help people, one to help animals, one to help the environment. The world is a better place when a sad person smiles at you, when a dog wags its tail for you, or when you give water to a thirsty plant. That's what Roots & Shoots is all about.

Ken : Some final words?

Jane : People should think about the consequences of the little choices they make each day. What to buy? What to eat? What to wear? You are just one person, but what you do affects the whole world. The changes you make may be small, but if a thousand, then a million, finally a billion people all make those changes, this is going to make a big difference.

Ken : Dr. Goodall, thank you very much for sharing your ideas with us.

【STEP 3】 <True or False> "Is it true that ...?" "I think it's true / false." "Why do you think so?"

- | | |
|--|-----------|
| 1. Each Roots & Shoots group chooses seven projects. | (T / F) |
| 2. The world is a better place when a dog wags its tail for you. | (T / F) |
| 3. What one person does can affect the whole world. | (T / F) |

【STEP 4】 <Comprehension> Answer the questions (1) - (3) in English.

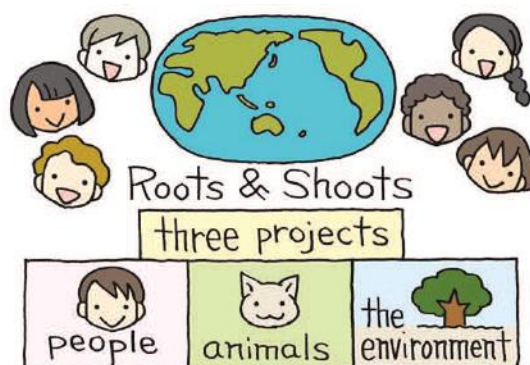
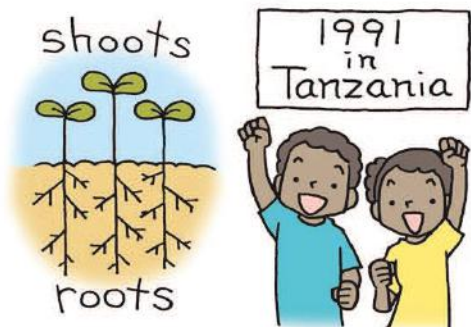
(1) When and where did Roots & Shoots begin?

(2) What do the rocks and wall represent?

(3) Which of the following would be the most appropriate title for this section?

- Work Your Way through Rocks
- Break a Wall to Reach the Sunlight
- Young People: The Hope for the Future

【STEP 5】 < Retelling > Make an oral retelling of Section 4, using the words and phrases listed below.



Key Words

hope / young people / Roots & Shoots /
people, animals, and the environment /
acts of kindness / little choices /
a big difference

MEMO

【STEP 6】 <Review> Put each group of words in the correct order.

(1) The rocks and wall (are / our earth / the problems / to / humans / caused / have).

(2) You are just one person, (affects / do / the / you / whole / what / world / but).

【STEP 7】 <Your Reaction> What questions would you like to ask Dr. Goodall? Write your questions below



