

英 語

注 意

1. 問題は全部で19ページである。
2. 解答用紙に氏名・受験番号を忘れずに記入すること。(ただし、マーク・シートにはあらかじめ受験番号がプリントされている。)
3. 解答はすべて解答用紙に記入すること。
4. 問題冊子の余白等は適宜利用してよいが、どのページも切り離してはいけない。
5. 解答用紙は必ず提出のこと。この問題冊子は提出する必要はない。

マーク・シート記入上の注意

1. 解答用紙(その1)はマーク・シートになっている。HBの黒鉛筆またはシャープペンシルを用いて記入すること。
2. 解答用紙にあらかじめプリントされた受験番号を確認すること。
3. 解答する記号・番号の○を塗りつぶしなさい。○で囲んだり×をつけたりしてはいけない。

解答記入例(解答が1のとき)

1	<input checked="" type="radio"/>	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9	<input type="radio"/> 0
---	----------------------------------	-------------------------	-------------------------	-------------------------	-------------------------	-------------------------	-------------------------	-------------------------	-------------------------	-------------------------

4. 一度記入したマークを消す場合は、消しゴムでよく消すこと。×をつけても消したことになる。
5. 解答用紙をよごしたり、折り曲げたりしないこと。

1 次の文を読み、以下の問いに答えなさい。

Nobody, it seemed, had thought to look before.

When two Austrian scientists discovered last year that it's likely most people have plastic inside their bodies, it wasn't because they had invented some new, complicated scientific method. It was because they were the first to check.

Their approach was simple. They asked eight people, mostly in Europe, but also in Japan and Russia, to keep a weeklong food diary. Then, they examined stool samples from their subjects, looking for plastic.

They found it in every single one: On average, 20 tiny pieces in each 10 grams of stool; given that humans poop on average 400 to 500 grams a day, that means their subjects were likely passing some 800 to 1,000 pieces of so-called microplastic daily.

The scientists, Philipp Schwabl, a researcher at the Medical University of Vienna, and Bettina Liebmann of Austria's environment agency, are the first to admit their findings are at best preliminary. Their results don't say where that plastic came from, what exactly it contains, and how — or whether — it is affecting our health.

The study is just now undergoing peer review, and much larger sample sizes will be needed to confirm its conclusions. But based on their results, the scientists estimate that more than half of the world's population might have plastic passing through their bodies.

The study set off a wave of concern about the potential impact plastic could be having on humans, adding momentum to the transformation that plastic is undergoing in the public consciousness.

¹¹
In its short history, plastic has gone from miracle material to a cause of mounting global concern. The Great Pacific garbage patch; debris found in fish, turtles and whales; microscopic pieces within us — plastic, it seems, is literally

everywhere.

And as a substance, it's turning out to be devilishly difficult to do something about. Plastic is cheap to produce, useful nearly everywhere and incredibly durable. These qualities make it nearly indispensable to large swathes of the modern economy, from packaging and fashion to medicine and transportation. They also make it a nightmare to regulate or dispose of.

At the same time, even if the science isn't yet clear about the effect plastics have on our bodies, worries are rapidly mounting.

"We're running this big human experiment on how they will affect us," said Alice Bernard, a lawyer for environmental advocacy group ClientEarth. "It was not thought through at all."

It's taken just over a century for plastics to become a ubiquitous part of our lives, our environment and perhaps even our bodies.

The first mass-produced plastic was invented in 1907, by Belgian-born scientist Leo Baekeland. In creating a hard, moldable material that would retain its shape after being heated, Baekeland opened a Pandora's box in reverse — a flurry of hope followed by microscopic mayhem.

The plastics boom began in earnest after World War II, when global production skyrocketed from 1.5 million tons annually in 1950 to 100 million tons in 1989. In 2017, nearly 350 million tons were being produced each year.

"In product after product, market after market, plastics challenged traditional materials and won," wrote author Susan Freinkel in a book on the material's ubiquity. Plastics' possibilities are near-endless: In its various forms it has replaced steel in cars, wood in furniture, paper and glass in packaging, and cotton in clothes.

It didn't take long for the material to move into the environment.

Although most plastics are derived from petroleum — an organic matter — the manufacturing process warps individual chemical units found in petroleum, helping them form extremely strong carbon bonds unlike anything

produced in nature. Because of this uniqueness, the organisms that decompose organic matter don't know how to break down plastic.

This, combined with the fact that many plastic items are used once and thrown away, means the vast majority of the plastic that has been produced is still out there, somewhere.

Of more than 6 billion tons of plastic waste produced since the 1950s, only 9 percent has been recycled, and 12 percent has been burned.

Some of the other 4.7 billion tons of plastic waste sits in landfills, little trash mountains piling up in every country in the world.

Some of it is floating in the oceans, contributing to island-sized patches of floating garbage accumulated by rotating ocean currents. The rest of it surrounds us in the form of microplastics, particles ranging in size from microscopic to 5 millimeters long.

The term microplastics was coined in 2004 by Richard Thompson, a professor of marine biology at Plymouth University. He noticed that groups trying to clean up plastic pollution on beaches were mainly looking for “trophy items” like tires and fishing nets. He decided to look a bit closer.

“We found small bits among the sand grains that looked like sand grains,” he said. “We confirmed that they were plastic.”

The microplastics varied in size and origin: Some were created at a very small size — think the little beads in exfoliating cosmetics or in fertilizers — but most of them are the result of bigger plastic items breaking down into smaller and smaller pieces, then slipping into the environment unnoticed. The two biggest sources of unintentionally released microplastics are wear from synthetic rubber tires and plastic fibers released from washing polyester or nylon clothes.

Thompson's research demonstrated that the amount of microscopic plastic on beaches has increased substantially since the 1960s. And he made another discovery. “We showed that a range of creatures can ingest that material,” he

said.

In the years since, Thompson's findings have been confirmed over and over again. Microplastics have been found in nearly every fish and aquatic animal that's been tested.

Now concern is growing about the effect of plastics on the human body, primarily informed by research that has been done on animal health.

Studies have found that sea birds, and marine animals like whales that filter-feed, can ingest so many microplastics that they accumulate in their digestive systems and block the ability to digest food. Others found that plastics can lodge in the organs of fish, causing inflammation and physical damage by jabbing and rubbing up against organ walls.

And beyond the mechanical problems caused by small pieces of non-biodegradable material stuck in organs, research has also shown that microplastics can act as a "vehicle" for some of the more harmful chemical additives in plastic, carrying them directly into the bodies of animals.

"They can soak up all these substances from other toxins, colorants and additives, and bring those into an organism," said Frédérique Mongodin, a marine litter policy officer at the environmental NGO Seas at Risk.

This contamination from microplastics has been found in marine animals big and small, and it's been linked to a host of problems, from inhibiting brain activity in tilapia fish to contributing to the early death of whales.

But while it may seem intuitive that it's only a matter of time until negative effects are proven for humans too, most researchers are more cautious.

Notes:

stool 便, poop 排便をする, preliminary 予備的な, debris 破片,
mayhem 大混乱, decompose 分解する, toxin(s) 毒素,
contamination 汚染, intuitive 直感的な

〔1〕 下線部A, Bを日本語にきなさい。(解答用紙その2)

〔2〕 1~15の質問に対して英文の内容から判断し, 最も適切なものを一つ選び, その番号をマークきなさい。(解答用紙その1)

1. What is the best title for this passage?

- (1) Humans experiment with plastic
- (2) The dangers of plastic in seafood
- (3) The approach was simple
- (4) The plastic in our bodies

2. Two Austrian scientists discovered

- (1) eight people were examining stool.
- (2) eight people were found not to be containing plastic.
- (3) it is probable that plastic can be found inside the majority of people.
- (4) it is probable that plastic is affecting people's health.

3. To confirm Philipp Schwabl and Bettina Liebmann's preliminary findings,

- (1) many more test subjects will be necessary.
- (2) larger peers will be needed.
- (3) scientists must estimate the world's population.
- (4) the concern regarding plastics' impact on humans must be examined.

4. Plastic has become a global problem partly because it is
- (1) difficult to throw away, not tough and easy to regulate.
 - (2) inexpensive to make, extremely useful and easy to regulate.
 - (3) inexpensive to make, very useful and extremely strong.
 - (4) difficult to throw away, very tough and terribly expensive.
5. Alice Bernard most likely believes that the influence of plastic on people's health is
- (1) unknown and potentially dangerous.
 - (2) known and harmless.
 - (3) unknowable and nonthreatening.
 - (4) known and dangerous.
6. The most recent annual global production of plastics is approximately _____ million tons.
- (1) 1.5
 - (2) 100
 - (3) 350
 - (4) 451.5
7. According to Susan Freinkel, plastics are popular because they
- (1) replace petroleum.
 - (2) keep their shape at low temperatures.
 - (3) substitute for traditional materials.
 - (4) form weak carbon bonds.

8. Some plastic waste produced since the 1950s has been

- (1) recycled into new products.
- (2) disposed of in landfills.
- (3) burned.
- (4) All of the above.

9. According to Richard Thompson, the majority of microplastics

- (1) cannot be found inside various creatures.
- (2) look like grains of salt.
- (3) do not vary in size and origin.
- (4) originally come from larger pieces of plastic.

10. Contamination from microplastics has NOT been proven to be harmful to

- (1) whales.
- (2) humans.
- (3) sea birds.
- (4) None of the above.

11. The word "consciousness" means

- (1) falseness.
- (2) carelessness.
- (3) truthfulness.
- (4) awareness.

12. The word “indispensable” means

- (1) necessary.
- (2) absolute.
- (3) limited.
- (4) unofficial.

13. The word “ubiquitous” means

- (1) ever-present.
- (2) peculiar.
- (3) high-powered.
- (4) constrained.

14. The word “accumulated” means

- (1) ruined.
- (2) gathered.
- (3) melted.
- (4) disappeared.

15. The phrase “soak up” means to

- (1) divide.
- (2) find.
- (3) absorb.
- (4) defend.

2 以下のそれぞれの定義に従って、最初と最後の文字が与えられた最も適切な単語を書きなさい。ただし、1下線に1文字が入る。(解答用紙その2)

(解答例)

someone who is trained in science, especially someone whose job is to do scientific research

⇒(s _____ t)

正解(scientist)

1. a person who has scientific training and who designs and builds complicated products, machines, systems, or structures

⇒(e _____ r)

2. a measurement of how tall a person or thing is; the distance from the bottom to the top of a person or thing

⇒(h _____ t)

3. to make (something) better

⇒(i _____ e)

4. a condition or situation of great comfort, ease, and wealth

⇒(l _____ y)

5. a careful plan or method for achieving a particular goal usually over a long period of time

⇒(s _____ y)

6. a person who is trained in or good at sports, games, or exercises that require physical skill and strength

⇒(a _____ e)

7. the act or process of making something clear or easy to understand

⇒(e _____ n)

8. a statement or series of statements for or against something

⇒(a _____ t)

9. something valuable (such as money, jewels, gold, or silver) that is hidden or kept in a safe place

⇒(t _____ e)

10. an agreement to meet with someone at a particular time

⇒(a _____ t)

3 下線部に最も適切なものを一つ選び、その番号をマークしなさい。(解答用紙
その1)

16. _____ the heavy snow, the flight from Narita Airport will be delayed.

- (1) As of
- (2) Due to
- (3) Regardless of
- (4) Except for

17. The restaurant is always crowded, so I recommend you to _____ a
table.

- (1) board
- (2) bet
- (3) bother
- (4) book

18. This exercise will do you _____ harm than good.

- (1) most
- (2) much
- (3) more
- (4) many

19. _____ this medicine, I might have been hospitalized.

- (1) Instead of
- (2) Otherwise
- (3) Suppose
- (4) Without

20. I will _____ a short presentation about my current research.
- (1) say
 - (2) tell
 - (3) give
 - (4) speak
21. The bookstore staff checks the number of books every day to see if they are _____ low.
- (1) going
 - (2) running
 - (3) making
 - (4) staying
22. The country has become _____ wealthy since oil was discovered there last year.
- (1) considered
 - (2) considerable
 - (3) consideration
 - (4) considerably
23. We regret to _____ you that you are not qualified to take the examination.
- (1) report
 - (2) say
 - (3) inform
 - (4) update

24. It remains _____ if our old classmates will attend the reunion party.
- (1) seen
 - (2) seeing
 - (3) to see
 - (4) to be seen
25. We want our students _____ to discover their full potential and achieve their goals.
- (1) to be empowered
 - (2) to be empowering
 - (3) to empower
 - (4) empowering
26. _____ it's rock climbing and hiking or just hanging out with friends, this summer program has something for everyone.
- (1) Although
 - (2) Whether
 - (3) Nevertheless
 - (4) As
27. What sort of curtains do you think would _____ with the carpet?
- (1) suit
 - (2) go
 - (3) fit
 - (4) match

28. The old man passed _____ last Monday, and many people came to his funeral.

- (1) away
- (2) off
- (3) over
- (4) in

29. _____ scientists warned the government not to sell the new drug, it became a best-seller.

- (1) Despite
- (2) Although
- (3) However
- (4) Indeed

30. This special card will enable you _____ the building freely.

- (1) to enter
- (2) enter
- (3) entered
- (4) entering

31. Users _____ to log in to this system if they have a password.

- (1) are allowing
- (2) allowed
- (3) are allowed
- (4) allow

32. Naomi _____ reading the Bible before everyone else was only halfway through.

- (1) had finished
- (2) have finished
- (3) has finished
- (4) will finish

33. We were told _____ smoke inside the buildings.

- (1) never
- (2) not
- (3) never for
- (4) not to

34. Builders should make sure that their work is _____ schedule.

- (1) in
- (2) under
- (3) beyond
- (4) on

35. We believe _____ providing unique opportunities and an excellent educational experience.

- (1) on
- (2) in
- (3) into
- (4) onto

4

次の会話文を読んで、以下の問いに答えなさい。

Yuko: Hey there. I haven't seen you in ages. (36)?

Ai: What's happened to you? You seem totally different.

Yuko: I don't (37).

Ai: Your hairstyle and fashion have totally changed since I last saw you.
You're not wearing any makeup either!

Yuko: Oh, that's what you mean.

Ai: Yes, and you seem really happy. Are you okay?

Yuko: Well... I just got back from a two-month homestay in Australia. And it
changed my life!

Ai: I don't understand. You've changed? How come?

Yuko: In Australia, people are happy. They enjoy their lives so much. They
smile and are not afraid of talking to strangers. And...

Ai: Okay. Alright, but the clothes?

Yuko: I want to wear clothes that are comfortable, not just fashionable. I dyed
this T-shirt myself.

Ai: Wow. I can really feel your (38) and self-confidence.

Yuko: My host family was so kind. They taught me how to surf and how to
enjoy life.

Ai: Surfing sounds scary. I'm afraid of the water.

Yuko: Don't be a (39). Try something new. Meet me at the beach, and I'll
(40).

Ai: Okay, but I'm not giving up my makeup.

[1] 次の選択肢 1～0の中から、前の空欄 36～40 に最も適切なものを一つ選び、その番号をマークしなさい。ただし、同じ語句を複数回選択してはならない。また、文頭に来る語も小文字で表している。(解答用紙その1)

- | | |
|-----------------------|--------------------|
| 1. show you the ropes | 6. come up with |
| 2. positive energy | 7. what's up |
| 3. deal with | 8. scaredy-cat |
| 4. piece of cake | 9. give me a break |
| 5. hang out | 0. get it |

[2] 次の文で、会話文の内容と一致するのは1を、一致しないものは2をマークしなさい。(解答用紙その1)

41. Yuko seems surprised at Ai's new appearance.
42. Yuko visited Australia for two years.
43. Yuko experienced many things while abroad.
44. Ai has noticed a big change in Yuko.
45. Ai is eager to try surfing.

49. 驚いたことに、ガソリンの値段は去年の二倍ほどになりました。

Surprisingly,
2 番目 4 番目

A. about twice

B. of

C. as much

D. is

E. the price

F. gasoline

1) B—A

2) F—C

3) B—D

4) D—C

