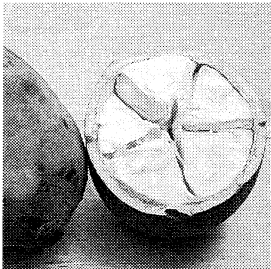
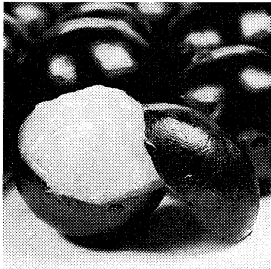

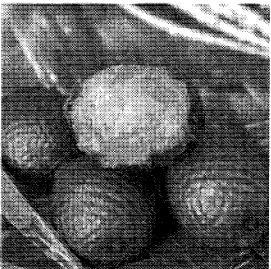


英 語 (リーディング)

各大問の英文や図表を読み，解答番号 ~ にあてはまるものとして最も適当な選択肢を選びなさい。

第 1 問 (配点 10)

A You are studying about Brazil in the international club at your senior high school. Your teacher asked you to do research on food in Brazil. You find a Brazilian cookbook and read about fruits used to make desserts.

Popular Brazilian Fruits	
 <p>Cupuaçu</p> <ul style="list-style-type: none"> • Smells and tastes like chocolate • Great for desserts, such as cakes, and with yogurt • Brazilians love the chocolate-flavored juice of this fruit. 	 <p>Jabuticaba</p> <ul style="list-style-type: none"> • Looks like a grape • Eat them within three days of picking for a sweet flavor. • After they get sour, use them for making jams, jellies, and cakes.
 <p>Pitanga</p> <ul style="list-style-type: none"> • Comes in two varieties, red and green • Use the sweet red one for making cakes. • The sour green one is only for jams and jellies. 	 <p>Buriti</p> <ul style="list-style-type: none"> • Orange inside, similar to a peach or a mango • Tastes very sweet, melts in your mouth • Best for ice cream, cakes, and jams


問 1 Both *cupuaçu* and *buriti* can be used to make .

- ① a cake
- ② chocolate
- ③ ice cream
- ④ yogurt

問 2 If you want to make a sour cake, the best fruit to use is .

- ① *buriti*
- ② *cupuaçu*
- ③ *jabuticaba*
- ④ *pitanga*

B You are looking at the website for the City Zoo in Toronto, Canada and you find an interesting contest announcement. You are thinking about entering the contest.

 <h2 style="text-align: center;">Contest!</h2> <h3 style="text-align: center;">Name a Baby Giraffe</h3> <p style="text-align: center;">Let's welcome our newest animal to the City Zoo!</p>	
<p>A healthy baby giraffe was born on May 26 at the City Zoo. He's already walking and running around! He weighs 66 kg and is 180 cm tall.</p> <p>Your mission is to help his parents, Billy and Noelle, pick a name for their baby.</p>	
How to Enter	
<ul style="list-style-type: none"> ◆ Click on the link here to submit your idea for his name and follow the directions. → <u>Enter Here</u> ◆ Names are accepted starting at 12:00 a.m. on June 1 until 11:59 p.m. on June 7. ◆ Watch the baby giraffe on the live web camera to help you get ideas. → <u>Live Web Camera</u> ◆ Each submission is \$5. All money will go towards feeding the growing baby giraffe. 	
Contest Schedule	
June 8	The zoo staff will choose five finalists from all the entries. These names will be posted on the zoo's website by 5:00 p.m.
June 9	How will the parents decide on the winning name? Click on the live stream link between 11:00 a.m. and 12:00 p.m. to find out! → <u>Live Stream</u> Check our website for the winning name after 12:00 p.m.
Prizes	
<p>All five contest finalists will receive free one-day zoo passes valid until the end of July.</p> <p>The one who submitted the winning name will also get a special photo of the baby giraffe with his family, as well as a private Night Safari Tour!</p>	

問 1 You can enter this contest between .

- ① May 26 and May 31
- ② June 1 and June 7
- ③ June 8 and June 9
- ④ June 10 and July 31

問 2 When submitting your idea for the baby giraffe's name, you must .

- ① buy a day pass
- ② pay the submission fee
- ③ spend five dollars at the City Zoo
- ④ watch the giraffe through the website

問 3 If the name you submitted is included among the five finalists, you will .

- ① get free entry to the zoo for a day
- ② have free access to the live website
- ③ meet and feed the baby giraffe
- ④ take a picture with the giraffe's family

第2問 (配点 20)

A You are on a *Future Leader* summer programme, which is taking place on a university campus in the UK. You are reading the information about the library so that you can do your coursework.

Abermouth University Library

Open from 8 am to 9 pm

2022 Handout

Library Card: Your student ID card is also your library card and photocopy card. It is in your welcome pack.

Borrowing Books

You can borrow a maximum of eight books at one time for seven days. To check books out, go to the Information Desk, which is on the first floor. If books are not returned by the due date, you will not be allowed to borrow library books again for three days from the day the books are returned.

Using Computers

Computers with Internet connections are in the Computer Workstations by the main entrance on the first floor. Students may bring their own laptop computers and tablets into the library, but may use them only in the Study Area on the second floor. Students are asked to work quietly, and also not to reserve seats for friends.

Library Orientations

On Tuesdays at 10 am, 20-minute library orientations are held in the Reading Room on the third floor. Talk to the Information Desk staff for details.

Comments from Past Students

- The library orientation was really good. The materials were great, too!
- The Study Area can get really crowded. Get there as early as possible to get a seat!
- The Wi-Fi inside the library is quite slow, but the one at the coffee shop next door is good. By the way, you cannot bring any drinks into the library.
- The staff at the Information Desk answered all my questions. Go there if you need any help!
- On the ground floor there are some TVs for watching the library's videos. When watching videos, you need to use your own earphones or headphones. Next to the TVs there are photocopiers.

問 1 are two things you can do at the library.

- A : bring in coffee from the coffee shop
- B : save seats for others in the Study Area
- C : use the photocopiers on the second floor
- D : use your ID to make photocopies
- E : use your laptop in the Study Area

- ① A and B
- ② A and C
- ③ B and E
- ④ C and D
- ⑤ D and E

問 2 You are at the main entrance of the library and want to go to the orientation. You need to .

- ① go down one floor
- ② go up one floor
- ③ go up two floors
- ④ stay on the same floor

問 3 near the main entrance to the library.

- ① The Computer Workstations are
- ② The Reading Room is
- ③ The Study Area is
- ④ The TVs are

問 4 If you borrowed three books on 2 August and returned them on 10 August, you could .

- ① borrow eight more books on 10 August
- ② borrow seven more books on 10 August
- ③ not borrow any more books before 13 August
- ④ not borrow any more books before 17 August

問 5 One fact stated by a previous student is that .

- ① headphones or earphones are necessary when watching videos
- ② the library is open until 9 pm
- ③ the library orientation handouts are wonderful
- ④ the Study Area is often empty

B You are the editor of a school English paper. David, an exchange student from the UK, has written an article for the paper.

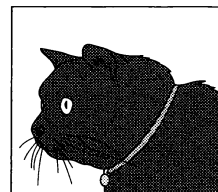
Do you like animals? The UK is known as a nation of animal-lovers; two in five UK homes have pets. This is lower than in the US, where more than half of homes have pets. However, Australia has the highest percentage of homes with pets!

Why is this so? Results of a survey done in Australia give us some answers.

Pet owners mention the following advantages of living with pets:

- The love, happiness, and friendship pets give (90%);
- The feeling of having another family member (over 60% of dog and cat owners);
- The happy times pets bring. Most owners spend 3–4 hours with their ‘fur babies’ every day and around half of all dog and cat owners let their pets sleep with them!

One disadvantage is that pets have to be cared for when owners go away. It may be difficult to organise care for them; 25% of owners take their pets on holidays or road trips.



These results suggest that keeping pets is a good thing. On the other hand, since coming to Japan, I have seen other problems such as space, time, and cost. Still, I know people here who are content living in small flats with pets. Recently, I heard that little pigs are becoming popular as pets in Japan. Some people take their pig(s) for a walk, which must be fun, but I wonder how easy it is to keep pigs inside homes.

問 1 In terms of the ratios for homes with pets, which shows the countries' ranking from **highest to lowest**? 11

- ① Australia — the UK — the US
- ② Australia — the US — the UK
- ③ The UK — Australia — the US
- ④ The UK — the US — Australia
- ⑤ The US — Australia — the UK
- ⑥ The US — the UK — Australia

問 2 According to David's report, one advantage of having pets is that 12.

- ① you can save money
- ② you can sleep longer
- ③ you will become popular
- ④ your life can be more enjoyable

問 3 The statement that best reflects one finding from the survey is 13.

- ① 'I feel uncomfortable when I watch TV with my cat.'
- ② 'I spend about three hours with my pet every day.'
- ③ 'Most pets like going on car trips.'
- ④ 'Pets need a room of their own.'

問 4 Which best summarises David's opinions about having pets in Japan?

14

- ① It is not troublesome to keep pets.
- ② People might stop keeping pets.
- ③ Pet owners have more family members.
- ④ Some people are happy to keep pets inside their homes.

問 5 Which is the most suitable title for the article?

15

- ① Does Your Pet Sleep on Your Bed?
- ② What Does Keeping Pets Give Us?
- ③ What Pet Do You Have?
- ④ Why Not Keep a Pet Pig?

第3問 (配点 15)

- A You are interested in how Japanese culture is represented in other countries. You are reading a young UK blogger's post.



Emily Sampson

Monday, 5 July, 8.00 pm



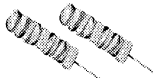





On the first two Sundays in July every year, there is an intercultural event in Winsfield called A Slice of Japan. I had a chance to go there yesterday. It is definitely worth visiting! There were many authentic food stands called *yatai*, hands-on activities, and some great performances. The *yatai* served green-tea ice cream, *takoyaki*, and *yakitori*. I tried green-tea ice cream and *takoyaki*. The *takoyaki* was especially delicious. You should try some!

I saw three performances. One of them was a *rakugo* comedy given in English. Some people were laughing, but somehow I didn't find it funny. It may be because I don't know much about Japanese culture. For me, the other two, the *taiko* and the *koto*, were the highlights. The *taiko* were powerful, and the *koto* was relaxing.

I attended a workshop and a cultural experience, which were fun. In the workshop, I learnt how to make *onigiri*. Although the shape of the one I made was a little odd, it tasted good. The *nagashi-somen* experience was really interesting! It involved trying to catch cooked noodles with chopsticks as they slid down a bamboo water slide. It was very difficult to catch them.

If you want to experience a slice of Japan, this festival is for you! I took a picture of the flyer. Check it out.

A Slice of Japan
The Culture Park, Winsfield
Held on first & second Sundays in July (9.00 am - 4.00 pm)

Food Stands	Hands-on Activities	Traditional Performances
<p>Green-tea ice cream</p>  <p>Takoyaki (octopus snack)</p>  <p>Yakitori (chicken skewers)</p> 	<p>Nagashi-somen (noodles) Experience</p>  <p>Onigiri (rice balls) Workshop</p> 	<p>Koto (harp)</p>  <p>Taiko (drums)</p>  <p>Rakugo (comic storytelling)</p> 

問 1 In Emily's blog, you read that she 16 .

- ① enjoyed Japanese traditional music
- ② learnt how to play Japanese drums
- ③ made a water slide from bamboo
- ④ was able to try all the *yatai* foods

問 2 Emily was most likely 17 when she was listening to the *rakugo* comedy.

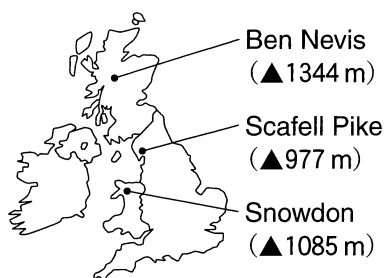
- ① confused
- ② convinced
- ③ excited
- ④ relaxed

B You enjoy outdoor sports and have found an interesting story in a mountain climbing magazine.

Attempting the Three Peaks Challenge

By John Highland

Last September, a team of 12 of us, 10 climbers and two minibus drivers, participated in the Three Peaks Challenge, which is well known for its difficulty among climbers in Britain. The goal is to climb the highest mountain in Scotland (Ben Nevis), in England (Scafell Pike), and in Wales (Snowdon) within 24 hours, including approximately 10 hours of driving between the mountains. To prepare for this, we trained on and off for several months and planned the route carefully. Our challenge would start at the foot of Ben Nevis and finish at the foot of Snowdon.



We began our first climb at six o'clock on a beautiful autumn morning. Thanks to our training, we reached the summit in under three hours. On the way down, however, I realised I had dropped my phone. Fortunately, I found it with the help of the team, but we lost 15 minutes.

We reached our next destination, Scafell Pike, early that evening. After six hours of rest in the minibus, we started our second climb full of energy. As it got darker, though, we had to slow down. It took four-and-a-half hours to complete Scafell Pike. Again, it took longer than planned, and time was running out. However, because the traffic was light, we were right on schedule when we started our final climb. Now we felt more confident we could complete the challenge within the time limit.

Unfortunately, soon after we started the final climb, it began to rain heavily and we had to slow down again. It was slippery and very difficult to see ahead. At 4.30 am, we realised that we could no longer finish in 24 hours.

Nevertheless, we were still determined to climb the final mountain. The rain got heavier and heavier, and two members of the team decided to return to the minibus. Exhausted and miserable, the rest of us were also ready to go back down, but then the sky cleared, and we saw that we were really close to the top of the mountain. Suddenly, we were no longer tired. Even though we weren't successful with the time challenge, we were successful with the climb challenge. We had done it. What a feeling that was!

問 1 Put the following events (①~④) into the order they happened.

→ → →

- ① All members reached the top of the highest mountain in Scotland.
- ② Some members gave up climbing Snowdon.
- ③ The group travelled by minibus to Wales.
- ④ The team members helped to find the writer's phone.

問 2 What was the reason for being behind schedule when they completed Scafell Pike?

- ① It took longer than planned to reach the top of Ben Nevis.
- ② It was difficult to make good progress in the dark.
- ③ The climbers took a rest in order to save energy.
- ④ The team had to wait until the conditions improved.

問 3 From this story, you learnt that the writer .

- ① didn't feel a sense of satisfaction
- ② reached the top of all three mountains
- ③ successfully completed the time challenge
- ④ was the second driver of the minibus

第4問 (配点 16)

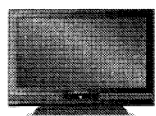
You are a new student at Robinson University in the US. You are reading the blogs of two students, Len and Cindy, to find out where you can buy things for your apartment.

New to Robinson University?

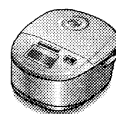
Posted by Len at 4:51 p.m. on August 4, 2021

Getting ready for college? Do you need some home appliances or electronics, but don't want to spend too much money? There's a great store close to the university called Second Hand. It sells used goods such as televisions, vacuum cleaners, and microwaves. A lot of students like to buy and sell their things at the store. Here are some items that are on sale now. Most of them are priced very reasonably, but stock is limited, so hurry!

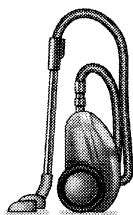
Second Hand Sale for New Students!



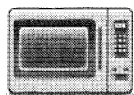
Television
2016 model **\$250**
50 in.



Rice Cooker **\$40**
2018 model
W 11 in. x D 14 in. x H 8 in.



Vacuum Cleaner **\$30**
2017 model
W 9 in. x L 14 in. x H 12 in.



Microwave **\$85**
2019 model
1.1 cu. ft. 900 watts



Kettle **\$5**
2018 model
1ℓ

<https://secondhand.web>

Purchasing used goods is eco-friendly. Plus, by buying from Second Hand you'll be supporting a local business. The owner is actually a graduate of Robinson University!

Welcome to Robinson University!

Posted by Cindy at 11:21 a.m. on August 5, 2021

Are you starting at Robinson University soon? You may be preparing to buy some household appliances or electronics for your new life.

You're going to be here for four years, so buy your goods new! In my first year, I bought all of my appliances at a shop selling used goods near the university because they were cheaper than brand-new ones. However, some of them stopped working after just one month, and they did not have warranties. I had to replace them quickly and could not shop around, so I just bought everything from one big chain store. I wish I had been able to compare the prices at two or more shops beforehand.

The website called save4unistu.com is very useful for comparing the prices of items from different stores before you go shopping. The following table compares current prices for the most popular new items from three big stores.

Item	Cut Price	Great Buy	Value Saver
Rice Cooker (W 11 in. x D 14 in. x H 8 in.)	\$115	\$120	\$125
Television (50 in.)	\$300	\$295	\$305
Kettle (1ℓ)	\$15	\$18	\$20
Microwave (1.1 cu. ft. 900 watts)	\$88	\$90	\$95
Vacuum Cleaner (W 9 in. x L 14 in. x H 12 in.)	\$33	\$35	\$38

<https://save4unistu.com>

Note that warranties are available for all items. So, if anything stops working, replacing it will be straightforward. Value Saver provides one-year warranties on all household goods for free. If the item is over \$300, the warranty is extended by four years. Great Buy provides one-year warranties on all household goods, and students with proof of enrollment at a school get 10% off the prices listed on the table above. Warranties at Cut Price are not provided for free. You have to pay \$10 per item for a five-year warranty.

Things go fast! Don't wait or you'll miss out!

問 1 Len recommends buying used goods because

24

 .

- ① it will help the university
- ② most of the items are good for the environment
- ③ they are affordable for students
- ④ you can find what you need in a hurry

問 2 Cindy suggests buying

25

 .

- ① from a single big chain store because it saves time
- ② from the website because it offers the best prices
- ③ new items that have warranties for replacement
- ④ used items because they are much cheaper than new items

問 3 Both Len and Cindy recommend that you

26

 .

- ① buy from the store near your university
- ② buy your appliances as soon as you can
- ③ choose a shop offering a student discount
- ④ choose the items with warranties

問 4 If you want to buy new appliances at the best possible prices, you should .

- ① access the URL in Cindy's post
- ② access the URL in Len's post
- ③ contact one big chain store
- ④ contact shops close to the campus

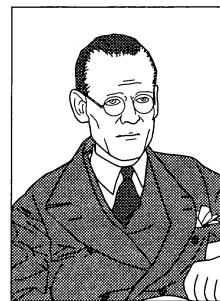
問 5 You have decided to buy a microwave from because it is the cheapest. You have also decided to buy a television from because it is the cheapest with a five-year warranty. (Choose one for each box from options ①~④.)

- ① Cut Price
- ② Great Buy
- ③ Second Hand
- ④ Value Saver

第5問 (配点 15)

In your English class, you will give a presentation about a great inventor. You found the following article and prepared notes for your presentation.

Who invented television? It is not an easy question to answer. In the early years of the 20th century, there was something called a mechanical television system, but it was not a success. Inventors were also competing to develop an electronic television system, which later became the basis of what we have today. In the US, there was a battle over the patent for the electronic television system, which attracted people's attention because it was between a young man and a giant corporation. This patent would give the inventor the official right to be the only person to develop, use, or sell the system.



Farnsworth in 1939

Philo Taylor Farnsworth was born in a log cabin in Utah in 1906. His family did not have electricity until he was 12 years old, and he was excited to find a generator—a machine that produces electricity—when they moved into a new home. He was very interested in mechanical and electrical technology, reading any information he could find on the subject. He would often repair the old generator and even changed his mother's hand-powered washing machine into an electricity-powered one.

One day, while working in his father's potato field, he looked behind him and saw all the straight parallel rows of soil that he had made. Suddenly, it occurred to him that it might be possible to create an electronic image on a screen using parallel lines, just like the rows in the field. In 1922, during the spring semester of his first year at high school, he presented this idea to his chemistry teacher, Justin Tolman, and asked for advice about his concept of an electronic television system. With sketches and diagrams on blackboards, he

showed the teacher how it might be accomplished, and Tolman encouraged him to develop his ideas.

On September 7, 1927, Farnsworth succeeded in sending his first electronic image. In the following years, he further improved the system so that it could successfully broadcast live images. The US government gave him a patent for this system in 1930.

However, Farnsworth was not the only one working on such a system. A giant company, RCA (Radio Corporation of America), also saw a bright future for television and did not want to miss the opportunity. They recruited Vladimir Zworykin, who had already worked on an electronic television system and had earned a patent as early as 1923. Yet, in 1931, they offered Farnsworth a large sum of money to sell them his patent as his system was superior to that of Zworykin's. He refused this offer, which started a patent war between Farnsworth and RCA.

The company took legal action against Farnsworth, claiming that Zworykin's 1923 patent had priority even though he had never made a working version of his system. Farnsworth lost the first two rounds of the court case. However, in the final round, the teacher who had copied Farnsworth's blackboard drawings gave evidence that Farnsworth did have the idea of an electronic television system at least a year before Zworykin's patent was issued. In 1934, a judge approved Farnsworth's patent claim on the strength of handwritten notes made by his old high school teacher, Tolman.

Farnsworth died in 1971 at the age of 64. He held about 300 US and foreign patents, mostly in radio and television, and in 1999, *TIME* magazine included Farnsworth in *Time 100: The Most Important People of the Century*. In an interview after his death, Farnsworth's wife Pem recalled Neil Armstrong's moon landing being broadcast. Watching the television with her, Farnsworth had said, "Pem, this has made it all worthwhile." His story will always be tied to his teenage dream of sending moving pictures through the air and those blackboard drawings at his high school.

Your presentation notes:

Philo Taylor Farnsworth (1906 - 1971)

— 30 —

Early Days

- born in a log cabin without electricity
- 31
- 32

Sequence of Key Events

↓

33

34

Farnsworth successfully sent his first image.

35

36

↓ RCA took Farnsworth to court.

Outcome

- Farnsworth won the patent battle against RCA thanks to 37.

Achievements and Recognition

- Farnsworth had about 300 patents.
- *TIME* magazine listed him as one of the century's most important figures.
- 38

問 1 Which is the best subtitle for your presentation?

30

- ① A Young Inventor Against a Giant Company
- ② From High School Teacher to Successful Inventor
- ③ Never-Ending Passion for Generating Electricity
- ④ The Future of Electronic Television

問 2 Choose the best two options for and to complete Early Days. (The order does not matter.)

- ① bought a generator to provide his family with electricity
- ② built a log cabin that had electricity with the help of his father
- ③ enjoyed reading books on every subject in school
- ④ fixed and improved household equipment for his family
- ⑤ got the idea for an electronic television system while working in a field

問 3 Choose **four** out of the five events (①~⑤) in the order they happened to complete Sequence of Key Events.

→ → →

- ① Farnsworth rejected RCA's offer.
- ② Farnsworth shared his idea with his high school teacher.
- ③ RCA won the first stage of the battle.
- ④ The US government gave Farnsworth the patent.
- ⑤ Zworykin was granted a patent for his television system.

問 4 Choose the best option for 37 to complete Outcome.

- ① the acceptance of his rival's technological inferiority
- ② the financial assistance provided by Tolman
- ③ the sketches his teacher had kept for many years
- ④ the withdrawal of RCA from the battle

問 5 Choose the best option for 38 to complete Achievements and Recognition.

- ① He and his wife were given an award for their work with RCA.
- ② He appeared on TV when Armstrong's first moon landing was broadcast.
- ③ His invention has enabled us to watch historic events live.
- ④ Many teenagers have followed their dreams after watching him on TV.

(下書き用紙)

英語(リーディング)の試験問題は次に続く。

第6問 (配点 24)

A Your study group is learning about “how time of day affects people.” You have found an article you want to share. Complete the summary notes for your next meeting.

When Does the Day Begin for You?

When asked “Are you a morning person?” some reply “No, I’m a night owl.” Such people can concentrate and create at night. At the other end of the clock, a well-known proverb claims: “The early bird catches the worm,” which means that waking early is the way to get food, win prizes, and reach goals. The lark is a morning singer, so early birds, the opposite of *owls*, are *larks*. Creatures active during the day are “diurnal” and those emerging at night are “nocturnal.”

Yet another proverb states: “Early to bed, early to rise makes a man healthy, wealthy, and wise.” *Larks* may jump out of bed and welcome the morning with a big breakfast, while *owls* hit the snooze button, getting ready at the last minute, usually without breakfast. They may have fewer meals, but they eat late in the day. Not exercising after meals can cause weight gain. Perhaps *larks* are healthier. *Owls* must work or learn on the *lark* schedule. Most schooling occurs before 4:00 p.m., so young *larks* may perform certain tasks better. Business deals made early in the day may make some *larks* wealthier.

What makes one person a *lark* and another an *owl*? One theory suggests preference for day or night has to do with time of birth. In 2010, Cleveland State University researchers found evidence that not only does a person’s internal clock start at the moment of birth, but that those born at night might have lifelong challenges performing during daytime hours. Usually, their world

experience begins with darkness. Since traditional study time and office work happen in daylight, we assume that day begins in the morning. People asleep are not first in line, and might miss chances.

Does everyone follow the system of beginning days in the morning? The Jewish people, an approximately 6,000-year-old religious group, believe a day is measured from sundown until the following sundown—from eve to eve. Christians continue this tradition with Christmas Eve. The Chinese use their system of 12 animals not only to mark years, but to separate each two-hour period of the day. The hour of the rat, the first period, is from 11:00 p.m. to 1:00 a.m. Chinese culture also begins the day at night. In other words, ancient customs support how *owls* view time.

Research indicates *owls* are smarter and more creative. So, perhaps *larks* are not always wiser! That is to say, *larks* win “healthy” and sometimes “wealthy,” but they may lose “wise.” In an early report, Richard D. Roberts and Patrick C. Kyllonen state that *owls* tend to be more intelligent. A later, comprehensive study by Franzis Preckel, for which Roberts was one of the co-authors, came to the same conclusion. It is not all good news for *owls*, though. Not only can schoolwork be a challenge, but they may miss daytime career opportunities and are more likely to enjoy the bad habits of “nightlife,” playing at night while *larks* sleep. Nightlife tends to be expensive. A University of Barcelona study suggests *larks* are precise, seek perfection, and feel little stress. *Owls* seek new adventures and exciting leisure activities, yet they often have trouble relaxing.

Can people change? While the results are not all in, studies of young adults seem to say no, we are hard-wired. So, as young people grow and acquire more freedom, they end up returning to their *lark* or *owl* nature. However, concerns arise that this categorization may not fit everyone. In addition to time of birth possibly being an indication, a report published in *Nature Communications* suggests that DNA may also affect our habits concerning time. Other works focus on changes occurring in some people due to aging or illness. New research in this area appears all the time. A study of university students in Russia suggests that there are six types, so *owls* and *larks* may not be the only birds around!

Your summary notes:

When Does the Day Begin for You?

Vocabulary

Definition of diurnal:

⇒ opposite: nocturnal

The Main Points

- Not all of us fit easily into the common daytime schedule, but we are forced to follow it, especially when we are children.
- Some studies indicate that the most active time for each of us is part of our nature.
- Basically, .
- Perspectives keep changing with new research.

Interesting Details

- The Jewish and Christian religions, as well as Chinese time division, are referred to in the article in order to .
- Some studies show that may set a person's internal clock and may be the explanation for differences in intelligence and .

問 1 Choose the best option for .

- ① achieves goals quickly
- ② likes keeping pet birds
- ③ lively in the daytime
- ④ skillful in finding food

問 2 Choose the best option for .

- ① a more flexible time and performance schedule will be developed in the future
- ② enjoying social activities in the morning becomes more important as we age
- ③ it might be hard for us to change what time of day we perform best
- ④ living on the *owl* schedule will eventually lead to social and financial benefits

問 3 Choose the best option for .

- ① explain that certain societies have long believed that a day begins at night
- ② indicate that nocturnal people were more religious in the past
- ③ say that people have long thought they miss chances due to morning laziness
- ④ support the idea that *owls* must go to work or school on the *lark* schedule

問 4 Choose the best options for and .

- ① amount of sleep
- ② appearance
- ③ behavior
- ④ cultural background
- ⑤ religious beliefs
- ⑥ time of birth

B You are in a student group preparing a poster for a scientific presentation contest with the theme “What we should know in order to protect the environment.” You have been using the following passage to create the poster.

Recycling Plastic

—What You Need to Know—

The world is full of various types of plastic. Look around, and you will see dozens of plastic items. Look closer and you will notice a recycling symbol on them. In Japan, you might have seen the first symbol in Figure 1 below, but the United States and Europe have a more detailed classification. These recycling symbols look like a triangle of chasing pointers, or sometimes a simple triangle with a number from one to seven inside. This system was started in 1988 by the Society of the Plastics Industry in the US, but since 2008 it has been administered by an international standards organization, ASTM (American Society for Testing and Materials) International. Recycling symbols provide important data about the chemical composition of plastic used and its recyclability. However, a plastic recycling symbol on an object does not always mean that the item can be recycled. It only shows what type of plastic it is made from and that it might be recyclable.

Figure 1. Plastic recycling symbols



So, what do these numbers mean? One group (numbers 2, 4, and 5) is considered to be safe for the human body, while the other group (numbers 1, 3, 6, and 7) could be problematic in certain circumstances. Let us look at the safer group first.

High-density Polyethylene is a recycle-type 2 plastic and is commonly called HDPE. It is non-toxic and can be used in the human body for heart

valves and artificial joints. It is strong and can be used at temperatures as low as -40°C and as high as 100°C . HDPE can be reused without any harm and is also suitable for beer-bottle cases, milk jugs, chairs, and toys. Type 2 products can be recycled several times. Type 4 products are made from Low-density Polyethylene (LDPE). They are safe to use and are flexible. LDPE is used for squeezable bottles, and bread wrapping. Currently, very little Type 4 plastic is recycled. Polypropylene (PP), a Type 5 material, is the second-most widely produced plastic in the world. It is light, non-stretching, and has a high resistance to impact, heat, and freezing. It is suitable for furniture, food containers, and polymer banknotes such as the Australian dollar. Only 3% of Type 5 is recycled.

Now let us look at the second group, Types 1, 3, 6, and 7. These are more challenging because of the chemicals they contain or the difficulty in recycling them. Recycle-type 1 plastic is commonly known as PETE (Polyethylene Terephthalate), and is used mainly in food and beverage containers. PETE containers — or PET as it is often written in Japan — should only be used once as they are difficult to clean thoroughly. Also, they should not be heated above 70°C as this can cause some containers to soften and change shape. Uncontaminated PETE is easy to recycle and can be made into new containers, clothes, or carpets, but if PETE is contaminated with Polyvinyl Chloride (PVC), it can make it unrecyclable. PVC, Type 3, is thought to be one of the least recyclable plastics known. It should only be disposed of by professionals and never set fire to at home or in the garden. Type 3 plastic is found in shower curtains, pipes, and flooring. Type 6, Polystyrene (PS) or Styrofoam as it is often called, is hard to recycle and catches fire easily. However, it is cheap to produce and lightweight. It is used for disposable drinking cups, instant noodle containers, and other food packaging. Type 7 plastics (acrylics, nylons, and polycarbonates) are difficult to recycle. Type 7 plastics are often used in the manufacture of vehicle parts such as seats, dashboards, and bumpers.

Currently, only about 20% of plastic is recycled, and approximately 55% ends up in a landfill. Therefore, knowledge about different types of plastic could help reduce waste and contribute to an increased awareness of the environment.





Your presentation poster draft:

Do you know the plastic recycling symbols?

What are plastic recycling symbols?

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Types of plastic and recycling information

Type	Symbol	Description	Products
1		This type of plastic is common and generally easy to recycle.	drink bottles, food containers, etc.
2		This type of plastic is easily recycled 45 .	heart valves, artificial joints, chairs, toys, etc.
3		This type of plastic is 46 .	shower curtains, pipes, flooring, etc.
4			

Plastics with common properties

47

48

問 1 Under the first poster heading, your group wants to introduce the plastic recycling symbols as explained in the passage. Which of the following is the most appropriate?

- ① They are symbols that rank the recyclability of plastics and other related problems.
- ② They provide information on the chemical make-up and recycling options of the plastic.
- ③ They tell the user which standards organization gave them certificates for general use.
- ④ They were introduced by ASTM and developed by the Society of the Plastics Industry.

問 2 You have been asked to write descriptions of Type 2 and Type 3 plastics. Choose the best options for and .

Type 2

- ① and commonly known as a single-use plastic
- ② and used at a wide range of temperatures
- ③ but harmful to humans
- ④ but unsuitable for drink containers

Type 3

- ① difficult to recycle and should not be burned in the yard
- ② flammable; however, it is soft and cheap to produce
- ③ known to be a non-toxic product
- ④ well known for being easily recyclable

問 3 You are making statements about some plastics which share common properties. According to the article, which two of the following are appropriate? (The order does not matter.) ·

- ① Boiling water (100°C) can be served in Type 1 and Type 6 plastic containers.
- ② It is easy to recycle products with Type 1, 2, and 3 logos.
- ③ Products with the symbols 1, 2, 4, 5, and 6 are suitable for food or drink containers.
- ④ Products with Type 5 and Type 6 markings are light in weight.
- ⑤ Type 4 and 5 plastics are heat resistant and are widely recycled.
- ⑥ Type 6 and 7 plastics are easy to recycle and environmentally friendly.