ARTIFICIAL INTELLIGENCE

Scan to review worksheet
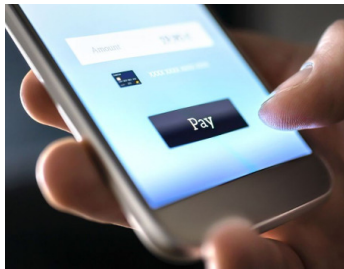
Expemo code:
167T-N78C-GRQ

1 Warm up

Look at the pictures and answer the questions below.

smartphone

voice recognition system

drone

robot

1. Discuss the objects shown in the pictures. What different things can these objects do?

2. Do you have a smartphone? Has it replaced any other devices you had in the past (e.g., an mp3 player)?

3. Do you think we rely too much on technology nowadays? Why?

4. How much do you worry about privacy when using technology and sharing data?

5. In your opinion, which jobs should never be replaced by machines? Why?

2 Focus on vocabulary

Part A: match the words to the definitions

1.	automate (v)	a.	a set of instructions given to a computer to solve a problem
2.	track (v)	b.	change something to fit the needs of the owner or user
3.	artificial (adj)	c.	doing something in a good way with no waste of time, money, or energy
4.	algorithm (n)	d.	follow the movements of somebody/something, especially by using special electronic equipment
5.	innovative (adj.)	e.	introducing or using new ideas, ways of doing something, etc.
6.	efficient (adj.)	f.	made or produced to copy something natural; not real
7.	autonomous (adj.)	g.	(of a vehicle) with the technology to drive itself without a person in control
8.	customize (v)	h.	use machines and computers instead of people to do a job or task

Part B: underline the correct form from the same word family as the words in Part A

1. Staff at the **track / tracked / tracking** station used computers to follow the movements of planes and other aircraft.

2. The smartphone is an **innovate / innovator / innovation** that has completely changed the way many companies do business.

3. Nowadays scientists are trying to grow meat **artificial / artificially / artifice** in laboratories.

4. Dating applications use different **algorithms / algorithmic / algorithm** to try and find a person's ideal partner.

5. A high level of **efficiently / efficiency / efficient** is very important when managing a business.

6. Vehicles are already operating **autonomy / autonomous / autonomously** in some parts of the world.

7. The entire manufacturing process in the factory has recently been fully **automate / automated / automating**.

8. The pictures on the website show standard products, but these are **customized / custom / customizable**. You can add messages or pictures to make them more personal.

Part C : Answer the following questions

1. Do you feel the way you work or study is **efficient** enough? Why / why not?

2. Has your country created any **innovative** technology?

3. Do you own any **customized** products?

3   Predicting the answers

You are going to read an article (page 4) about how artificial intelligence may change our lives in the next thirty years. Predict which subjects will be mentioned. Discuss why you chose these subjects and then check your answers by quickly skimming the text.

healthcare ☐

air travel ☐

pets ☐

farming ☐

television ☐

schools ☐

elderly people ☐

4   Find the word

Look at the text again and find a word that matches each definition.

1. _____ (noun, p. 2) a computer program that can hold a conversation with a person, usually over the internet

2. _____ (noun, p. 4) goods carried by ship, aircraft, or motor vehicle

3. _____ (verb, p. 5) removed

4. _____ (verb, p. 6) discover or notice something, especially something that is not easy to see or hear

5. _____ (noun, p. 7) plants that are grown in large quantities, especially as food

6. _____ (noun, p. 7) the need of customers for goods that they want to buy

7. _____ (adj., p. 8) extremely modern and unusual in appearance, as if belonging to a future time

8. _____ (noun, p. 9) a picture on a computer screen that represents a particular computer user

Artificial intelligence

Where will AI have taken society by 2050?

1. Artificial Intelligence (AI) is the study and development of computer systems that can copy intelligent human behavior. AI has made huge advances since the start of the millennium and is already helping us to do everyday tasks with a high degree of perfection.

2. Nowadays, most of us use AI perhaps without even thinking about it, from smart devices to chatbots. But where will it take us in the next thirty years and will new innovative technology help to solve some of the problems facing society?

3. Driverless cars are already on our roads, and Boeing is currently developing an autonomous plane. It is predicted that by 2050 our railways, roads, seas, and skies will be occupied by driverless vehicles. Unlike humans, AI self-driving vehicles stay aware of their environment without losing their focus, so they may improve road safety.

4. However, according to Toby Walsh, a leading researcher on AI, planes without human pilots won't have been perfected by 2050. Walsh, who has written a book predicting the state of AI in 2050, believes that "the debate on whether humans should still be airline pilots" will begin only after several decades of successful autonomous cargo flights.

5. AI could help significantly in the field of health and social care. More than 107,000 people around the world are currently waiting for an organ transplant. Some artificial organs are already being used in medicine, but it is estimated that by 2050 scientists will have managed to create more lab-grown organs, therefore saving thousands of lives. By using a 3D-printing technique, scientists will also have eliminated the chance of the body rejecting the organ.

6. Many countries are faced with issues caused by an ageing population, but AI will have helped many elderly people stay more independent in their homes by 2050. Robots can help them to reach things more safely and track their movements, gathering data on, for example, how many times a person has been to the bathroom and whether they have showered. The information is then analyzed by algorithms that can detect potential problems.

7. The world's population, and therefore our demand for food, will have increased significantly by 2050. However, AI can help farmers increase production and reduce waste, while also protecting the environment. For example, John Deere's Auto Trac system allows machines to plant crops in a much more efficient way and also reduces chemical use. In the coming years, AI will allow farmers to access more real-time data, giving them more time to react to problems and avoid disaster.

8. AI may also help to entertain us in the future. It's possible that by 2050 you will have appeared in your own Netflix movie! With new futuristic technology, people will be able to create virtual characters and enjoy customized films.

9. Walsh also predicts that AI will host TV and news shows. By 2050, it will have become efficient enough to write complex stories. The process will be completely automated, with robotic cameras making the shows and avatars presenting them. You will set your personal preferences, and algorithms will decide what news to show you.

10. But will the intelligence of AI have overtaken human intelligence by 2050? According to some, yes. This idea of a point in time when the ability of AI machines is greater than the brains of those that created them is known as "The Singularity." Will it happen in our lifetime? Watch this space...

11. *Sources: thinkml.ai; theguardian.com; archdaily.com*

5   Reading comprehension

Read the sentences and decide if they are True (T), False (F), or Not given (NG). Give reasons for your answers.

1. In contrast to humans, autonomous vehicles are not at risk of being distracted.

2. Professor Walsh believes that autonomous planes will not transport people regularly before 2050.

3. Some organs will never be grown artificially.

4. The issue of organ rejection cannot be solved by AI.

5. Computers will process information collected by robots in older peoples' homes in order to help them.

6. The rise of artificial intelligence in farming will cause problems for the environment.

7. Robotic cameras are already used by Netflix.

8. Artificial Intelligence will never be more clever than human minds.

6   Grammar point

The article looks forward to the year 2050 and makes predictions about what *will happen* at some point *before* 2050. Read the following sentences from the article.

- Artificial intelligence **will have helped** many elderly people stay more independent in their homes by 2050

- ...by 2050 scientists **will have managed** to create more lab-grown organs.

- It's possible that by 2050 you **will have appeared** in your own Netflix movie!

- By 2050, AI **will have become** efficient enough to write complex stories.

Now fill in the blanks to create the form of the future perfect tense

Future perfect (affirmative sentences)

1. Subject + will + ...

How do you make a negative and question in the future perfect?

1. Negative: .. . .

2. Question: .. . .

How can you form contractions in the affirmative and negative forms?

1. Affirmative: e.g., I will have flown =.. . . . .

2. Negative: e.g., I will not have flown = ...

By...

The future perfect is often used with a **future time word or phrase.**

- By...

- By this time next week / year / century...

- By the time + present simple...

We use the **future perfect** with a **future time word** to talk about an action that **will finish before a certain time in the future**

- By 10 o'clock, I will have finished my homework. (= I will finish my homework some time before 10, but we don't know exactly when.)

We can use the future perfect simple to say how much or how many

- By the time I'm retired, I will have worked in over 50 countries.

Now underline other examples of the future perfect in the article.
Complete the sentences below by putting the verbs in brackets in their correct form

1. By the time the science professor retires, she _____ (teach) over one thousand students.

2. Humans _____ (not / land) on Mars by 2023.

3. You're reading that document so slowly! _____ you _____ (finish) it by lunchtime?

4. I need to replace my smartphone; by this time next week, I _____ (buy) a new one.

5. The IT student is very ambitious. By this time next year, she _____ already _____ (develop) three smartphone applications.

6. If you're back by 5 pm, come and meet us. The movie _____ (not / start) by then.

7. I work for a company that sells cars. By the time I am 30, I _____ (drive) over five hundred cars.

8. It's getting late. _____ we _____ (reach) our destination by the time it gets dark?

Now make sentences in the future perfect to give your opinions about what will and won't have happened by 2050. Compare your answers with your partner and discuss.

You	AI
fly in an autonomous plane	make farming more efficient
be a passenger in an autonomous car	replace TV and presenters
create a custom movie	become more intelligent than humans

....

....

....

....

....

....

7   Talking point

Discuss the following questions

1. What other things do you think will have happened by 2050? Why?

2. Does increasing our use of technology come with any risks?

3. How do you feel about the introduction of autonomous vehicles? Will they really reduce the number of accidents?

4. Would you feel comfortable with AI collecting personal data about elderly family members in order to help them (as described in the article)? Why / why not?

5. Think about what you like and don't like to see in movies. What kind of customized film would you create?

8   Follow up task / homework

Choose one of the subjects discussed in the article (or another subject that interests you). Write a short blog post (max. 300 words) on the subject, giving your predictions about how AI will develop this area in the next thirty years.

Key

5 mins

Encourage discussion. Monitor and help if necessary.

2.   Focus on vocabulary

10 mins

Encourage students to try to complete part A without using a dictionary, but they can use a dictionary to help them with part B. Ensure pronunciation of target vocabulary is correct. Pay attention to the schwa sounds in innovative /ˌɪnəveɪtɪv/, autonomous /ɔˌtɑn.ə.məs/, artificial /ˈɑrtəˌfɪʃ əl/ and efficient /ɪˌfɪʃ ənt/

Part A

1. h	2. d	3. f	4. a	5. e	6. c	7. g	8. b

Part B

1. tracking	2. innovation	3. artificially	4. algorithms
5. efficiency	6. autonomously	7. automated	8. customizable

3.   Predicting the answers

5 mins

Students should be encouraged to quickly discuss their answers and then skim through the article quickly to check their answers. Before reading, please check understanding of the phrase "organ transplant".

Sources

https://thinkml.ai/10-ways-ai-will-change-the-world-by-2050/

https://www.theguardian.com/technology/2020/jan/03/technology-2050-save-humanity-or-destroy-us

https://www.archdaily.com/937523/how-artificial-intelligence-will-shape-design-by-2050

Predicting the answers

✓ healthcare	✓ air travel	✓ farming
✓ television	✓ elderly people	

4.   Find the word

5 mins

1. chatbot	2. cargo	3. eliminated	4. detect
5. crops	6. demand	7. futuristic	8. avatar

5.   Reading comprehension

10 mins

Students answer the questions individually and then check in pairs before whole class feedback. Encourage students to support their answers with evidence from the text.

1. True *AI self-driving vehicles stay aware of their environment without losing their focus*

2. True *planes without human pilots won't have been perfected by 2050.*

3. Not given

4. False *scientists will also have eliminated the chance of the body rejecting the organ.*

5. True *The information is then analyzed by algorithms that can detect potential problems.*

6. False *while also protecting the environment*

7. Not given

8. False *But will the intelligence of AI have overtaken human intelligence by 2050? According to some, yes.*

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6. Grammar point

Affirmative sentences

1. have + past participle

Negative sentences and questions

1. subject + will not + have + past participle

2. will + subject + have + past participle?

Contractions in the affirmative and negative forms

1. I'll have flown

2. I won't have flown

Other examples of future perfect in the article

The world's population, and therefore our demand for food, will have increased significantly by 2050.

planes without human pilots won't have been perfected by 2050

Will the intelligence of AI have overtaken human intelligence by 2050?

Complete the sentences

1. will have taught / 'll have taught

2. will not have landed / won't have landed

3. Will you have finished

4. will have bought / 'll have bought

5. will already have developed

6. will not have started / won't have started

7. 'll have driven /will have driven

8. Will we have reached

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7. Talking point

5 mins.

Monitor and encourage discussion.

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8. Follow up task / homework

+30 mins.

Encourage students to choose a subject that interests them and to use the future perfect tense in their writing.