

I ()に入る最も適切な語(句)をA～Dのなかから選び、記号で記しなさい。

1 The () between chronic depression and fatal heart attacks is not as well known as it should be.

- A. link up B. linked C. linking D. link

2 If there () enough time to finish the report today, finish it at home tonight.

- A. was not B. are not C. is not D. has not

3 By the time we () out the main cause of the problem, we had already suffered a great loss in the market.

- A. find B. can find C. would find D. found

4 Your document is () to Mary's regarding the solution to the problem.

- A. better B. the best C. superior D. the superior

5 More and more corporations are becoming involved in protecting the global environment () they realize that today, environmental practices greatly affect corporate image.

- A. however B. though C. when D. because

6 Many of the 1500 () companies surveyed were using outside providers.

- A. list up B. listing C. list D. listed

7. Mr. Kinoshita is the first chief executive officer of this leading IT company, which was () by a few college students in 1985.
- A. found B. build C. finding D. founded
8. The parents made it clear that they did not want their children () as subjects in laboratory experiments.
- A. to be treated B. to treated
C. treating D. be treated
9. Since his job involves a lot of data analysis, he wishes he () statistics before he joined the company.
- A. studies B. studied
C. has studied D. had studied
10. () course you choose, the tour will take most of the afternoon.
- A. Wherever B. Whenever C. Whichever D. However

II 各英文の()に、指定されたアルファベットから始まる1語を入れなさい。ただし、各英文に()が複数ある場合には、すべて同じ語が入る。ただし大文字と小文字の区別はしないものとする。解答は大文字から始めてもよいし、小文字から始めてもよい。

- 1 Food gives you energy. It has (n から始まる語) that help your body grow. There are four main categories of (n から始まる語): carbohydrates, fats, proteins, vitamins, and minerals.
- 2 (R から始まる語) are automatic responses. They happen too fast to think about. (R から始まる語) are great for emergencies. If you touch a hot plate, you will quickly move your hand. This protects you from burns.
- 3 Everything is made of matter. The total amount of space something takes up is its volume. The total amount of matter in something is its mass. (W から始まる語) is different from mass. (W から始まる語) is a measure of the force of gravity on an object's mass.
- 4 (A から始まる語) are tiny, but there are even smaller things than (a から始まる語). (A から始まる語) are made of particles. Some of these particles are called protons, neutrons, and electrons.
- 5 (F から始まる語) are push or pull. They can change the movement and the shape of an object. When you squeeze a piece of soft clay in your hand, the (f から始まる語) make the clay change shape and ooze through your fingers.

- 6 (W から始まる語) are back-and-forth or up-and-down motions. For example, both solar energy and water move in (w から始まる語). (W から始まる語) often begin when something moves back and forth on and on.
- 7 (T から始まる語) climates are between the tropical climates and the North and South Poles. The surface of Earth is curved away from the sun, so the sun does not shine directly on it. (T から始まる語) climate zones have both hot and cold seasons.
- 8 (E から始まる語) puts water into the air. Solar energy changes water into vapor. The vapor rises into the air. You can see something similar when water boils.
- 9 A food (c から始まる語) is a model of how energy moves from producer plants to consumer animals. A food (c から始まる語) is all about eating and being eaten.
- 10 Organs work together in organ systems. Your circulatory system brings oxygen to all (c から始まる語) that make up the tissues of your body. Without oxygen, (c から始まる語) in the digestive system could not do their jobs.

III 次の英文を読んで、設問に答えなさい。

Screening older adults for lung cancer—the USA’s leading cancer killer—has the potential to save thousands of lives, but at a cost of billions of dollars to the Medicare program, a new study shows. The new analysis is being released as leaders of the Medicare program are considering whether to pay for the screenings.

Researchers found that screening eligible smokers and former smokers with low-dose CT scans [ア ; ① additional lung cancers / ② allow / ③ detect / ④ doctors / ⑤ to / ⑥ would / ⑦ 100,000]—mostly at earlier, more curable stages—within five years, depending on (イ) how many people get screened.

The price tag for Medicare patients would cost \$9 billion to \$27 billion over the same time, also depending on the number of people screened, (ウ) a new study released in advance of the annual meeting of the American Society of Clinical Oncology. That would increase an individual’s Medicare premiums (エ) \$3 to \$9 a month. Screening people for lung cancer (オ) made a dent in deaths from the disease, says lead study author Joshua Roth, a postdoctoral research fellow at the Fred Hutchinson Cancer Research Center in Seattle.

In 2011, a large study found that using low-dose CT scans to screen adults at high risk for lung cancer reduced mortality (カ) 20%, compared to performing chest X-rays. The trial [キ ; ① a / ② at / ③ group of people / ④ highest / ⑤ risk / ⑥ specific / ⑦ targeted] for lung cancer: current and former smokers, ages 55 to 74, who had consumed the equivalent of a pack a day for 30 years.

In 2013, the U.S. Preventive Services Task Force, a federal advisory panel, recommended lung screenings with a favorable grade of B. The Affordable Care Act requires that private health plans cover screenings recommended

with a grade of A or B, with the exception of some older plans (ク) covered by the law.

The health law doesn't require Medicare to cover the screenings, however. An outside advisory committee last month gave the screenings a rating of 2.2 out of 5, and recommended against providing Medicare coverage, (ケ) uncertainty that the benefits outweigh the risks in the real world, outside of a carefully controlled trial. Medicare has not yet announced its final decision.

Screening people for lung cancer carries real risks, (コ) increased radiation exposure and collapsed lungs, according to the task force.

Some are also concerned that hospitals will offer the tests to lower-risk patients as a way to boost profits.

"The marketing potential of this is so enormous," says Peter Bach, director of Memorial Sloan Kettering's Center for Health Policy and Outcomes, who requested the Medicare advisory panel review. "It triggers so many lucrative (follow-up) tests. The medical centers see this as a (サ) huge cash cow."

Screening for lung cancer would cost billions Liz Szabo, USA TODAY. May 14, 2014

1 空所[ア]と[キ]の語(句)を正しく並べかえなさい。解答は*の位置にくる語(句)の番号を記しなさい。

[ア; _____ * _____]

[キ; _____ * _____]

2 下線部(イ), (オ)と同じ意味を表す表現を, それぞれ本文から抜き出し, 記しなさい。

3 (ウ), (ケ), (コ)に入る最も適切な表現を, それぞれ下から選び, その番号を記しなさい。ただし, 選択肢は1度しか使えないものとする。

- ① according to ② concerning ③ due to
④ except for ⑤ including

4 (エ)と(カ)には, bから始まる同じ語が入る。その語を記しなさい。

5 (ク)に入る最も適切な語を記しなさい。

6 下線部(サ)の意味を日本語で記しなさい。

IV 次の英文を読んで、設問に答えなさい。

If you believe honesty is the best policy, you would have a hard time convincing the forked-tailed drongo. This tricky African bird is the pathological liar of the animal kingdom.

Scientists described on Thursday how this medium-sized bird boldly deceives other animals by mimicking alarm calls made by numerous bird species — and even meerkats — to warn of an approaching predator in a ruse to frighten them off and steal food they leave behind.

The researchers tracked 64 forked-tailed drongos over a span of nearly 850 hours in the Kalahari Desert in South Africa close to the Botswana border to analyze this unique behavior.

“They’re rather violent little black birds with red eyes, a hooked beak and a forked tail,” said evolutionary biologist Tom Flower of the University of Cape Town in South Africa.

“They’re also highly aggressive and are renowned for attacking eagles and hawks, for which they apparently have no fear,” added Flower, whose study appears in the journal *Science*.

These birds, common in southern Africa, usually get meals the honest way, such as capturing insects in mid-air using their superb aerial skills.

But at other times, like on cold mornings when few insects are flitting around, the drongos turn to a life of crime.

False alarm

The drongos are able to mimic the sounds made by many different species that inhabit its desert environment, including birds such as pied babblers, glossy starlings, sociable weavers and pale chanting goshawks as well as mammals like meerkats.

The drongos carry out an elaborate con. They give their own genuine alarm call when they spot a predator approaching — essentially behaving as (\mathcal{J}) sentries — and other animals come to trust that this call signals real danger.

But they sometimes give this alarm call when no danger exists to fool other animals into fleeing and abandoning their food.

Then the drongos swoop down for a free lunch.

“All the animals in the Kalahari eavesdrop on each other’s alarm calls, which provide invaluable information about potential predators. It’s a bit of an information superhighway where all the animals speak each other’s language,” Flower said.

“Because drongos give reliable predator information some of the time, it maintains host responsiveness [of other animals] since they can never know if the drongo is lying or telling the truth,” added Amanda Ridley, an evolutionary biologist at the University of Western Australia, another of the researchers.

The scientists noticed that sometimes the other animals “get wise” to the con and ignore repeated false alarm calls. But then the cunning drongos simply grab another tool from their toolbox of trickery — they mimic the alarm calls made by other animals, once again conning them into fleeing and leaving their food behind.

Flower observed drongos mimicking more than 50 calls.

When stealing food from other animals, drongos are able to eat larger prey than they normally would be able to capture on their own like scorpions, beetle larvae and even geckos.

(\mathcal{I}) “Crime pays.” Flower said, noting that the stolen stuff accounted for about a quarter of the food eaten by the drongos.

“One could argue that the strategy of the drongo to steal food from others seems very dishonorable in human standards. But, yes, if it has found such a crafty way to catch food, which is usually much larger than the food items it

catches itself, then we cannot help but admire this clever little bird's adaptiveness," Ridley added.

The researchers classify the drongo as "a kleptoparasite."

There are many examples of mimicry and deception in the animal kingdom. About 20 percent of song birds mimic the calls of other birds, Flower noted.

"However, drongos are the only ones to flexibly produce the specific signals that best deceive their different hosts and to maintain their deception practice by changing signal when the previous signal failed," Flower added.

Liar! Liar! African Bird Uses Elaborate Ruse to Steal Food Reuters, VOA NEWS. May 1, 2014

注

larva 幼虫 gecko ヤモリ

1 次の英文が、本文の内容と合っている場合には○を、まちがっている場合には×を記しなさい。

- ① The researchers stayed in the Kalahari Desert for more than one month in order to investigate the drongos' behavior.
- ② Timidity is the drongos' main characteristic feature and they are scared easily.
- ③ The drongos hunt in an "unjust" way more often than they do so in a "fair" way from the viewpoint of human beings.
- ④ The warning information the drongos give is never true.
- ⑤ The animals in the Kalahari Desert make use of other species' alarm calls as well as those of their own.
- ⑥ Only the most intelligent animals in the Kalahari Desert can tell whether the drongos' alarm calls are true or false all the time.
- ⑦ The drongos do not always succeed in "cheating".
- ⑧ The prey the drongos get in an "unjust" way is four times as large as that they get in a "fair" way.
- ⑨ Amanda Ridley thinks that the drongos' way of hunting is so clever that we as human beings should follow their example.
- ⑩ There is no other animal that can change their mimicking and deceiving strategies according to the situation like the drongos.

2 下線部(ア)の意味として、最も適切なものをa～fから選び、記号で記しなさい。

- | | | |
|--------------|------------|-------------|
| a. guardians | b. guides | c. masters |
| d. soldiers | e. thieves | f. watchers |

3 下線部(イ)の意味を、10字以内の日本語で記しなさい。