7 Ethical choices

Coffee beans dry in the sun at the Kumbrikhan plantation in India, part of the Nespresso AAA Sustainable Quality Program

WARM UP

Look at the photo and read the caption. Discuss the questions.

1 What makes coffee 'ethical'?
2 Do you think it's important to produce food ethically?
3 Do you make any ethical choices when you shop?

In this unit you:

- talk about ethical choices
- make predictions about the future
- watch a TED Talk by **ANDRAS FORGACS** about a way to produce meat and leather more ethically

An organic farm in British Columbia, Canada

7.1 It's better for the environment

VOCABULARY Ethical food choices

1 ▶ 7.1 Complete each definition with these words. Listen and check your answers.

fair-trade	free-range	organic
locally-produced	genetically modified	sustainable

1 _____ food is grown naturally, without using any special chemicals.

2 On _____ farms, animals are not kept in cages and can move around.

3 _____ food is grown using technology to change the food's size, colour, taste, etc.

4 _____ food production aims to provide better trading and working conditions for farmers in developing countries.

5 By choosing _____ food, you reduce the distance the food needs to travel. This helps the environment.

6 _____ food production aims to preserve the world's natural resources for the future.

Pronunciation Intonation in questions with options

2a ▶ 7.2 Listen to this question. Notice the intonation on the options.

Are you a vegetarian or a meat eater?

2b ▶ 7.3 Listen. Mark the intonation in these questions. Then take turns asking and answering the questions.

1 Do you usually buy organic or non-organic fruit?

2 Is it easy or difficult to find fair-trade foods where you live?

3 Is genetically modified food a good idea or a bad idea?

4 Do you think it's important or not important to buy free-range eggs?

LISTENING Sustainable chef

Identifying main ideas in fast speech
Many native speakers talk quickly but will often slow down to emphasize key points. Focusing on these slower parts of speech can help identify the speaker's main message.


Barton Seaver

3 ▶ 7.4 Barton Seaver is a chef and environmentalist. What did he once work as in Africa? Listen and circle the correct answer.

a a farmer **b** a fisherman **c** a trader

4 ▶ 7.4 Listen again. Complete the sentences with the words you hear.

1 '_____ is how the vast majority of us interact with our resources.'
2 'Environmentalism is so often thought of as this _____ idea.'
3 'But _____ is full contact environmentalism.'

5 Work in pairs. Can you explain in your own words what Seaver means by each quote in Exercise 4?

SPEAKING Talking about ethical choices

6 ▶ 7.5 Listen to the conversation. Why did the woman change to organic food?

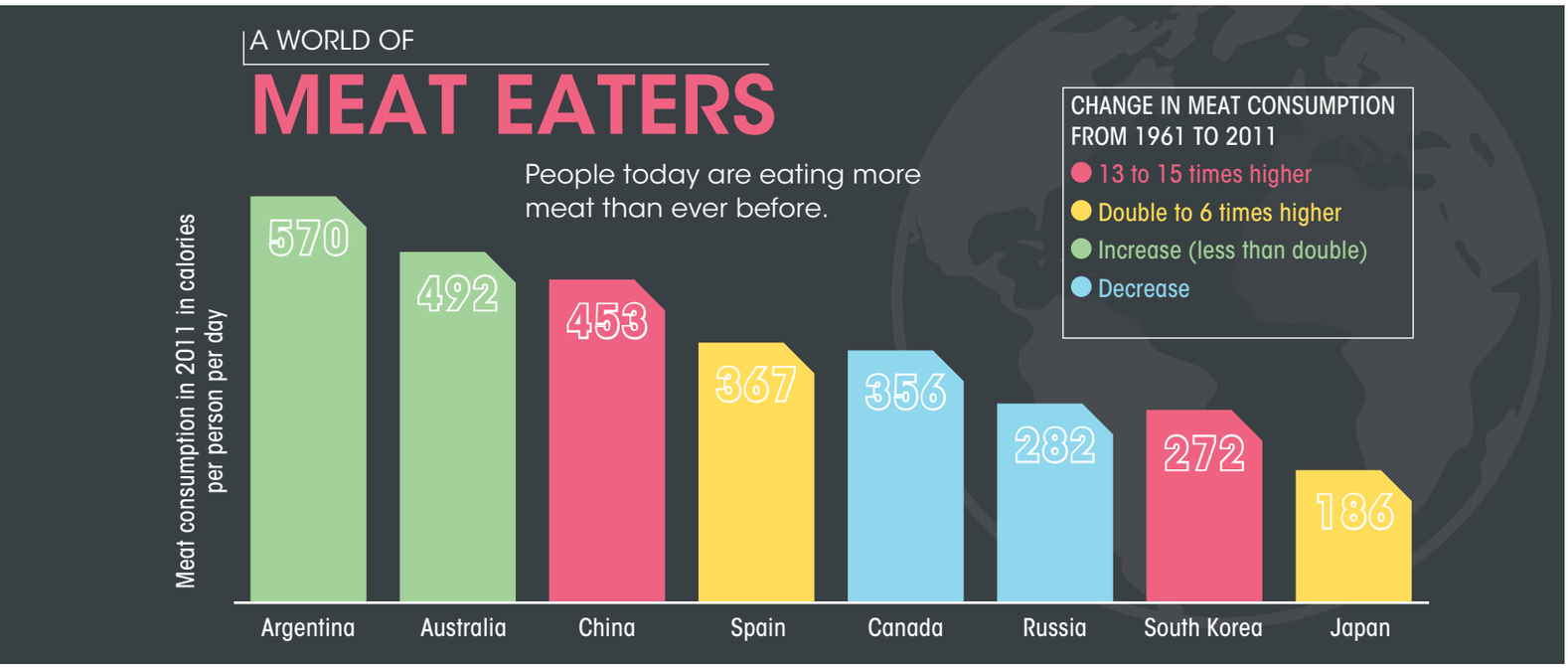
A: I think that's all I need. How about you?
B: Let me just get some apples, then I'll be **ready**. **done / finished**
A: Why don't you get these? They look nice.
B: Oh, I only eat organic fruit and vegetables now.
A: Really? **Why**? **Why's that / How come**
B: I decided I didn't want to eat food that is grown using chemicals. I heard it's not very good for you.
A: **That makes sense**. **Fair enough / I can understand that**
B: And it's better for the environment.
A: But does that mean you have to **pay higher prices**? **pay more / spend more**
B: Not necessarily. It depends where you shop.

7 Practise the conversation with a partner. Practise again using the words on the right.

8 Work in pairs. Which of these things do you buy more often? Why?

- farmed or wild fish
- locally-produced or imported food
- cheaper or better quality fruit and vegetables

7.2 What does the future hold?



GRAMMAR *will* for predictions

1 ▶ 7.6 Look at the infographic. Which two countries saw the biggest increase in meat consumption? What do you think was the reason? Discuss with a partner.

2 ▶ 7.7 An expert is talking about the data. Listen and circle the correct options.

1 Population increase by 2050: *15% / 35%*

2 Future global demand for meat: *increasing / decreasing*

3 Increase in demand for meat: *100% / 150%*

3 Complete sentences 1 and 2 with the information from Exercise 2. Then answer the questions (a–c).

WILL FOR PREDICTIONS

1 We think the population **will** increase by _____ per cent.

2 The demand for meat **will** _____ by _____ per cent.

3 We **won't** be able to meet the increased demand.

a Do the sentences refer to future plans or things you imagine happening in the future?

b What form of the verb do we use after *will*?

c What is the contracted form of *will not*?

Check your answers on page 146 and do Exercises 1–2.

4 ▶ 7.7 Choose the correct options to complete the sentences. Listen again to check your answers.

1 Today, people around the world *are eating / will eat* more meat than ever before.

2 Do you think this trend *is continuing / will continue* in the future?

3 Every day, there *are / will be* 228,000 more people on the planet.

4 By 2050, many more people *are able to / will be able to* buy meat regularly.

5 In the next 30 years, there *is / will be* a huge rise in the number of people demanding meat.

6 In the future, it *won't be / isn't* easy to meet the increased demand for meat.

5 Which sentences in Exercise 4 are predictions for the future?

LANGUAGE FOCUS Discussing the future

6 ▶ 7.8 Study the examples in the Language focus box.

DISCUSSING THE FUTURE

In the future, more people **will be** vegetarian. There **won't be** enough water to produce food the way we do now.	
The price of food **will definitely / probably be** higher in the future. There **definitely / probably won't be** enough water to produce all the food we need.	
Will it **have** an effect on the environment?	Yes, it **will**. / No, it **won't**.
When will the world's population **reach** ten billion people?	It **will reach** ten billion **by** around 2050 / **in** about 30 years.

For more information and practice, go to page 147.

7 Put the words in the correct order to make predictions.

1 double / need to / says / will / The UN / our food production / we

2 eat meat / definitely / People / won't / so frequently / be able to

3 will / We / probably / in cooking / more insects / start to use

4 definitely / Restaurants / vegetarian options / offer / more and better / will

5 won't / Being a vegan / an / probably / be / life choice / unusual

6 New technology / in the desert / allow us / might / to / grow food

8 ▶ 7.9 Find and correct three mistakes in the text. Listen and check your answers.

According to a recent report, climate change has started to affect farmers around the world. Although some crops will definitely grow better in a warmer world, others won't probably do so well.

The report predicts that the production of crops like corn, wheat and rice will start to decrease by 2030. They probably decline by up to two per cent for each decade after that.

Other crops, such as fruit and nut trees, will also be affected. Almonds need long periods of cool weather. Without it, trees won't flower. Other crops that will be definitely under threat in the next few decades are grapes, cherries and apples.

Pronunciation *will*

9a ▶ 7.10 Listen to six sentences. Notice the different ways we pronounce *will*.

9b ▶ 7.10 Look at the audioscript on page 164. Why do you think *will* is pronounced more strongly in sentences 5 and 6? Listen again and repeat.

SPEAKING Predicting future habits

10 Write five questions to ask a partner about their predictions for food in the next twenty years. Think about how eating habits will change, the cost and availability of food, etc.

11 Work in pairs. Take turns asking and answering the questions. Give reasons for your answers.

Do you think people in your country will eat more meat in the future?

No, I don't. People in this country already eat a lot of meat.

7.3 A kinder way

READING Leather from a lab

1 How many leather products do you own? Discuss with a partner.

2 Read the first paragraph of the article. What is the problem with leather?

Understanding details

3 ▶ 7.11 Read the article. Circle **T** for true, **F** for false or **NG** for not given.

1	Many animals are killed to make leather.	**T**	**F**	**NG**
2	Demand for leather is increasing.	**T**	**F**	**NG**
3	Biofabrication is already used in medicine.	**T**	**F**	**NG**
4	Animals feel pain when scientists take their cells.	**T**	**F**	**NG**
5	Biofabrication could be used to grow meat.	**T**	**F**	**NG**

Understanding process

4 Look at the diagram. Number the sentences 1–8.

a Scientists grow the cells in a lab. ____

b Scientists can tan the hide. ____

c Thicker sheets are formed. ____

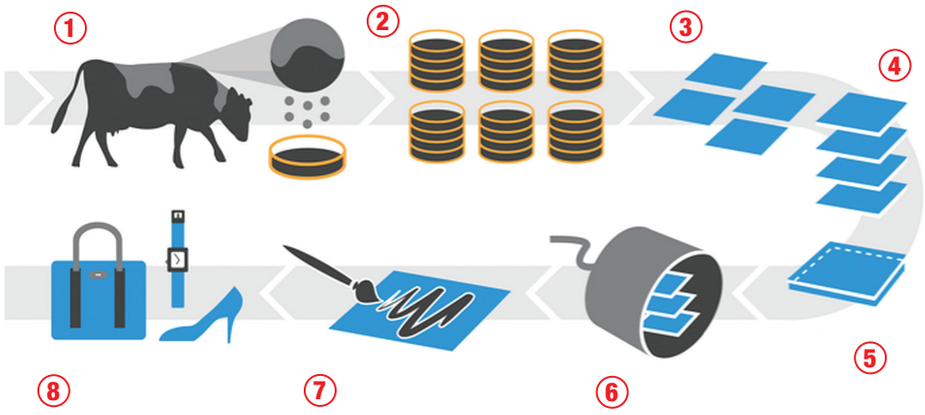
d Scientists spread the cells and form thin sheets. ____

e Scientists take cells from an animal. ____

f The thin sheets are layered. ____

g The leather can be dyed and finished. ____

h The leather is made into different products. ____



Understanding vocabulary

5 Match the **bold** words from the article with their definitions.

1	**range**	**a**	a room where scientific experiments take place
2	**cell**	**b**	able to do something well without wasting time or energy
3	**lab**	**c**	an extremely small part of an animal or plant
4	**layer**	**d**	a number of different things
5	**efficient**	**e**	to arrange one on top of another

6 Would you wear biofabricated leather? Would you eat biofabricated meat? Discuss with a partner.

Over a billion animals a year are killed to make leather products like these

LEATHER FROM A LAB

Leather is a hugely popular material for a **range** of products: shoes, jackets, bags, wallets – the list goes on. But this popularity comes at a price. The global leather industry kills over a billion animals every year. This has caused many to ask the question: is it possible to meet the global demand for leather but not do any harm to animals? A process called biofabrication may be the answer.

Biofabrication is not new; it is already commonly used in medicine. Biofabrication techniques are used to grow body parts like ears, skin and bones for [1]transplants. But it can also be used to make other products, such as leather. Biofabricated leather has many advantages. Scientists will be able to make it with whatever qualities they want, such as extra softness, greater strength, or even different colours and patterns.

But how exactly does biofabrication work? To grow leather, scientists begin by taking some **cells** from an animal, not hurting the animal in any way. They then isolate the cells and grow them in a **lab**. This process takes millions of cells and expands them into billions. Next, the scientists take the cells and spread them out to form thin sheets. These thin sheets are then **layered** to combine into thicker sheets. After that, the scientists can [2]tan the hide. Anyone can then [3]dye and finish the leather and design it in any way they like – into bags, wallets or shoes.

Andras Forgacs supports biofabrication. He says it may even be a 'natural [4]evolution of manufacturing for mankind'. We will be able to make the products we need in a more **efficient**, responsible and creative way. And biofabrication is not just about leather – it's possible the technique could also be used to grow meat. While this may sound crazy, Forgacs certainly doesn't think so. 'What's crazy', he says, 'is what we do today.'

[1] **transplant (n)** an operation in which a body part is replaced
[2] **tan the hide (phrase)** to turn animal skin into leather
[3] **dye (v)** to change the colour of something using special liquid
[4] **evolution (n)** a process of gradual, natural change over time

7.4 Leather and meat without killing animals

TEDTALKS

1 Read the paragraph. Complete the definitions (1–4). You will hear these words in the TED Talk.

When **ANDRAS FORGACS** started a company to 3D-print human **tissues** and **organs**, people thought he was crazy. But after some success, he realized he could also grow products like meat and leather to avoid the **slaughter** of animals. Forgacs' idea worth spreading is that we can be more efficient and **humane** by getting meat and leather from tissues grown in a lab.

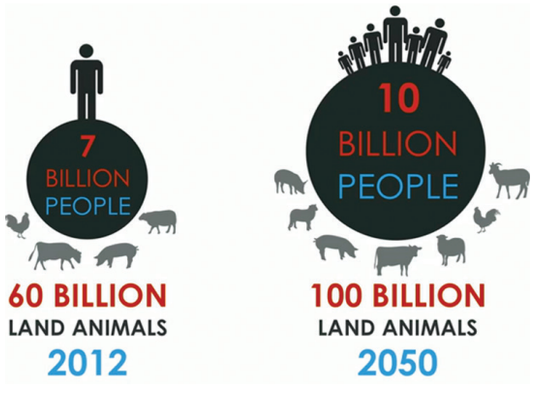
1 **Tissues** are materials that *living things* / *machines* are made from.

2 An example of a human **organ** is your *brain* / *foot*.

3 When you **slaughter** an animal, you *save* / *kill* it.

4 A **humane** person is *kind and gentle* / *mean and angry*.

2 Look at this slide from Andras Forgacs' TED Talk. What do you think the infographic describes?



3 ▶ 7.12 Watch Part 1 of the TED Talk. Tick (✓) the reasons why Andras Forgacs is concerned about having so many farm animals on the planet.

a The animals will use large amounts of land and water.

b The animals will produce even more greenhouse gases.

c It will cause many wild animals to become extinct.

d Diseases will spread more easily.

4 ▶ 7.13 Watch Part 2 of the TED Talk. Why does Forgacs think producing leather is a good place for biofabrication to begin? Tick (✓) each reason he mentions.

a It's widely used.

b It's beautiful.

c It's cheap.

d It's part of our history.

e It's simple to grow.

f It's strong.

5 ▶ 7.14 Watch Part 3 of the TED Talk. Match the two parts of the notes to make sentences.

Benefits of biofabricated leather

1 It is just like normal leather because it is made from	**a** a cow or alligator.
2 It doesn't have	**b** its properties.
3 It can be grown in the shape of	**c** the same cells.
4 It is not limited to the shape of	**d** a wallet or handbag.
5 We can control	**e** hair, scars or insect bites.

CRITICAL THINKING

6 Which of these groups do you think would support biofabrication? Why? / Why not? Discuss with a partner.

vegetarians	farmers	fashion designers

VOCABULARY IN CONTEXT

7 ▶ 7.15 Watch the clips from the TED Talk. Choose the correct meaning of the words.

8 Work in pairs. Discuss the questions.

1. What are you convinced will happen in the future? What are you not sure about?
2. Does your place of work or study have any good facilities (e.g. gym, café, library)?

PRESENTATION SKILLS Creating effective slides

TIPS

Take the time to make your presentation slides as effective as possible. The following tips can help you:

Keep the background plain.	Use strong, contrasting colours.
Do not use too much text.	Keep any graphics or images simple.

9 ▶ 7.16 Watch part of Andras Forgacs's TED Talk. Notice how effective Forgacs' slide is.

10 ▶ 7.17 Now watch Forgacs show another slide. Do you think it's effective? Why? / Why not? Use the tips in the Presentation skills box to help you decide.

7.5 Looking ahead

COMMUNICATE Arguing for and against

1 Work in a group. The local government is considering opening a biofabrication lab in your city. Brainstorm some arguments for and against opening the lab. Write some notes in the table below. Consider these factors:

how it affects jobs	how the meat looks and tastes	public perception
the effect on animals	people's openness to change	what it could lead to

Arguments for the biofabrication lab	Arguments against the biofabrication lab

2 Split into two groups. Group A is in favour of the biofabrication lab. Group B is against it. You are going to give a presentation to argue your position. Choose three or four of the strongest arguments. Prepare some slides to help get your points across.

3 Present your arguments and your slides to another group. Take notes as you listen.

ACKNOWLEDGING A POINT

That's a good point, but …	I see what you mean, but …
I can see your point, but …	

WRITING Predicting the future of food

4 Are you optimistic or pessimistic about the future of food? Support your idea with at least three predictions of what you think the future will be like.

I am optimistic about the future of food. I think scientists will continue to find new, creative ways to feed our population. They will also find ways to make food more nutritious.