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8.

If old newspapers are stacking up in your house, there are options other than tossing them out or selling them to a recycler. Some environmental scientists suggest turning newspapers 1 charcoal. This can be done by soaking sheets of newspaper in water for two hours and then 2 them into small pieces. These pieces are then compressed into balls. After the water is 3, the ball-shaped pieces are put under the sun to dry before they can be used as a firewood or charcoal substitute. 4 suggestion made by the experts is to dip newspaper sheets in vinegar and water, and use them to clean windows, mirrors, and tiles. Old papers can 5 be used to line rubbish bins and as packing material when mailing breakable goods.

- (1) () (A) into (B) for (C) off (D) upon
 (2) () (A) tear (B) tore (C) tearing (D) torn
 (3) () (A) boiled down (B) fired up (C) kicked off (D) squeezed out
 (4) () (A) This (B) Another (C) That (D) Other
 (5) () (A) soon (B) also (C) thus (D) rather

9. Researchers from a university in Japan have developed "diet-glasses" that play tricks with one's perception of food, which could be helpful to people on a diet. A camera and a viewing system are built 26 these glasses. As the wearer brings the food toward their mouth, the camera captures an image of the food. It replays the image back through the glasses after processing it on an attached computer. The size of the food they are about to eat is magnified while 27 of their hand remains normal. Their brain is 28 tricked into thinking they are eating more than they really are. The study showed that participants who wore the glasses ate 9.3% less than those who did not wear them.

The team has also developed a special device which uses scent bottles and visual trickery to make the wearers of these glasses think that the plain snack they are eating is 29 than it actually is. The device, for instance, can be set to 30 one's favorite flavor. Recent experiments with this device showed that 80% of the participants were fooled by the smell. For example, some participants thought that they were eating a chocolate snack, but in fact they were not.

- (1) () (A) beyond (B) into (C) from (D) with
 (2) () (A) this (B) that (C) some (D) other
 (3) () (A) beforehand (B) likewise (C) instead (D) therefore
 (4) () (A) prettier (B) larger (C) healthier (D) tastier
 (5) () (A) impress (B) release (C) bother (D) attract

10.

Whenever a Dalai Lama died, a search began for his reincarnation. The 1 male child had to have certain qualities. 2 was the ability to identify the belongings of his predecessor, or rather his previous self. Another requirement was 3 he should have large ears, upward-slanting eyes and eyebrows. Besides, one of his hands should bear a mark like a conch-shell. The successful candidate, usually 4 two or three, was then removed from his family to Lhasa to begin spiritual training for his future role. The Panchen Lamas were chosen in a similar way. The reincarnated leaders were always "discovered" in the households of lowly families 5 noble ones. This was to ensure that no single and powerful noble family could seize the title and pass it to the next generation.

- (1) () (A) chosen (B) searching (C) dead (D) previous

- (2) () (A) It (B) All (C) One (D) This
 (3) () (A) what (B) whether (C) why (D) that
 (4) () (A) having aged (B) aging (C) to age (D) aged
 (5) () (A) relative to (B) rather than (C) as a result of (D) with regard to

11.

Prague, the capital of the Czech Republic, is a very beautiful city. Situated on both banks of the winding River Vltava, Prague is like one big open-air museum. ___1___ some six hundred years of architecture nearly untouched by natural disaster or war, the city retains much of its medieval appearance. ___2___ you go, there are buildings in Romanic, Baroque, and Rococo styles that were popular hundreds of years ago. All of them successfully ___3___ the destruction of postwar redevelopment and remained unchanged. While the Iron Curtain was still in place under the communist government, Prague was ___4___ visited by foreigners. Since the 1990s, ___5___, all that has changed. Prague is now one of the most popular tourist attractions in Europe.

- (1) () (A) For (B) With (C) Upon (D) Along
 (2) () (A) Since (B) Before (C) Whatever (D) Wherever
 (3) () (A) escaped (B) featured (C) defended (D) inspired
 (4) () (A) ever (B) seldom (C) nearly (D) wholly
 (5) () (A) afterwards (B) therefore (C) however (D) furthermore

12. Tai Chi Chuan is a type of ancient Chinese martial art. People ___1___ Tai Chi mainly for its health benefits. This centuries-old Chinese mind-body exercise is now gaining popularity in the United States.

The most familiar aspect of Tai Chi Chuan is the hand form, which is a series of slow-flowing movements with poetic names ___2___ "dragons stirring up the wind" and "wave hands like clouds." These movements, forming an exercise system, ___3___ one to effortlessly experience the vital life force, or the Qi energy, in one's body.

Tai Chi Chuan is not only a physical but also a ___4___ exercise. Psychologically, this exercise may increase communication between the body and the mind and enable one to deal with other people more effectively. It ___5___ stress and creates calmness and confidence. Relaxation and a feeling of joy are among the first noticeable differences in a Tai Chi student.

- (1) (A) practice (B) consult (C) display (D) manage
 (2) (A) from (B) like (C) between (D) regarding
 (3) (A) allow (B) allows (C) allowed (D) allowing
 (4) (A) formal (B) mental (C) social (D) global
 (5) (A) imposes (B) offends (C) reduces (D) disturbs

13.

The fruits and vegetables we eat often come in distinctive colors. The rich colors, ___1___, are not there only to attract attention. They perform another important function for the plants.

Research shows that the substances ___2___ these colors actually protect plants from chemical damage. The colors come mainly from chemicals known as antioxidants. Plants make antioxidants to protect themselves from the sun's ultraviolet (UV) light, ___3___ may cause harmful elements to form within the plant cells.

When we eat colorful fruits and vegetables, the coloring chemicals protect us, too. Typically, an intensely colored plant has ___4___ of these protective chemicals than a paler one does. Research on how chemicals in blueberries affect brain function even suggests that these chemicals may help our own brains work more ___5___. In other words, eating richly colored fruits and vegetables makes us both healthier and smarter.

- (1) () (A) almost (B) rarely (C) however (D) relatively
 (2) () (A) capable of (B) different from (C) inferior to (D) responsible for
 (3) () (A) which (B) that (C) what (D) such
 (4) () (A) more (B) less (C) most (D) least
 (5) () (A) obviously (B) diligently (C) efficiently (D) superficially

14. Kizhi is an island on Lake Onega in Karelia, Russia, with a beautiful collection of wooden churches and houses. It is one of the most popular tourist ___1___ in Russia and a United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Heritage Site.

The island is about 7 km long and 0.5 km wide. It is surrounded by about 5,000 other islands, some of ___2___ are just rocks sticking out of the ground.

The entire island of Kizhi is, ___3___, an outdoor museum of wooden architecture created in 1966. It contains many historically significant and beautiful wooden structures, ___4___ windmills, boathouses, chapels, fish houses, and homes. The jewel of the architecture is the 22-domed Transfiguration Church, built in the early 1700s. It is about 37 m tall, ___5___ it one of the tallest log structures in the world. The church was built with pine trees brought from the mainland, which was quite common for the 18th century.

- (1) () (A) affairs (B) fashions (C) industries (D) attractions
 (2) () (A) them (B) that (C) those (D) which
 (3) () (A) in fact (B) once again (C) as usual (D) for instance
 (4) () (A) except (B) besides (C) including (D) regarding
 (5) () (A) make (B) making (C) made (D) to make

15. When a person sneezes, the droplets can spread diseases. Now research shows that plants have a

somewhat 21 problem. Plant diseases can also spread through tiny water drops that jump off leaves—a plant's version of a sneeze.

Scientists already knew earlier that wind and splashes of rainwater can move bacteria and other germs from leaf to leaf. 22 other possible transmission routes, researchers at Virginia Tech observed water drops on the leaves of wheat plants that were infected with leaf rust. They found that the sick plants could “sneeze” and 23 tiny water drops filled with leaf rust germs, spreading the disease to neighboring plants.

The researchers noticed that small drops of water on the wheat leaves would move to combine and form a larger drop. As they were moving, the energy of the droplets in motion would be released. This energy allowed the water 24 into the air, which looked just like sneezing!

However, not all plants can sneeze. The ability is 25 to those with leaves that are hydrophobic, or repel water—a special feature that forces the liquid to move away when the leaf is exposed to it.

- (1) () (A) similar (B) miserable (C) realistic (D) temporary
(2) () (A) As a result of (B) In a search for (C) With a view to (D) To the extent of
(3) () (A) shoot out (B) hold on (C) come across (D) give up
(4) () (A) jump (B) to jump (C) jumping (D) jumped
(5) () (A) curious (B) relative (C) unique (D) primitive

16.

It was my first day in this beautiful tropical city. 1 I was walking to the beach, a stranger came up to me and tried to shake my hand.

“Don’t you remember me, my friend?” he said.

But I couldn’t 2 his face at all. I didn’t know a soul in the city. I had just arrived by plane and still had jetlag.

“I 3 you at the airport. I work there at the customs. How are you enjoying our beautiful city?”

I couldn’t remember him but I was too 4 to tell him. He was so friendly. 5 he offered to take me to his uncle’s seafood restaurant, just by the beach. I thanked him 6 but he insisted that we should go there for dinner.

“You’ll love the seafood there,” he 7 me. “And it will be a dinner to remember.”

So we went to the restaurant and sat by a window 8 the bay. The dinner was great indeed, but the coffee they served was quite different. In fact, it tasted very strange...

Anyway, it was not 9 10 o’clock the next morning that I finally woke up. But I had no idea where I was. All my money was 10 and my “friend” had even taken my watch and my shoes!

- | | | | |
|-----------------------|-----------------|----------------|-----------------|
| (1) () (A) As | (B) But | (C) Though | (D) For |
| (2) () (A) analyze | (B) emphasize | (C) recognize | (D) memorize |
| (3) () (A) have seen | (B) saw | (C) had seen | (D) was seeing |
| (4) () (A) exhausted | (B) interested | (C) frightened | (D) embarrassed |
| (5) () (A) Even | (B) Then | (C) When | (D) While |
| (6) () (A) eagerly | (B) happily | (C) politely | (D) willingly |
| (7) () (A) declared | (B) proposed | (C) responded | (D) assured |
| (8) () (A) overlook | (B) overlooking | (C) overlooks | (D) overlooked |
| (9) () (A) before | (B) after | (C) until | (D) towards |
| (10) () (A) gone | (B) none | (C) no | (D) nothing |

17.

E-mail (electronic-mail) as a form of private communication has recently created a new kind of writing with new rules. The 1 language of e-mail is English. A traditional English letter usually begins 2 an address, the date and perhaps the address of the addressee. 3 the e-mail system itself inserts these things, is there any 4 in putting them in? Traditional letters cannot interact with each other, but with e-mail it is possible 5 parts of the original letter in the reply. Because of this special feature, an e-mail letter can 6 be written quickly. So is it necessary to include a greeting and a farewell? Is it rude to 7? By using the symbols on the keyboard, the writer can 8 new messages. For example, to *emphasize* a word, or to indicate the writer’s attitude, such as ☺ or ☹. 9, e-mail departs from the norm for writing letters, such as standard spellings and grammar. 10, an e-mail writer enjoys a great deal of freedom in communicating with anyone in any place of the world at any time.

- | | | | |
|------------------------------|--------------------|----------------------|---------------------|
| (1) () (A) dominant | (B) maximum | (C) positive | (D) relative |
| (2) () (A) to | (B) from | (C) in | (D) with |
| (3) () (A) What if | (B) But if | (C) As if | (D) Not if |
| (4) () (A) point | (B) plan | (C) place | (D) part |
| (5) () (A) included | (B) include | (C) including | (D) to include |
| (6) () (A) differently | (B) primarily | (C) consequently | (D) harmoniously |
| (7) () (A) let them go | (B) leave them out | (C) lift them up | (D) lower them down |
| (8) () (A) polish | (B) suppose | (C) delay | (D) convey |
| (9) () (A) For one thing | (B) In this way | (C) Once and for all | (D) Sooner or later |
| (10) () (A) On the contrary | (B) By contrast | (C) As a result | (D) By the way |

18. Gravity has been at the top of the science agenda since the start of Mars missions. In the earlier days of

space travel, scientists tried to overcome the force of gravity so that a rocket could shoot 16 Earth's pull in order to land humans on the moon. Today, they are more interested in how reduced gravity affects the astronauts' 17 condition.

Our bodies have evolved to exist within Earth's gravity (1 g), not in the weightlessness of space (0 g) or the microgravity of Mars (0.3 g). When on Earth, we have more fluids in our lower body because they are pulled down by Earth's gravity. However, with the absence of gravity in the outer space, our body fluids 18, shifting toward the upper body and the head. As a result, the astronauts have swollen, puffy faces, very much resembling that of the round-headed Charlie Brown in the famous comic strip. This "Charlie Brown effect" will be more 19 when the astronauts go on their Mars missions, which will take about three years to complete, much longer than missions to the moon. Moreover, the effect is often 20 space motion sickness, headaches, and nausea. Such a syndrome is considered the top health risk for the astronauts, and scientists are still trying to figure out how it may be prevented.

(1) () (A) back to (B) free of (C) long before (D) straight on

(2) () (A) physical (B) perceptual (C) mental (D) external

(3) () (A) redistribute (B) redistributed (C) redistributing (D) being redistributed

(4) () (A) contagious (B) unusual (C) severe (D) aggressive

(5) () (A) varied with (B) brought about (C) transferred from (D) accompanied by

19. Which is more valuable? Water or diamonds? Water is more useful to mankind than diamonds, and yet 1 are costlier. Why? Called the diamond-water paradox, this is a classic problem posed to students of economics.

The answer has to do with supply and demand. Being a rare natural resource, diamonds are 2 in supply. However, their demand is high because many people buy them to tell the world that they have money, 3 as conspicuous consumption in economics. In other words, the scarcity of goods is 4 causes humans to attribute value. If we 5 surrounded by an unending abundance of diamonds, we probably wouldn't value them very much. Hence, diamonds carry a higher monetary value than water, even though we find more use for water.

(1) () (A) the above

(B) the former

(C) the following

(D) the latter

(2) () (A) traded

(B) weakened

(C) limited

(D) noticed

(3) () (A) term

(B) termed

(C) terms

(D) was termed

(4) () (A) what

(B) which

(C) why

(D) how

(5) () (A) be

(B) being

(C) to be

(D) were

20.

Where poverty and hunger are common in parts of East Africa, you might think nothing will change. But it 1. And it does. In Africa, producing the family's food is 2 the women's work. No matter how hard they work, they cannot get 3 food for their family. The addition of an animal to a small agricultural family plays an important 4 in providing valuable milk or meat. Recently, a welfare program 5 "Send a Cow" has been organized by some social services in 6 to this need. This program provides livestock 7 these poor African families: they give a cow to a family and 8 offer breeding lessons to make sure that the animal multiplies.

Fundamental to this "Send a Cow" program is the understanding 9 the beginning that each person who receives an animal will also give one of its young to a 10 neighbor. For those who once could only receive help from others, to be able to give help restores their dignity, a sense of self worth, and a basic change in their view of life.

(1) () (A) was

(B) is

(C) can

(D) had

(2) () (A) scarcely

(B) hardly

(C) rarely

(D) mainly

(3) () (A) few

(B) enough

(C) costly

(D) little

(4) () (A) part

(B) line

(C) mood

(D) case

(5) () (A) call

(B) calling

(C) called

(D) to call

(6) () (A) release

(B) response

(C) return

(D) repair

(7) () (A) in

(B) from

(C) at

(D) for

(8) () (A) too

(B) as

(C) well

(D) also

(9) () (A) on

(B) of

(C) at

(D) to

(10) () (A) needy

(B) greedy

(C) handy

(D) mighty

21.

After a long day working in the office, Alexander hailed a taxi to take him home. Squeezing his body into the taxi, he noticed the shiny interior and the smell of brand new leather. After informing the driver of his 1, Alexander resorted to his reading of Dan Brown's intelligent thriller, *The Da Vinci Code*. Five minutes into the journey, he was on page 120: "...his Mona Lisa is neither male nor female..." Suddenly, Alexander 2 and noticed that the driver had detoured from the familiar route. To redirect the driver, Alexander tapped him on the shoulder. Out of the blue, the driver screamed, lost control of the car, and almost hit a bus. The cab went up on the footpath and 3 stopped centimeters away from a shop window. For a second, everything went quiet in the cab. Then the driver said, "Look, mate! Don't ever do that again. You scared the living daylights out of me!" Alexander apologized and said, "I didn't 4 that a little tap would scare you so much." The driver replied, "Sorry, sir. It's not really your 5. Today is my first day as a cab driver. I've been driving a funeral van for the

last 25 years.”

- | | | | | |
|-------------|----------------|-----------------|-----------------|--------------|
| (1) () | (A) motivation | (B) destination | (C) expectation | (D) solution |
| (2) () | (A) looked up | (B) took off | (C) turned in | (D) got on |
| (3) () | (A) hardly | (B) likely | (C) finally | (D) mainly |
| (4) () | (A) find | (B) realize | (C) wonder | (D) admit |
| (5) () | (A) matter | (B) decision | (C) trouble | (D) fault |

閱讀測驗

103. Four millennia ago, an ancient Babylonian wrote down what is possibly the first lullaby. It is a rather threatening lullaby, in which the baby is scolded for disturbing the house god with its crying and warned of terrifying consequences. It may have got the baby to sleep, but its message is far from comforting: If he/she does not stop crying, the demon will eat him/her. This lullaby may sound more scary than sleep-inducing, yet it is true that many lullabies—including those sung today—have dark **undertones**.

Research has shown that lullabies, when used correctly, can soothe and possibly even help to heal an infant; but it is the caretaker's voice and the rhythm and melody of the music that babies respond to, not the content of the song. Then, what is the function of the content? According to studies, some lullabies provide advice, like the Babylonian lullaby, and quite a few others offer the space to sing the unsung, say the unsayable. Lyrics to those lullabies can indeed be interpreted as a reflection of the caregiver's emotions.

Researchers believe that a large part of the function of lullabies is to help a mother vocalize her worries and concerns. The mother's fear of loss especially makes sense since the infant/toddler years of life are fragile ones. Since there is a special physical bond between mother and child during this period, mothers feel they can sing to their child about their own fears and anxieties. Lullabies, therefore, serve as therapy for the mother. In addition, the songs are seemingly trying to work some magic—as if, by singing, the mother is saying, “Sadness has already touched this house; no need to come by again.”

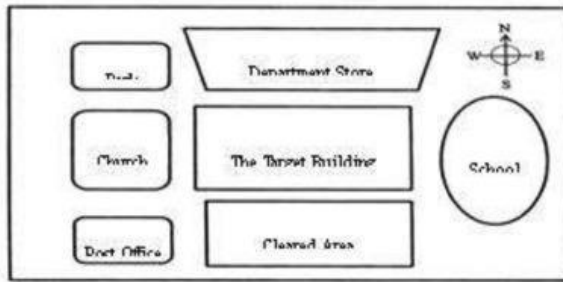
- (1) () Which of the following titles best describes the main idea of this passage?
(A) The Origin of Lullabies (B) The Functions of Lullabies
(C) Threatening Lullabies (D) Sleep-Inducing Lullabies
- (2) () Which of the following is closest in meaning to the word “**undertones**” in the first paragraph?
(A) Consequences. (B) Vocals. (C) Whispers. (D) Messages.
- (3) () What does the author use to support the idea that lullabies can have a soothing effect?
(A) Research reports. (B) Examples found in history.
(C) Stories of caretakers. (D) The author's personal experiences.
- (4) () According to this passage, which of the following statements is true?
(A) Scary lullabies better help babies fall asleep.
(B) Mothers prefer to sing lullabies with a joyful melody.
(C) Lullabies comfort not only the baby but also the mother.
(D) Babies react to both the music and the lyrics of lullabies.

104. Demolition is the tearing-down of buildings and other structures. You can level a five-story building easily with excavators and wrecking balls, but when you need to bring down a 20-story skyscraper, explosive demolition is the preferred method for safely demolishing the huge structure.

In order to demolish a building safely, blasters must map out a careful plan ahead of time. The first step is to examine architectural blueprints of the building to determine how the building is put together. Next, the blaster crew tours the building, jotting down notes about the support structure on each floor. Once they have gathered all the data they need, the blasters devise a plan of attack. They decide what explosives to use, where to position them in the building, and how to time their explosions.

Generally speaking, blasters will explode the major support columns on the lower floors first and then on a few upper stories. In a 20-story building, the blasters might blow the columns on the first and second floor, as well as the 12th and 15th floors. In most cases, blowing the support structures on the lower floors is sufficient for collapsing the building, but loading explosives on upper floors helps break the building material into smaller pieces as it falls. This makes for easier cleanup following the blast. The main challenge in bringing a building down is controlling the direction in which it falls. To topple the building towards the north, the blasters set off explosives on the north side of the building first. By controlling the way it collapses, a blasting crew will be able to tumble the building over on one side, into a parking lot or other open area. This sort of blast is the easiest to execute, and it is generally the safest way to go.

- (1) () What do the blasters need to do in preparing for the demolition of a building, according to the passage?
(A) Study the structure of the building. (B) Hire an experienced tour guide.
(C) Make a miniature of the building. (D) Consult the original architect.
- (2) () In most cases, where does the explosion start in the building during its destruction?
(A) The topmost layer. (B) The upper floors.
(C) The lower levels. (D) The basement.
- (3) () According to the following diagram, which part of the target building should the demolition team explode first to safely bring it down?



- (A) The east side.
- (B) The west side.
- (C) The south side.
- (D) The north side.

(4) () What is the passage mainly about?

- (A) How to execute demolition at the right time.
- (B) How to collapse a building with explosives.
- (C) How to use explosives for different purposes.
- (D) How to destroy a building with minimum manpower.

105. Falcons are powerful birds that may be trained to hunt in cooperation with humans. The art of training falcons as "hunting dogs of the skies" is called falconry. It was developed in the ancient Arabian Desert around 4000 B.C. In the past, falconry mainly involved hunting with falcons to supplement one's diet. But now, it has become the favorite sport and pastime in the Arabian Peninsula.

Falconry includes three major processes: acquiring the falcons, training them, and hunting with them. Every year, falconers begin capturing wild falcons in June and July, the migration season. The best birds to catch are the ones with naturally nurtured hunting skills, aged one or two years. Once the falcons are captured, their heads are immediately covered with a leather hood. This is essential because they imprint as their master whomever they see first after the hood is removed. Right after a bird is caught, the training process starts. It begins by depriving the bird of food to make it easier to tame. The birds are taught to know their own name and respond to their master when called. Arab falconers live with their birds day and night in order to build a strong relationship with them.

By the end of October or mid-November, the trained falcons are ready to hunt in the desert. They have excellent vision, 2.6 times greater than that of a human. They are also the fastest divers on the planet. One hunting technique that sets them apart from other animals is that they can be trained to deliver their prey, without killing it first. This is vital in Islamic culture because animals used for food must still be alive to ensure that the meat is *halal*, that is, properly prepared according to Islamic law.

Falcons have played such a crucial role in traditional Islamic cultures that a number of countries in the Middle East have made them their national bird. Falconry has grown so popular that specialist hospitals have been established to take care of these magnificent birds. Falcons are even issued their own passports. They are the only animals in the United Arab Emirates that are legally allowed to travel inside planes, enjoying a level of luxury that some humans can only dream of.

(1) () What makes falcons a unique animal for hunting in Islamic culture?

- (A) Falcons are relatively easy to train for hunting.
- (B) Falcons can form a strong bond with their owners quickly.
- (C) Falcons' vision is particularly suitable for hunting in deserts.
- (D) Falcons keep their prey alive before delivering it to falconers.

(2) () What is the main reason for Arabic people to hunt with falcons today?

- (A) To supplement their diet.
- (B) To serve as entertainment and exercise.
- (C) To worship their national bird.
- (D) To replace the practice of hunting with dogs.

(3) () According to the article, what privilege do falcons enjoy in the Arab world?

- (A) Free air ticket.
- (B) Passports issued by the King.
- (C) Meals that are *halal*.
- (D) Access to specialized medical care.

(4) () Which of the following statements is true?

- (A) Falconers deprive the falcons of food in order to capture them.
- (B) Falcons are not allowed to see their masters during the training process.
- (C) The trainers' names are imprinted on the hoods covering the birds' heads.
- (D) Wild falcons with natural hunting skills are most ideal for falconers to catch.

106. In many languages, such as English, there is no straightforward way to talk about smell. For **want** of

dedicated odor terminology, English speakers are often forced to use odor-sources such as “flowery” and “vanilla” and metaphors like “sweet” and “oriental” in their descriptions of smell.

But the difficulty with talking about smell is not universal. The Maniq, a group of hunter-gatherers in southern Thailand, can describe smells using at least fifteen different terms, which express only smells and are not applicable across other sensory domains. In addition to Maniq, researchers found that there are also a dozen words for various smells in Jahai, a language spoken by a neighboring hunter-gatherer population.

Interestingly, the difficulty for English speakers to translate smell directly into words seems to have very little to do with the nose’s actual capabilities. According to findings of a recent study, English speakers are capable of discriminating more than a trillion different odors. Then, why is there a gap between their ability to discriminate scent and their vocabulary? The researchers suggest that surroundings may play a significant role.

Maniq and Jahai speakers live in tropical rainforest regions with a hunting-gathering lifestyle, and these two ethnic groups evaluate their surroundings through their noses to survive in nature. In an environment that is still largely untouched by humans, they are surrounded by smells at all times. They need to use their sense of smell to identify animals that they can hunt, and to recognize objects or events, such as spoiled food, that can pose a danger. Unlike the Maniq and the Jahai, many English speakers inhabit the post-industrial west and do not rely on smells to survive in their environment. This difference may explain the interesting linguistic phenomenon discussed above.

(1) () What is the purpose of this passage?

- (A) To evaluate the languages used by different ethnic groups.
- (B) To prove how civilization slows down language development.
- (C) To describe how terms of smell are found in different languages.
- (D) To point out the link between language use and the environment.

(2) () What does the word “want” in the first paragraph most likely mean?

- (A) Lack.
- (B) Growth.
- (C) Loss.
- (D) Search.

(3) () Which of the following is true about the Maniq?

- (A) They live in a different climate zone from the Jahai.
 - (B) Their ability to smell is stronger than that of the Jahai.
 - (C) They use smell terms to describe how food looks and tastes.
 - (D) Their living environment is similar to that in earlier human history.
- (4) () Why is it difficult for English speakers to describe smells directly?
- (A) They cannot distinguish the smells around them.
 - (B) The sense of smell is not critical for their survival.
 - (C) They consider it uncivilized to talk about smells directly.
 - (D) There are not many sources of odor in their surroundings.

107. According to popular folklore, many animals are smarter than they appear. Dogs bark before earthquakes; cattle predict rainfall by sitting on the ground. But cattle may have another hidden talent in telling which way is north.

Small animals such as mole rats living underground are known for the use of magnetism to navigate. Dr. Begall and her colleagues wanted to know whether larger mammals also have the ability to perceive magnetic fields. They investigated this possibility by studying images of thousands of cattle captured on Google Earth, a website that stitches together satellite photographs to produce an image of the Earth’s surface.

Grazing animals are known to orient themselves in a way that minimizes wind chill from the north and maximizes the warmth of the sun when they are cold. The researchers therefore had to study a lot of cows grazing in lots of different places at different times of day, in order to average out these factors and see whether cattle could act like compass needles.

The researchers concluded that cattle do generally orient themselves in a north-south direction. This north-south preference has also been noted in flies, termites and honeybees. But unfortunately, even the high resolution of Google Earth is not powerful enough to tell which end of the cow is its head, and which its tail. The researchers were therefore unable to answer their research questions of whether cattle prefer to look north or south, and whether that differs in the northern and southern hemispheres.

(1) () What is the article mainly about?

- (A) The usefulness of Google Earth.
- (B) Whether cattle are superior to other animals.
- (C) Animals’ sensitivity to natural disasters.
- (D) Whether cattle behave like compass needles.

(2) () Which of the following factors might affect Dr. Begall’s research result?

- (A) Rainfall.
- (B) Earthquakes.
- (C) Location.
- (D) Cost.

(3) () What is the major finding of Dr. Begall’s study?

- (A) Cattle point north-south.
- (B) Magnetism can’t be studied scientifically.

- (C) Animals prefer to look south.
(D) Google Earth is a reliable research tool.
- (4) () Why couldn't the researchers get the answer to their research questions?
(A) Many cattle in their study were sitting on the ground.
(B) The cattle constantly change directions to avoid wind chill.
(C) There is magnetic difference between the two hemispheres.
(D) They couldn't tell a cow's head from its tail in the satellite pictures.

108. Coffee experts are willing to pay large sums of money for high-quality coffee beans. The high-end beans, such as Kona or Blue Mountain, are known to cost extraordinary sums of money. Then there is Kopi Lowak (translated as "Civet Coffee"), the world's most expensive coffee, which sells for as much as US \$50 per quarter-pound.

This isn't particularly surprising, given that approximately 500 pounds a year of Kopi Lowak constitute the entire world supply. What is surprising is why this particular coffee is so rare. In fact, it's not the plants that are rare. It's the civet droppings. That's right, the civet droppings—the body waste of the palm civet. Coffee beans aren't Kopi Lowak until they've been digested and come out in the body waste of the palm civet.

Palm civets are tree-dwelling, raccoon-like little animals, native to Southeast Asia and the Indonesian islands. They also have a love for coffee cherries. According to Kopi Lowak suppliers, palm civets eat the fruit whole, but only digest the outer fruit, leaving the beans intact. While the beans are not destroyed, they undergo a transformation in the animal's body. A chemical substance in the digestive system of the palm civet causes some changes to the beans to give them a unique flavor. However, this is not the only explanation why coffee beans retrieved from civet droppings have a special flavor all their own. Another possible reason is that palm civets have an unfailing instinct for picking the coffee cherries at the peak of their ripeness.

Kopi Lowak is reported to have a character in taste unlike any other coffee, complex with caramel undertones and an earthy or gamey flavor. Currently, most of the world's supply of Kopi Lowak is sold in Japan, though a few US markets are also starting to stock up on Kopi Lowak.

- (1) () What does "**This**" in the second paragraph refer to?
(A) Civet Coffee. (B) Blue Mountain coffee.
(C) The high price of Kopi Lowak. (D) The unique taste of Kona.
- (2) () Why is Kopi Lowak expensive?
(A) There is a very limited supply of the beans.
(B) The coffee trees that grow the beans are scarce.
(C) It takes a long time for the coffee beans to ripen.
(D) Only a few experts know how to produce the beans.
- (3) () What is the main point discussed in the third paragraph?
(A) Why palm civets like the coffee beans.
(B) Where Kopi Lowak is mainly harvested.
(C) What chemicals are found in the civet's digestive system.
(D) How palm civets change coffee fruit to Kopi Lowak beans.
- (4) () Which of the following statements is true, according to the passage?
(A) Little palm civets eat only the outer layer of the coffee cherries.
(B) Palm civets somehow know the right time when the coffee fruit ripens.
(C) Kopi Lowak is most popular in Southeast Asia and the Indonesian islands.
(D) Kona and Blue Mountain are the most expensive coffees but only of average quality.
- 109.

In June 1943, Frank Lloyd Wright received a letter from Hilla Rebay, the art adviser to Solomon R. Guggenheim, asking the architect to design a new building to house Guggenheim's four-year-old museum of Non-Objective Painting. The project evolved into a complex struggle pitting the architect against his clients, city officials, the art world, and public opinions. Both Guggenheim and Wright would die before the building's 1995 completion. The resultant achievement, the Solomon R. Guggenheim Museum, testifies not only to Wright's architectural genius, but also to the adventurous spirit that characterized its founders.

Wright made no secret of his disenchantment with Guggenheim's choice of New York for his museum: "I can think of several more desirable places in the world to build this great museum," Wright wrote in 1949 to his partner, "but we will have to try New York." To Wright, the city was overbuilt, overpopulated, and lacked architectural merit. Still, he proceeded with his client's wishes, considering locations on 36th Street, 54th Street, and Park Avenue (all in Manhattan), as well as in the Riverdale section of the Bronx, before settling on the present site on Fifth Avenue between 88th and 89th Streets. Its nearness to Central Park was key. As close to nature as one gets in New York, the park offered relief from the noise and congestion of the city.

Wright's design put his unique stamp on Modernist Architecture's rigid geometry. The building is a symphony of triangles, ovals, arcs, circles, and squares. The delicate vision took decades to be fulfilled. Some people, especially artists, criticized Wright for creating a museum environment that might overpower the art inside. "On the contrary," he wrote, "it was to make the building and the painting an uninterrupted, beautiful symphony such as never existed in the world of art before."

In conquering the regularity of geometric design and combining it with the plasticity of nature, Wright

produced a vibrant building whose architecture is as refreshing now as it was 40 years ago. The Guggenheim is arguably Wright's most eloquent presentation and certainly the most important building of his late career.

(1) () The Guggenheim Museum was built _____.

- (A) in memory of Solomon Guggenheim
- (B) to keep Guggenheim's art collections
- (C) for a famous symphony orchestra
- (D) at the request of New York city officials

(2) () According to the passage, why was Wright NOT enthusiastic about building the Guggenheim Museum in New York City?

- (A) There were already too many people and buildings in New York City.
- (B) There were not enough enthusiastic architects to design the museum.
- (C) There was very little support from residents in New York City.
- (D) There was strong objection from Solomon R. Guggenheim.

(3) () We can learn from the passage that the Guggenheim Museum is located _____.

- (A) on the outskirts of New York City
- (B) within Central Park
- (C) in the area around 88th Street
- (D) in the Riverdale section of Bronx

(4) () According to the passage, what makes the Guggenheim Museum important in modern architecture?

- (A) The design of the museum is more powerful than the art works housed in it.
- (B) Both the architect and the owner of the museum died before its completion.
- (C) The building is a unique combination of many different geometric figures.
- (D) It was designed as a museum but could be used as a concert hall as well.

110.

Rice balls with folded plastic wrappers separating the rice from the seaweed; a dozen kinds of cold tea in a dozen different bottles—enter any convenience store in Japan, and you're immediately struck by the great variety and quality of the packaging!

Japanese companies have been accused of over-packaging; but within the Japanese cultural context, that's not really true. The Japanese tend to use more packaging because of a cultural emphasis on freshness and a lack of storage space at home. Moreover, they believe nice packaging adds value because it's a strong signal of quality. What's more, compared with Westerners, the Japanese are more connected with packaging as a symbol of appreciation, love and care. Packaging has, therefore, attained an important place in Japan's economy. The packaging market is worth over ¥7.4 trillion. New packaging is introduced to Japanese store shelves at a rate of 20 percent per year, the highest rate in the world. In such an environment, a product has to have more than just a nice graphic design to differentiate it from its **shelf-mates**. The product has to speak to the consumer's needs with both personality and practical value. In this changing industry, nothing is really certain except one thing. You can be sure that the goods out there on display on the shelves of the convenience store will soon be looking rather different.

(1) () This passage is most likely taken from a _____.

- (A) cookbook
- (B) user's manual
- (C) consumer report
- (D) fashion magazine

(2) () Which of the following is NOT a reason for the Japanese to use more packaging?

- (A) Packaging helps to keep food fresh.
- (B) Packaging helps the Japanese to show appreciation.
- (C) The Japanese consider packaging a symbol of quality.
- (D) Packaging is a way to compete with Westerners in economy.

(3) () The word "shelf-mates" in the second paragraph most likely refers to _____.

- (A) co-workers on the job
- (B) other products in the store
- (C) customers' need for other products
- (D) other graphic designs on the package

111. Below is an excerpt from an interview with Zeke Emanuel, a health-policy expert, on his famous brothers.

Interviewer: You're the older brother of Rahm, the mayor of Chicago, and Ari, an extremely successful talent agent. And you're a bioethicist and one of the architects of Obamacare. Isn't writing a book about how great your family is a bit odd?

Zeke: I don't write a book about how great my family is. There are lots of idiocies and foolishness—a lot to make fun of in the book. I wrote *Brothers Emanuel* because I had begun jotting stories for my kids. And then we began getting a lot of questions: What did Mom put in the cereal? Three successful brothers, all different areas.

I: To what do you attribute the Emanuel brothers' success?

Z: I would put success in quotes. We strive. First, I think we got this striving from our mother to make the world a better place. A second important thing is you never rest on the last victory. There's always more to do. And maybe the third important thing is my father's admonition that offense is the best defense. We don't give up.

I: Do you still not have a TV?

Z: I don't own a TV. I don't own a car. I don't Facebook. I don't tweet.

I: But you have four cell phones.

Z: I'm down to two, thankfully.

I: Your brothers are a national source of fascination. Where do you think they'll be in five years?

Z: Ari will be a superagent running the same company. Rahm would still be mayor of Chicago. I will probably continue to be my academic self. The one thing I can guarantee is none of us will have taken a cruise, none of us will be sitting on a beach with a pina colada.

(1) () What does Zeke Emanuel have in mind when saying "What did Mom put in the cereal?"

(A) The secret to bringing up successful kids. (B) The recipe for a breakfast food.

(C) The difference among the brothers. (D) The questions from his kids.

(2) () What does Zeke Emanuel think of the modern conveniences mentioned in the interview?

(A) Better late than never. (B) Practice makes perfect.

(C) One can live without many of them. (D) They are great inventions.

(3) () According to Zeke Emanuel, which of the following is a reason for the brothers' success?

(A) They defend themselves by attacking others.

(B) They learn a lot from great people's quotes.

(C) They are committed to glorifying their parents.

(D) They keep moving forward even after a big success.

(4) () Which of the following best summarizes Zeke Emanuel's response to the last question?

(A) The brothers look forward to a family trip on a cruise.

(B) Nothing much will change in the near future for them.

(C) Higher positions and more power will be their goals.

(D) None of the brothers will go to the beach.

112. Tea, the most typical English drink, became established in Britain because of the influence of a foreign princess, Catherine of Braganza, the queen of Charles II. A lover of tea since her childhood in Portugal, she brought tea-drinking to the English royal court and set a trend for the beverage in the seventeenth century. The fashion soon spread beyond the circle of the nobility to the middle classes, and tea became a popular drink at the London coffee houses where people met to do business and discuss events of the day. Many employers served a cup of tea to their workers in the middle of the morning, thus inventing **a lasting British institution**, the "tea break." However, drinking tea in social settings outside the workplace was beyond the means of the majority of British people. It came with a high price tag and tea was taxed as well.

Around 1800, the seventh Duchess of Bedford, Anne Maria, began the popular practice of "afternoon tea," a ceremony taking place at about four o'clock. Until then, people did not usually eat or drink anything between lunch and dinner. At approximately the same time, the Earl of Sandwich popularized a new way of eating bread—in thin slices, with something (e.g., jam or cucumbers) between them. Before long, a small meal at the end of the afternoon, involving tea and sandwiches, had become part of the British way of life.

As tea became much cheaper during the nineteenth century, its popularity spread right through all corners of the British society. Thus, tea became Britain's favorite drink. In working-class households, it was served with the main meal of the day, eaten when workers returned home after a day's labor. This meal has become known as "high tea."

Today, tea can be drunk at any time of the day, and accounts for over two-fifths of all beverages consumed in Britain—with the exception of water.

(1) () How is this passage organized?

- (A) By cause and effect. (B) In the order of importance.
 (C) In the sequence of time. (D) By comparison and contrast.
- (2) () What does the phrase **"a lasting British institution"** in the first paragraph mean?
 (A) The most popular British organization. (B) A long-standing tradition in the UK.
 (C) The last tea company in London. (D) A well-established British business.
- (3) () According to the passage, why was tea **NOT** a common drink of everyday life in the seventeenth century?
 (A) It was only served at coffee houses in London.
 (B) It was taxed as an alcoholic drink.
 (C) It was forbidden outside of the business setting.
 (D) It was too expensive for most people.
- (4) () According to the passage, which of the following is true?
 (A) High tea was served later in the day than afternoon tea in the nineteenth century.
 (B) British people had tea breaks twice a day in the eighteenth century.
 (C) Princess Catherine brought tea to England after visiting Portugal.
 (D) The Earl of Sandwich started the afternoon tea ceremony.

113.

A sense of humor is just one of the many things shared by Alfred and Anthony Melillo, 64-year-old twin brothers from East Haven who made history in February 2002. On Christmas Eve, 1992, Anthony had a heart transplant from a 21-year-old donor. Two days before Valentine's Day in 2002, Alfred received a 19-year-old heart, marking the first time on record that twin adults each received heart transplants.

"I'm 15 minutes older than him, but now I'm younger because of my heart and I'm not going to respect him," Alfred said with a grin, pointing to his brother while talking to a roomful of reporters, who laughed frequently at their jokes.

While the twins knew that genetics might have played a role in their condition, they recognized that their eating habits might have also contributed to their heart problems. "We'd put half a pound of butter on a steak. I overdid it on all the food that tasted good, so I guess I deserved what I got for not dieting properly."

The discussion moved to Anthony's recovery. In the five years since his heart transplant, he had been on an exercise program where he regularly rode a bicycle for five miles, swam each day, and walked a couple of miles. He was still on medication, but not nearly as much as Alfred, who was just in the early stage of his recovery.

"Right now I feel pretty young and I'm doing very well," Anthony said. "I feel like a new person." Alfred said his goal, of course, was to feel even better than his brother. But, he added, "I love my brother very much. We're very close and I'm sure we'll do just fine."

- (1) () This article is mainly about _____.
 (A) the danger of heart transplant surgery
 (B) becoming young by getting a new heart
 (C) the effect of genetics on the heart
 (D) the twin brothers who received heart transplants
- (2) () What did Alfred and Anthony have in common?
 (A) Lifespan. (B) Career goals.
 (C) A sense of humor. (D) Love for bicycling.
- (3) () What did Alfred and Anthony think caused their heart problems?
 (A) Exercise. (B) Diet. (C) Surgery. (D) Medicines.
- (4) () Why did Alfred say, **"I'm 15 minutes older than him, but now I'm younger because of my heart"** ?
 (A) His heart transplant surgery was more successful than Anthony's.
 (B) His recovery from the heart surgery was faster than Anthony's.
 (C) His exercise program was better than Anthony's.
 (D) His new heart was younger than Anthony's.

114.

The All Blacks, New Zealand's national rugby team, is widely credited for bringing the "haka" to the world stage. Immediately before kick-off, the whole team will issue a warlike chant, stamping their feet, slapping their thighs, rolling their eyes, flicking their tongues, and making aggressive gestures in unison. This performance before each match, which is intended to heighten their morale and intimidate opponents, is a sight to behold. No other international sporting team possesses a pre-match ritual as powerful as the famed All Blacks haka.

What does "haka" mean? Haka is often thought of as a broad term for Māori war dances traditionally used to intimidate the enemy and prepare the warriors for battle. Most people believe it was performed either on the battlefield prior to engaging the enemy, or as the warriors were leaving their own village en route to a battle. But in the language of Māori, the word haka simply means a dance. The dance is accompanied by a chant that expresses emotions or tells ancient stories. While many haka should be performed by males, there are some haka that can be performed by anyone, male or female. There are even some women-only haka.

Thanks to the All Blacks, two of the haka have become widely renowned: *Ka Mate* and *Kapa o Pango*. The former was composed by a Māori chief in the early 1800s about how he outsmarted his enemies. It was first performed by the All Blacks in 1906. The latter was written specifically for the team in 2005. They are now performed interchangeably by the All Blacks.

Today, different varieties of haka are performed on various ceremonial occasions—from receiving distinguished guests to birthdays, weddings, or the funerals of chiefs and people of high status. Though the **practice** had traditionally been limited to Māori communities, it has now spread far beyond that. Māori and New Zealanders of European heritage alike view doing the haka with a sense of pride, both on the rugby field and outside it. The haka has become the most recognizable symbol of New Zealanders as a people.

(1) () Which of the following best describes the tone of this article?

- (A) Cynical.
- (B) Humorous.
- (C) Pessimistic.
- (D) Respectful.

(2) () According to the passage, for what purpose do the All Blacks perform the haka?

- (A) To anger their opponents.
- (B) To gain public attention and fame.
- (C) To boost their own spirits.
- (D) To show respect to their ancestors.

(3) () Which of the following is closest in meaning to the word “**practice**” in the last paragraph?

- (A) Sport.
- (B) Performance.
- (C) Competition.
- (D) Occupation.

(4) () According to the passage, which of the following statements is true?

- (A) The traditional Māori haka is limited to use by male Māori warriors in battle.
- (B) The original meaning of haka in Māori is a war dance accompanied by songs.
- (C) The All Blacks have taken turns performing Ka Mate and Kapa o Pango since 1906.
- (D) Haka are now used for important events by both Māori and non-Māori New Zealanders.

115. Many marine animals, including penguins and marine iguanas, have evolved ways to get rid of excess salt by using special salt-exPELLING glands around their tongue. However, the sea snake’s salt glands cannot handle the massive amounts of salt that would enter their bodies if they actually drank seawater. This poses a serious problem when it comes to getting enough water to drink. If seawater is not an option, how does this animal survive in the ocean?

An international team of researchers focused on a population of yellow-bellied sea snakes living near Costa Rica, where rain often does not fall for up to seven months out of the year. Because yellow-bellied sea snakes usually spend all of their time far from land, rain is the animals’ only source of fresh water. When it rains, a thin layer of fresh water forms on top of the ocean, providing the snakes with a fleeting opportunity to lap up that precious resource. But during the dry season when there is no rain, snakes presumably have nothing to drink. Thus, the team became interested in testing whether sea snakes became dehydrated at sea.

The researchers collected more than 500 yellow-bellied sea snakes and weighed them. They found that during the dry season about half of the snakes accepted fresh water offered to them, while nearly none did during the wet season. A snake’s likelihood to drink also correlated with its body condition, with more withered snakes being more likely to drink, and to drink more. Finally, as predicted, snakes captured during the dry season contained significantly less body water than those scooped up in the rainy season. Thus, it seems the snake is able to endure certain degrees of dehydration in between rains. Scientists believe that dehydration at sea may explain the declining populations of sea snakes in some parts of the world.

(1) () What is the purpose of the study described in this passage?

- (A) To test if sea snakes lose body water at sea.
- (B) To see whether sea snakes drink water offered to them.
- (C) To find out if sea snakes are greatly reduced in population.
- (D) To prove that sea snakes drink only water coming from rivers.

(2) () Which of the following is true about sea snakes?

- (A) Their salt glands can remove the salt in the seawater.
- (B) They can drink seawater when it mixes with rainwater.
- (C) The ocean is like a desert to them since they don’t drink seawater.
- (D) They usually live near the coastal area where there is more fresh water.

(3) () Which of the following is one of the findings of the study?

- (A) If a sea snake was dried and weak, it drank more fresh water.
- (B) If captured in the wet season, sea snakes drank a lot of fresh water.
- (C) Most of the sea snakes had lost a lot of body water when captured.
- (D) Dehydration is not a problem among sea snakes since they live at sea.

(4) () What can be inferred from the study?

- (A) Sea snakes can easily survive long years of drought.
- (B) Evolution will very likely enable sea snakes to drink seawater.
- (C) Sea snakes will be the last creature affected by global warming.
- (D) The sea snakes’ population distribution is closely related to rainfall.

116. MOOC, a massive open online course, aims at providing large-scale interactive participation and open access via the web. In addition to traditional course materials such as videos, readings, and problem sets, MOOCs provide interactive user forums that help build a community for the students, professors, and teaching assistants.

MOOCs first made waves in the fall of 2011, when Professor Sebastian Thrun from Stanford University opened his graduate-level artificial intelligence course up to any student anywhere, and 160,000 students in more than 190 countries signed up. This new breed of online classes is shaking up the higher education world in many ways. Since the courses can be taken by hundreds of thousands of students at the same time, the number of universities might decrease dramatically. Professor Thrun has even envisioned a future in which there will only need to be 10 universities in the world. Perhaps the most striking thing about MOOCs, many of which are being taught by professors at prestigious universities, is that they're free. This is certainly good news for cash-strapped students.

There is a lot of excitement and fear surrounding MOOCs. While some say free online courses are a great way to increase the enrollment of minority students, others have said they will leave many students behind. Some critics have said that MOOCs promote an unrealistic one-size-fits-all model of higher education and that there is no replacement for true dialogues between professors and their students. After all, a brain is not a computer. We are not blank hard drives waiting to be filled with data. People learn from people they love and remember the things that arouse emotion. Some critics worry that online students will miss out on the social aspects of college.

(1) () What does the word "cash-strapped" in the second paragraph mean?

- (A) Making a lot of money. (B) Being short of money.
(C) Being careful with money. (D) Spending little money.

(2) () Which of the following is NOT one of the features of MOOCs?

- (A) It is free to take the courses.
(B) Many courses are offered by famous universities.
(C) Most courses address artificial intelligence.
(D) Many students can take the course at the same time.

(3) () What is the second paragraph mainly about?

- (A) The impact of MOOCs. (B) The goal of MOOCs.
(C) The size of MOOC classes. (D) The cost of MOOC courses.

(4) () Which of the following is a problem of MOOCs mentioned in the passage?

- (A) The disappearance of traditional course materials.
(B) The limited number of courses offered around the world.
(C) The overreliance on professors from prestigious universities.
(D) The lack of social interaction among students and professors.