

英 語

試験時間60分

〔注 意〕

1. この問題冊子は指示があるまで開いてはいけない。
2. 受験番号が正しく記入・マークされていない場合は0点となる。
3. 解答はすべて解答用紙の所定欄にマークすること。例えば、問題文中に

10

と表示のある問いに対して③と解答する場合は、次の(例)のように
解答番号10の解答記入欄の③にマークすること。正しくマークされていない場合は採点できないことがある。

(例)

解答 番号	解答記入欄 (マーク)									
10	①	②	●	④	⑤	⑥	⑦	⑧	⑨	⑩

4. 問題冊子の各ページの余白は自由に使用してよいが、どのページも切り離してはいけない。
5. 試験終了後、解答用紙は通路側に置くこと。なお、問題冊子は持ち帰ること。

〈マーク式についての注意〉

1. 機械が読み取って採点するので、折り曲げたり汚したりしないこと。
2. マークはHBの鉛筆で枠の中を濃く塗りつぶすこと。
3. 1つのマーク欄には1つしかマークしないこと。
4. 訂正はプラスチック消しゴムでよく消し、消しくずはきれいに取り除くこと。
5. 所定欄以外には何も書かないこと。

英 語

(解答番号

1

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52

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問題Ⅰ 次の英文を読んで、後に続く各問の答えとして最も適切なものを、それぞれの

①～④の中から一つずつ選び、マークして答えなさい。

A school science project by a group of students in Canada has led to an important discovery: EpiPens^(注1), which help control dangerous allergic reactions, might not work in space. EpiPens were made to help with severe allergic reactions. An EpiPen is a shot that puts a medicine called “epinephrine”^(注2) straight into a person’s body with a needle. The epinephrine calms the allergic reaction and helps the swelling go down so the person can breathe.^(注3)

But students in the Program for Gifted Learners^(注4) at St. Brother André Elementary School had a question about EpiPens: Would they work in space? The students knew that on Earth, radiation from the sun can change the molecules of the epinephrine in an EpiPen. They wondered if the same thing would happen when epinephrine was exposed to radiation in space. So the students designed an experiment to test their idea. They worked with Dr. Paul Mayer, a chemistry professor at the University of Ottawa. They wanted to send samples of the liquid in an EpiPen, as well as pure epinephrine, into space to see if anything changed. The students worked with a group called iEDU^(注6), which offers a program called Cubes in Space. Students who have their ideas accepted get to send experiments into space in very small cubes.

But the cubes were too small to hold an EpiPen. So, the students had to figure out a way to get the EpiPen liquid into a small jar, called a vial.^(注7) The students sent two cubes into space—one on a rocket and the other on a balloon. Each cube held a vial of pure epinephrine and a vial of EpiPen liquid. Before the launch, Dr. Mayer tested the liquids to make sure each vial contained good epinephrine.

After the cubes returned to Earth, Dr. Mayer tested the liquids in the vials once more. The results suggested that the students had discovered something big. The vials that held the EpiPen liquid now had no epinephrine at all. The results from the vials of pure epinephrine were even more surprising. Only 87% of the liquid was still epinephrine. The other 13% had turned into poisonous chemicals.

The discovery the students made is a big deal. It suggests that EpiPens might not work in space, and might even become dangerous. That’s important information for astronauts with allergies. Dr. Mayer is very impressed with the

students. “The first part of doing science is asking the right question,” he says. “And they asked a fantastic question.”

The students now hope to repeat their experiment a second time, to check their results. They are also working on designing a container that could protect epinephrine in space. In June, the students will travel to Virginia, where they will officially present their results to NASA.

The students are very pleased to have made such an important discovery. One of the students, Raina Smith, says doing the experiment has shown her that with “hard work and passion, and putting your 100% into anything, you can achieve your goal.”

[Adapted from <https://newsforkids.net/> (一部省略)]

[出典：Copyright 2023 by News For Kids.net.]

(注1) EpiPen=アドレナリン自己注射薬《アメリカの製薬会社マイランの登録商標》

(注2) epinephrine=アドレナリンの別称で、アレルギー反応を抑制するホルモン

(注3) swelling=〈体の〉腫れもの

(注4) Gifted Learner=生まれつき高い知能をもつ学習者

(注5) radiation=放射線

(注6) iEDU=科学教育や探究教育を推進する団体

(注7) vial=バイアル《注射薬など薬の小瓶》

(1) According to the passage, why did the students conduct the experiment?

1

- ① To prove that EpiPens will sell well in other countries.
- ② To see if epinephrine in EpiPens changes in space.
- ③ To test how fast epinephrine works in space.
- ④ To find a new medicine that works better than EpiPens.

(2) What was the surprising result from the experiment?

2

- ① The EpiPen liquid became reduced in volume by 87% in space.
- ② The pure epinephrine did not change at all.
- ③ The students discovered a new way to make epinephrine.
- ④ The pure epinephrine became harmful in space.

(3) What did Dr. Mayer say after the experiment? 3

- ① Science experiments are usually done in space.
- ② Asking a good question is an important part of science.
- ③ Hard work and passion are needed for experiments.
- ④ Only professional scientists can make new discoveries.

(4) What do the students hope to do in the future? 4

- ① Travel to space to test EpiPens themselves.
- ② Create a new medicine that is more effective than epinephrine.
- ③ Complete designing a container that protects epinephrine in space.
- ④ Stop using EpiPens on Earth because of their discovery.

問題Ⅱ 次の英文を読んで、後続く各問題文の空所に入れるのに最も適切なものを、それぞれの①～④の中から一つずつ選び、マークして答えなさい。

In Limburg, more than 2,500 families adopted hens in one year alone. Meanwhile, in Mouscron, 50 pairs of chickens were given out in the second round of a scheme, after a successful initial giveaway.^(注1)

However, there are some strings attached: in most places, people receiving the animal for free had to sign an agreement not to eat the chickens for at least two years. Residents also had to prove they had sufficient space in their gardens to keep the birds and were given basic instructions on keeping them.

The scheme is not unique to Belgium. Residents in various towns and villages in France have been given the animals for years. The aim both in France and Belgium was to reduce food waste, which contributes more methane emissions^(注2) to the atmosphere than any other landfilled materials.^(注3)

Chickens are fed kitchen scraps^(注4) which would otherwise be thrown away and end up in landfills. The animals can consume 150g of biowaste^(注5) per day, massively reducing this type of waste.

A small northwestern French town called Pincé first started the concept in 2012, offering two chickens to each household to help them cut down on organic waste. The idea to do so on a larger scale was thought up by the waste collection department in the French town of Colmar. The first chickens were handed out in 2015.

Here, participating households had to sign a pledge^(注6) committing to raising the chickens. They were also warned that the waste department could conduct welfare spot checks^(注7) on the animals at any time. Additionally, henhouses were not provided, meaning it was up to the residents to build or buy their own.

Hesitant^(注8) residents were encouraged to think of the free eggs they would get by adopting a chicken, with authorities arguing the effort put into raising a chicken would pay off quickly.

While reducing emissions from food waste and the prospect of free eggs at a time when the price of this product is increasing very rapidly makes the scheme seem like a good idea on paper, in reality, there are some concerns. These are mainly related to one of the factors contributing to high costs: bird flu.^(注9)

One professor at the University of Oxford focusing on food systems, Paul

Behrens, warned that bird flu is an ever-present worry. “Current regulations in the UK mean you have to keep birds in fenced areas or indoors – this may again be a problem for animal welfare, or even disease spread if people don’t do this.”

Meanwhile, Mark Bomford, director of Yale University’s sustainable food program, argued that few people realise any net cost savings on eggs by the time when the costs of feed, water, housing, space and free time are taken into account.

[Adapted from <https://www.brusselstimes.com/> (一部省略)]

【出典：Belgian towns and cities giving away free chickens to reduce food waste】

- (注1) giveaway = 無料で提供すること
 (注2) methane emissions = メタンガスの排出量
 (注3) landfill = 埋め立てる 《landfilled = 埋め立ての》
 (注4) kitchen scrap = 台所からでる生ごみ
 (注5) biowaste = 生物由来の廃棄物
 (注6) pledge = 誓約書
 (注7) welfare spot check = 鶏の飼育状況の抜き差し検査
 (注8) hesitant = ためらっている
 (注9) bird flu = 鳥インフルエンザ
 (注10) net cost saving = 実際に節約できる額

(1) The underlined word strings in the second paragraph means 5 .

- ① special conditions
- ② reasonable prices
- ③ sufficient proofs
- ④ strong advantages

(2) According to the passage, authorities encouraged hesitant people to adopt chickens, saying that they would soon 6 .

- ① be rewarded for their efforts
- ② learn to raise chickens easily
- ③ help reduce methane emissions
- ④ make profits by selling mature chickens

(3) According to the passage, 7 .

- ① bird flu concerns are only a minor factor in the chicken adoption scheme
- ② chickens given through the scheme are intended only for egg production
- ③ this scheme is likely to turn out to be a disadvantage to consumers after all
- ④ local governments in France could carry out inspections on birds without prior notice

(4) The best title of this passage is 8 .

- ① Raising Chickens: An Enjoyable Family Activity
- ② Free Chickens for Waste Reduction: Benefits and Problems
- ③ How to Keep Chickens in Your Kitchen Garden
- ④ The History of Chicken Farming in Europe and the US

(8) The director of the company insisted that Ken [16] present at the department meeting.

- ① did ② be ③ does ④ are

- (9) After the concert, Lily

17

 how beautiful the singer's voice was.

- ① prayed ② told ③ wished ④ exclaimed

- (10) It is warm

18

 not to need a coat today.

- ① enough ② so as ③ in order ④ yet

- (11) I've never seen

19

 .

- ① such beautiful a picture ② so beautiful picture
③ such a beautiful picture ④ so a beautiful picture

- (12) There

20

 no tables available, we had to give up on having dinner at the restaurant.

- ① being ② be ③ were ④ seemed

- (12) There

20

 no tables available, we had to give up on having dinner at the restaurant.

- ① being ② be ③ were ④ seemed

- (12) There

20

 no tables available, we had to give up on having dinner at the restaurant.

- ① being ② be ③ were ④ seemed

問題Ⅳ 次の(1)～(6)の日本語の意味を表すように、それぞれ下の①～⑦の語を並べかえて空所を補い英文を完成しなさい。解答は 21 ～ 32 に入るべきものをマークして答えなさい。

- (1) この二つの意見の違いについて説明していただけますか。

Could _____ 21 _____ 22 _____ two opinions?

- ① tell ② between ③ me ④ you
⑤ these ⑥ the ⑦ difference

- (2) 医者は塩分の摂取を控えるように患者に助言した。

The doctor _____ 23 _____ 24 _____ his salt consumption.

- ① down ② advised ③ the ④ patient
⑤ to ⑥ cut ⑦ on

- (3) 彼女は交通機関の遅れが原因でレッスンを受けられなかったに違いない。

She _____ 25 _____ 26 _____ traffic delays.

- ① missed ② due ③ lesson ④ the
⑤ have ⑥ must ⑦ to

- (4) 彼女は来週まで会議が延期された理由を説明した。

She _____ 27 _____ 28 _____ off until next week.

- ① put ② had ③ the ④ meeting
⑤ been ⑥ why ⑦ explained

- (5) 私の友人は来年そのスタディ・プログラムに応募することを検討すると言っていた。

My friend _____ 29 _____ 30 _____ the study program next year.

- ① that ② for ③ she ④ consider
⑤ mentioned ⑥ applying ⑦ would

- (6) ボランティアの人たちは、洪水の被害者支援のために一日中働いている。

Volunteers are working _____ 31 _____ 32 _____ of the flood.

- ① the ② help ③ to ④ day
⑤ all ⑥ victims ⑦ long

問題Ⅴ 次の(1)～(5)に与えられた定義に最も合う語句を、それぞれの①～④の中から一つずつ選び、マークして答えなさい。

(1) a feeling of deep respect mixed with fear and wonder 33

- ① awe ② shock ③ praise ④ anger

(2) having a strong and sudden effect, often severe in nature 34

- ① gradual ② magnificent ③ drastic ④ amazing

(3) to give out a soft, warm and steady light 35

- ① to flash ② to reflect ③ to burn ④ to glow

(4) to feel or express sorrow when someone has died 36

- ① to groan ② to mourn ③ to regret ④ to whisper

(5) something that blocks the way and prevents progress 37

- ① an assumption ② a resolution
③ an instrument ④ an obstacle

問題Ⅵ 次の英文を読んで、38 ～ 52 に入れるのに最も適切なものを、それぞれの①～④の中から一つずつ選び、マークして答えなさい。

※著作権の関係上、問題文は掲載しておりません。

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[Adapted from <https://resilienteducator.com/> (一部省略)]
【出典：Competitive Classrooms vs. Cooperative Classrooms: Pros and Cons】

- (注1) cooperative=協力的な
(注2) critique=批評する
(注3) flashcard=(単語などを覚えるための) フラッシュカード
(注4) multiplication=掛け算
(注5) motivated=やる気が出る
(注6) excel=秀でる
(注7) individualistic learning=個人で進める学習
(注8) assignment=課題, 宿題
(注9) enliven=活気づける
(注10) apathetic=やる気のない

(1) 38

- ① exclude ② defend ③ summarize ④ offend

(2) 39

- ① a competitive classroom ② a cooperative classroom
③ another ④ the other

(3) 40

- ① prevents ② concludes ③ refuses ④ represents

(4) 41

- ① divided into ② delivered to
③ dominated by ④ overwhelmed by

(5) 42

- ① Criticisms ② Impressions
③ Activities ④ Allowances

(6) 43

- ① delayed ② left ③ hidden ④ forgotten

(7) 44

- ① evaluate ② pronounce ③ make ④ decrease

(8) 45

- ① whoever ② whatever ③ whenever ④ wherever

(9) 46

- ① together ② alone ③ lonely ④ comfortably

(10) 47

- ① severe punishment ② ideal relationships
③ better team ④ best grades

(11) 48

- ① described ② avoided ③ rewarded ④ isolated

(12) 49

- ① Earning ② Leaning ③ Dealing ④ Selling

(13) 50

- ① something ② anything ③ nothing ④ everything

(14) 51

- ① responsible for ② capable of
③ in regard to ④ on behalf of

(15) 52

- ① sacrifices and victims ② professors and teachers
③ cooperation and donation ④ commitment and effort