

# 英 語

## 問題冊子 2

注 意

「問題冊子 2」に印刷されている問題は、**2** から **3** までで、2 ページから 15 ページまであります。



2 次の対話文を読んで、あとの各問に答えなさい。

(\*印の付いている単語・語句には、本文のあとに〔注〕がある。)

*Jim, a high school student from England, talks with Ms. Tamura, his science teacher, after a class in the school science room. His classmates, Kota and Momoko, join them.*

- Jim:* Ms. Tamura, may I ask you a question?  
*Ms. Tamura:* Sure, Jim. No problem.  
*Jim:* I had a strange happening in the kitchen yesterday.  
*Kota:* Did you say a strange happening, Jim? I like strange things. Can I join you?  
*Momoko:* What are you talking about? Can I join you, too?  
*Jim:* Of course you can.  
*Ms. Tamura:* Do join us.  
*Kota:* Did you drop a glass or something?  
*Jim:* No, no. Water in the pot began to \*boil suddenly.  
*Momoko:* Did it? Were you OK?  
*Jim:* Yes, but I was a little scared.  
*Ms. Tamura:* Did it boil suddenly all by itself?  
*Jim:* No. When I put a \*dashi pack into the pot, it suddenly started to boil.  
*Kota:* The water suddenly began to boil. That sounds strange.  
*Ms. Tamura:* Are you sure, Kota? I'm sure all of you know about it very well.  
*Kota:* Do we?  
*Ms. Tamura:* You certainly do. Well, (1)-a .  
*Momoko:* Really? Please tell us more, Ms. Tamura.  
*Ms. Tamura:* Just a minute, everyone. Before that, I'll show you something.

*Ms. Tamura goes into the science teachers' room and comes back with little white things in her hand. They look like very small \*sponge balls.*

- Ms. Tamura:* Maybe you all know what these are.  
*Jim:* Of course. They are \*boiling chips.  
*Ms. Tamura:* What are they for?  
*Momoko:* They stop... uh, I don't know what it is called in English.  
*Jim:* \*Bumping... Oh!  
*Momoko:* You call it "bumping" in English.  
*Ms. Tamura:* Yes, it is bumping. So, can you explain what bumping is?  
*Kota:* I'll try. \*Liquid sometimes gets too hot and \*heats up over its \*boiling point. This is

called “\*superheated.” When liquid is superheated and receives a \*stimulus from outside, it starts to boil suddenly.

*Ms. Tamura:* Well done, Kota. And Jim, have you found something?

*Jim:* Well, I 【 ① boiling ② did ③ in ④ not ⑤ the ⑥ think ⑦ the pot ⑧ was ⑨ water 】, but actually it was above the boiling point.

*Kota:* It was superheated.

*Jim:* More than that, bumping happened in the kitchen.

*Ms. Tamura:* Yes. Maybe you have had similar experiences.

*Momoko:* Now I remember something. My coffee suddenly began to boil when I added sugar after I heated it in the \*microwave. Was that also bumping, Ms. Tamura?

*Ms. Tamura:* Yes, it was.

*Momoko:* Then I could stop bumping with some boiling chips in the kitchen.

*Kota:* But almost no families have such things in their kitchen.

*Jim:* I see. Also, .

*Momoko:* Will you tell us why, Ms. Tamura?

*Ms. Tamura:* When did you add sugar?

*Momoko:* I added it after I heated my coffee.

*Ms. Tamura:* When do you usually add boiling chips to a liquid?

*Kota:* Before you heat it.

*Ms. Tamura:* If you put them in a very hot liquid...

*Kota:* The liquid may boil suddenly because they will be a stimulus to a superheated liquid.

*Jim:* There is a difference between “before” and “after.” In Momoko’s coffee, sugar was a stimulus.

*Ms. Tamura:* Well, let me show you something. Maybe you can find some hints in this book.

*Ms. Tamura passes her science dictionary to Kota.*

*Kota:* Thank you, Ms. Tamura. Let me see.... Look. The book says, “Boiling is a change of \*state from a liquid to a gas at its boiling point. It happens when \*bubbles appear in the liquid.”

*Jim:* Maybe bubbles are the key for boiling.

*Momoko:* I know boiling chips stop bumping, but I didn’t realize .

Am I right, Ms. Tamura?

*Ms. Tamura:* Yes, you are. So now you know why you have to add them before you heat liquid.

*Kota:* Then what should we do to stop bumping in the kitchen without boiling chips? There is no way!

*Momoko:* Why not?

*Jim:* We can do something.

*Momoko:* (3) We can, if we try.

*Jim:* Now, I remember. My host mother put a \*steel egg into the pot when she cooked black beans for New Year.

*Ms. Tamura:* Well, that's another thing, Jim.

*Jim:* What? It wasn't used for stopping bumping.

*Momoko:* When my grandmother made \*Japanese pickles, she put a steel egg in the pot. It gave a bright, beautiful color to the pickles. Will it be true with black beans, Ms. Tamura?

*Ms. Tamura:* That will be true.

*Jim:* So, .

*Ms. Tamura:* Yes, maybe she did.

*Jim:* Momoko's grandmother and my host mother did the same thing for the same purpose.

*Kota:* Then you cannot stop bumping with a steel egg!

*Momoko:* I think you can stop it, but you should put it in before you start cooking.

*Jim:* Then you can stop bumping.

*Ms. Tamura:* Steel eggs may sometimes work just like boiling chips, but remember what boiling chips look like.

*Momoko:* They look like very small sponge balls.

*Ms. Tamura:* That's an important thing, Momoko.

*Kota:* Then the holes will be helpful when bubbles appear in boiling, right?

*Ms. Tamura:* That's right.

*Jim:* Then, .

*Momoko:* Let me see...

*Jim:* How about \*disposable chopsticks? You know, some disposable chopsticks are made of wood and they have a lot of little holes like sponges. If you put some in the pot, they will work like boiling chips.

*Momoko:* Then bubbles will appear easily.

*Kota:* I've got another idea. You just have to keep \*stirring the pot while heating it. That will be a simple way to stop bumping.

*Ms. Tamura:* Why do you think so?

*Kota:* When you heat a \*test tube with liquid in it, you should shake it in a gentle way. That is also for stopping bumping, right? If you want to do a similar thing in the kitchen, you can stir the pot. It is so easy that maybe you don't need a special tool.

*Jim:* That sounds interesting. Maybe we can try and see by ourselves.

*Ms. Tamura:* Good idea. By the way, have all of you seen a \*siphon coffee maker?

*Momoko:* No, I haven't. What is it, Ms. Tamura?

*Ms. Tamura:* It is an old type of coffee maker. You heat a pot of water with a lamp and make coffee. The pot has a \*chain inside to stop bumping.

*Kota:* A lamp? Is that used on a desk?

*Momoko:* No, no. It is not a light, but a tool to heat something.

*Kota:* Oh, I see. A tool for heating. We don't have such a coffee maker in my house.

*Jim:* I have seen one at my grandparents' house, but at that time I didn't think of bumping at all. I thought it was just an old coffee maker. Actually, it was science. That is surprising!

*Kota:* Yes. Some kitchen tools are designed to stop bumping. Science really makes cooking safe and easy. It helps us a lot and makes our life convenient.

*Jim:* Cooking and science often share a lot of things. Our everyday life is full of science.

*Momoko:* I quite agree with you. Some may say (5).

*Ms. Tamura:* That's an interesting idea. So, now all of you clearly know what bumping is.

*Kota:* Now we know what you meant.

*Ms. Tamura:* And Jim, why don't you make a short speech about your idea next class?

*Jim:* Oh, I would love to do it, Ms. Tamura. Maybe Kota and Momoko will help me. Will you?

*Momoko:* Sure.

*Kota:* Of course.

〔注〕	boil <sup>ふっとう</sup> 沸騰する	dashi pack だしパック	sponge スポンジ
	boiling chip 沸騰石	bumping 突沸	liquid 液体
	heat 熱する	boiling point 沸点	superheat 過熱する
	stimulus 刺激	microwave 電子レンジ	state 状態
	bubble 気泡	steel egg 鉄玉子	Japanese pickles <sup>つけもの</sup> 漬物
	disposable chopstick わりばし		
	stirring stir(かきまぜる)の-ing形		test tube 試験管
	siphon coffee maker コーヒーサイフォン		chain <sup>くさり</sup> 鎖

〔問1〕 本文の流れに合うように、(1)-a ~ (1)-d の中に英語を入れるとき、最も適切なものを次のア～オの中からそれぞれ一つずつ選びなさい。ただし、同じものは二度使えません。

- ア my host mother added the egg to make her beans beautiful
- イ bubbles would appear easily with them
- ウ maybe you don't realize it
- エ I wonder why the sugar didn't work as boiling chips
- オ I don't know for sure, but I have found something

〔問2〕 <sup>(2)</sup>I【① boiling ② did ③ in ④ not ⑤ the ⑥ think ⑦ the pot ⑧ was ⑨ water】、とあるが、本文の流れに合うように、【                   】内の単語・語句を正しく並べかえたとき、【                   】内で2番目と6番目と8番目にくるものの組み合わせとして最も適切なものは、次のア～カの中ではどれか。

	2番目	6番目	8番目
ア	④	①	⑤
イ	④	③	⑧
ウ	④	⑧	⑤
エ	⑥	③	⑧
オ	⑥	④	⑤
カ	⑥	⑨	④

〔問3〕 <sup>(3)</sup>We can, if we try. とあるが、この内容を最もよく表しているものは、次の中ではどれか。

- ア We can stop bumping in the kitchen, if we try to change the state of water.
- イ We can think of something in the kitchen, if we try to find a lot of hints in Ms. Tamura's book.
- ウ We can do something in the kitchen, if we try to stop bumping by putting boiling chips in the water.
- エ We can stop bumping in the kitchen, if we try to find another way.

〔問4〕 本文の流れに合うように、 に英語を入れるとき、最も適切なものは、次の中ではどれか。

- ア if you have something with many little holes in the kitchen, it can work as boiling chips
- イ if you have something helpful when you cook beans, it will never work as boiling chips
- ウ if you have some things like sponge balls, they can work as steel eggs, not as boiling chips
- エ if you have something like a chain, it can be as helpful as steel eggs to stop bumping

〔問5〕 本文の流れに合うように、 に英語を入れるとき、最も適切なものは、次の中ではどれか。

- ア cooking and science are similar in some parts, but only science makes our life convenient
- イ cooking was very close to science, because our everyday life is full of science
- ウ cooking is one thing and science is another, but that is quite a mistake
- エ cooking is different from science because science makes cooking safe and easy

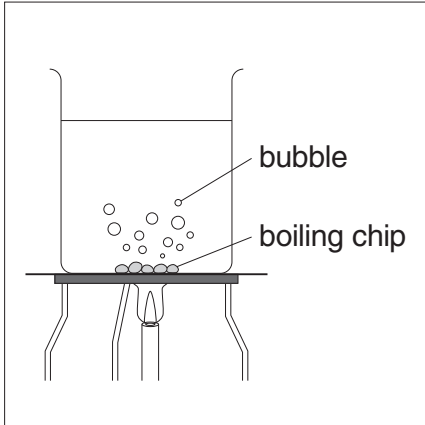
〔問6〕 本文の内容と合っているものを、次のア～キの中から二つ選びなさい。

- ア The three students went to see Ms. Tamura to enjoy talking about something strange and interesting all together.
- イ Even boiling chips can be a stimulus and bumping happens when a pot is superheated.
- ウ Momoko's grandmother sometimes uses steel eggs as boiling chips when she cannot find any chips.
- エ Momoko doesn't believe that steel eggs work as boiling chips and stop bumping.
- オ You really have to use ordinary cooking tools when you want to see bumping in the kitchen easily.
- カ Jim didn't understand siphon coffee makers used science until he talked with Ms. Tamura.
- キ The three students have realized that they can live a convenient life every day without science.



〔問7〕 次の絵と文章は、Jim が作ったプレゼンテーションのスライドの一部とその説明文である。( a )~( d ) の中に英語を入れるとき、最も適切なものを下のア~クの中からそれぞれ一つずつ選びなさい。ただし、同じものは二度使えません。


### COOKING & SCIENCE



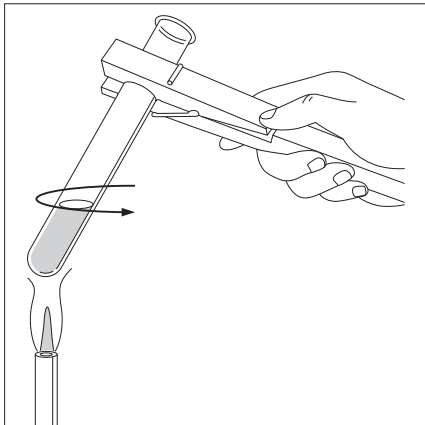
bubble

boiling chip


boiling chips



siphon coffee maker



test tube



stirring the pot

Today, I want to tell you something about cooking and science. Can you imagine what these four things ( a )? They are designed to stop bumping. At first, I thought bumping happened only in the science room, but later I learned it ( b ) happens in the kitchen. There are ways to stop bumping both in the science room and in the kitchen. These ways come from a similar idea. I was ( c ) to find science is often ( d ) when you are cooking.

- |             |         |              |               |
|-------------|---------|--------------|---------------|
| ア also      | イ share | ウ helpful    | エ never       |
| オ surprised | カ safe  | キ understand | ク interesting |

- 3 次の文章を読んで、あとの各問に答えなさい。  
(\*印の付いている単語・語句には、本文のあとに〔注〕がある。)

*Bento* is simple but it is not just a meal. It is in fact a very important part of Japanese culture. *Bento* usually has rice, vegetables and meat or fish in it. *Bento* is seen at every place in Japan, from convenience stores, train stations, and department stores to airports and theaters, and of course at work places and at schools. In fact, *bento* has \*nutritious \*ingredients, and their colors are beautiful. However, some people say the main part of *bento* is rice. <sup>(1)</sup>Rice produced in Japan is 【 ① abroad ② because ③ is ④ more popular ⑤ Japanese rice ⑥ rice grown ⑦ soft ⑧ than 】. It keeps \*moisture in *bento* boxes. Other people even say that *bento* without rice cannot be called *bento*. However, sometimes *bento* has sandwiches instead of rice.

Now let's look at a short history of *bento*. The first *bento* appeared in the Kamakura period. It was very different from *bento* today. It was called *hoshi-ii* (\*dried rice) and it was in bamboo leaves. It was not very nutritious but it was easy to carry. People walked for days with their *bento*. *Bento* culture \*developed in the Edo period and during this period people started enjoying *makunouchi bento*. This is maybe the most \*classic *bento* of all. It was born as a meal eaten at theaters between *maku* (acts). It usually had small rice balls with *kurogoma* (black sesame), and *umeboshi* (pickled red plum) was on the rice balls to kill bad \*bacteria and keep the food safe. *Makunouchi bento* is not only good for your health but also delicious and beautiful because each nutritious ingredient has a different \*taste, \*texture and color. This is part of *washoku* culture.

*Bento* found another way to go around in the Meiji period. *Ekiben* (train station *bento*) appeared. When and where was the first *ekiben* sold? Many people have different answers to this question. Here is a popular story about it.

	(2)
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It also had some *tsukemono* (pickles). *Tsukemono* is used for the same purpose as *umeboshi*. Those people enjoyed eating *ekiben* during their long train trip. They made their travel memories by eating *ekiben* and the people selling it made some money. However, when *shinkansen* started to run, travel by train changed a lot. People did not need to eat *ekiben* on the long train ride any more.

<sup>(3)-a</sup>Has *ekiben* disappeared?

*Ekiben* shows you local food culture. At the beginning of the 20th century, many *ekiben* with local foods were sold at many stations. Among them were *Ikameshi* and *Oshizushi* from towns near the sea, and *Kamameshi* and *Beef Sukiyaki* from farm villages in the mountains. *Ekiben* tells you about each place. For example, what ingredients are produced in that place? Local stations used *ekiben* to become known to other places. In 1966, department stores in Tokyo and Osaka had the first *ekiben* events. Since then, *ekiben* has become more popular and now you can get *ekiben* on the Internet at home. By buying *ekiben*, you will help the local people. <sup>(3)-b</sup>Why can you say so?

Eating *ekiben* brings you something more. *Ekiben* boxes often have something from the local industry. For example, *Kamameshi* started in Kanto in about 1960. It was in a pot, and the pot was from a town famous for making pots. So, when you eat *Kamameshi* and see the pot, you can understand it is connected to the local industry. In addition to pots, wood and bamboo are used for *ekiben* boxes in places with a lot of good trees and bamboo. After eating *ekiben*, you can keep their boxes as travel memories on your desk, or you can use some of them many times as lunch boxes because they are strong and easy to carry.

Like the pots of *Kamameshi*, there are many other unique *bento* boxes. Look at Picture 1. It is called *Magewappa* and it is made of wood. It keeps the food inside fresher because wood \*absorbs the moisture out of it. Another beautiful and useful *bento* box is in Picture 2. It is an *urushinuri bento* box. *Urushinuri bento* boxes were already popular during the Edo period. People used *urushinuri bento* boxes for special events such as *ohanami* (cherry blossom viewing). A special *urushinuri bento* box is called *jubako*. *Jubako* is usually used to keep many kinds of food fresh for the first three days of the New Year. This dish is called *osechi ryori*. Families can celebrate the New Year all together without cooking each meal. In Picture 2, you can also see that the *bento* boxes are \*separated into two or three parts. (4) This time, it is about these parts. Do you know where they are from? People say that they came from the special boxes used by farmers in the 16th century. The farmers used the boxes to keep \*seeds. Separating a box into smaller parts was a very good idea. However, the idea was not used for *bento* until the Showa period. In *bento* boxes with separated parts, different ingredients are put in different parts, so each color and taste is separated. It makes the *bento* good for “the eye” and “the stomach”. Farmers’ seed boxes in the 16th century developed into *bento* boxes after a long time. <sup>(3)-c</sup> What do you think of this?

Japanese *bento* is part of *washoku* culture. *Washoku* has an important rule about cooking. It is called *gomi goshoku goho* (the five tastes, the five colors and the five ways of cooking). The five tastes are enjoyed in *washoku*. The five colors make the meal beautiful and nutritious because each color shows a different nutritious ingredient. The five ways of cooking increase nutrition and the \*flavors of many ingredients. For example, fish has different tastes when it is \*boiled, \*grilled or when it is eaten as *sashimi*.

When you make *washoku*, you need some special \*seasonings and foods. These are *dashi* and \*fermented foods. Fermented foods such as *miso*, *shoyu*, *umeboshi* and *tsukemono* have good bacteria and they can improve your \*digestion. When you make them, *koji* is needed. *Koji* makes them sweeter and more nutritious. *Koji* and *dashi* produce *umami* in foods. *Umami* is called the sixth taste and it was discovered in *kombu dashi* by a Japanese person in 1908. Because *umami* gives flavors to ingredients, you can reduce the use of salt. Too much salt is bad for your health. When *dashi* is made from more than one ingredient, *umami* is increased because of adding different \*amino acids. Amino acids make *umami*.

*Washoku* became an \*Intangible Cultural Heritage in 2013. Since then, more and more people

have become interested in it. What is so special about *washoku*? *Washoku* is beautiful because it uses many different kinds of ingredients. They are produced in Japan's rich natural environment. Many of the pots and dishes used for *washoku* are made in local industries. *Washoku* also uses fermented foods. They are traditional Japanese foods and they are good for your health. So, *washoku* is connected with local foods and industries. <sup>(3)-d</sup> Is this also true about *bento* and *ekiben*? Next time you eat *bento* or *ekiben*, please just look at it for a short time and remember what you have read here.



Picture 1



Picture 2

〔注〕 nutritious 栄養のある  
 dried 乾燥した  
 bacteria 細菌  
 absorb 吸収する  
 flavor 風味  
 seasoning 調味料  
 amino acid アミノ酸

ingredient 料理等の材料  
 develop 発展する  
 taste 味  
 separate 分ける  
 boil 煮る  
 ferment 発酵する  
 Intangible Cultural Heritage

moisture 湿気  
 classic 典型的な  
 texture 食感  
 seed 種  
 grill 焼く  
 digestion 消化  
 世界無形文化遺産

〔問1〕 <sup>(1)</sup> Rice produced in Japan is 【 ① abroad ② because ③ is ④ more popular ⑤ Japanese rice ⑥ rice grown ⑦ soft ⑧ than 】, とあるが, 本文の流れに合うように, 【                    】 内の単語・語句を正しく並べかえたとき, 【                    】 内で2番目と5番目と7番目にくるものの組み合わせとして最も適切なものは, 次のア～カの中ではどれか。

	2番目	5番目	7番目
ア	⑤	⑧	①
イ	⑤	⑧	⑥
ウ	⑥	①	④
エ	⑥	⑧	①
オ	⑧	②	③
カ	⑧	⑥	⑤

〔問2〕 (2) の中には, 次のA～Dの文が入る。本文の流れに合うように, 正しく並べかえたとき, その組み合わせとして最も適切なものは, 下のア～カの中ではどれか。

- A In 1885, a new train line opened from Ueno Station to Utsunomiya Station.
- B It was *ekiben* and it was very simple with just two rice balls.
- C That was about 10 years after Japan's first railway was opened between Shimbashi Station and Yokohama Station.
- D People waiting for their train on the platform at Utsunomiya Station were surprised to see something to eat on the train.

ア A→B→D→C      イ D→B→A→C      ウ B→D→A→C  
 エ A→C→D→B      オ C→B→D→A      カ C→D→B→A

〔問3〕 (3)-a ~ (3)-d の質問に対する答えとして最も適切なものを、次のア~クの中から一つずつ選びなさい。ただし、同じものは二度使えません。

- ア I am surprised because people stopped using seed boxes as *bento* boxes in the 16th century.
- イ I don't think it is true because they always have fermented foods.
- ウ I've never thought about that, but now I can say yes. I've learned they are also connected with local culture.
- エ It's really interesting and I want to know more about the first *bento* boxes with separated parts.
- オ The local people can sell *ekiben* on the Internet and in large department stores.
- カ Yes, it has. Not only *shinkansen* but also other trains stopped selling it.
- キ You cannot tell that. *Shinkansen* is not the only train selling *ekiben*.
- ク Your *ekiben* and its box are probably made by the local people and with local things.

〔問4〕 本文の流れに合うように、(4) に英語を入れるとき、次の A ~ F の組み合わせとして最も適切なものは、下のア~クの中ではどれか。

A If you can't see anything	→	C and you think it is natural,	→	E there may be something familiar to you.
B When you see something	→	D but you think it is natural,	→	F there may be something special about it.

- ア A → C → E
- イ A → C → F
- ウ A → D → E
- エ A → D → F
- オ B → C → E
- カ B → C → F
- キ B → D → E
- ク B → D → F

〔問5〕 本文の内容と合っているものを，次のア～クの中から二つ選びなさい。

ア *Bento* is very popular in Japan because only Japanese rice is used.

イ *Ekiben* usually has local ingredients and its boxes are always produced in the local places.

ウ Both *tsukemono* and *umeboshi* are good for your health but *tsukemono* does not have good bacteria.

エ *Ekiben* did not disappear when *shinkansen* started to run and now people can buy it at many places and on the Internet.

オ *Bento* boxes are sometimes used many times because they are not strong but beautiful.

カ You need *dashi* if you want to make good *washoku*, and *dashi* with one ingredient produces more *umami*.

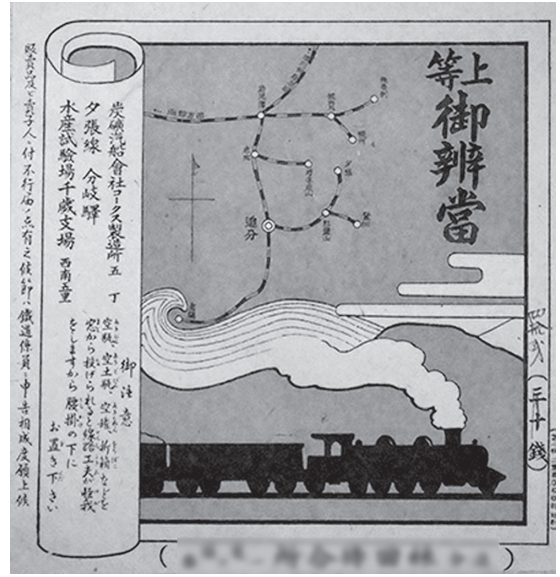
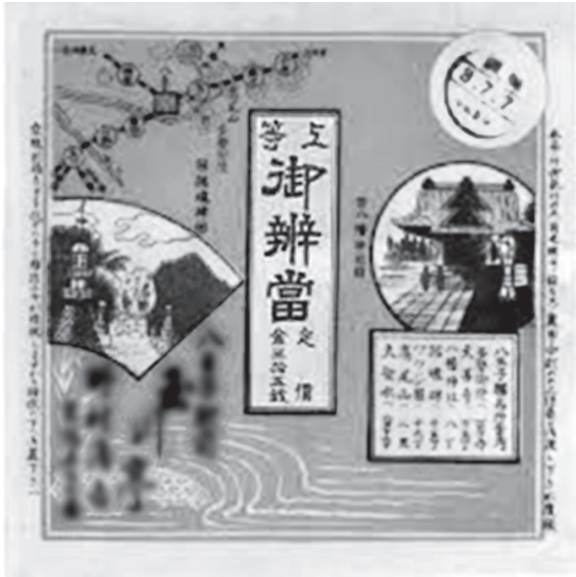
キ *Umami* is produced in *dashi* and fermented foods, and it can reduce salt used in cooking.

ク *Washoku* is very popular around the world now because it became an Intangible Cultural Heritage for its good *bento*.

[問6] 下の資料を見て、本文の内容をふまえ、次の質問に対するあなたの考えを40語以上50語程度の英語で答えなさい。「.」「,」「!」「?」などは語数に含めません。これらの符号は、解答用紙の下線部と下線部の間に書きなさい。

*Ekiben* is covered with *kakegami* (wrapping). Write one thing about the wrappings from each period. What can you tell from them?

1. wrappings in the early Showa period



2. wrappings today





3  
月

英

記