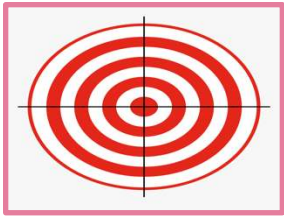# THE USE OF AI
IN ART

In this unit, you will:
- read a text about "AI generated art"
- learn some vocabulary related to the topic
- do some vocabulary practice on new vocabulary items and prepositional verb phrases.
- do some speaking practice in a paired-choice task

Warm-up

Have a look at the questions below and discuss them in small groups.

- In what domains is artificial intelligence used by people?
- What do you think about its use in art?
- Below are some pictures generated by artificial intelligence. Do you think they are successful pieces of work?
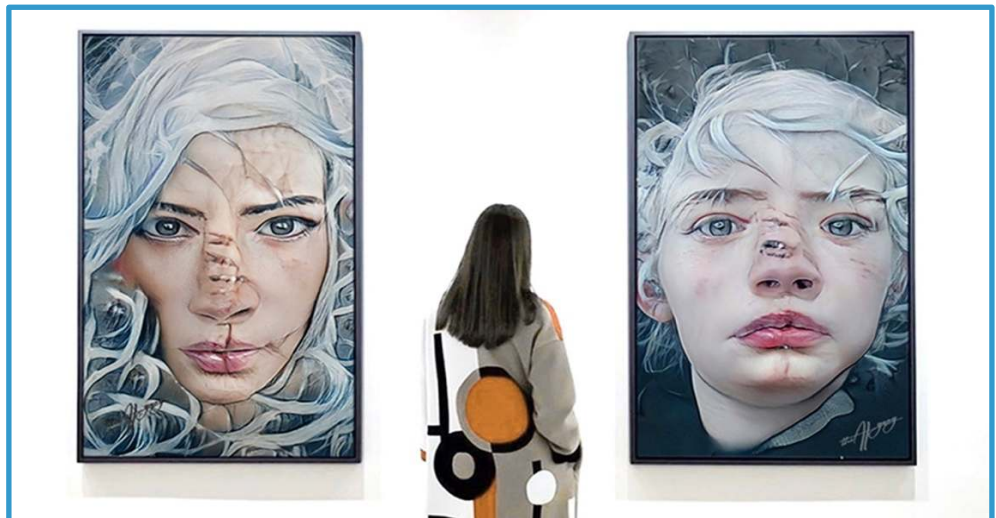- What do you like/ dislike about them? Why?

Reading

Before You Read

Please have a look at the questions below and discuss them in small groups.

- By checking the title of the text along with the pictures, what do you expect to read in this reading?
- How do you think AI is used in the generation of art?
- Do you think that people value art produced by AI?
- Do you think AI generated art can be considered as "real art"? Why/ Why not?

Screening

Please watch the video "Can AI create real art?" for further information about the topic and for some of the answers of the questions in the warm-up activity.
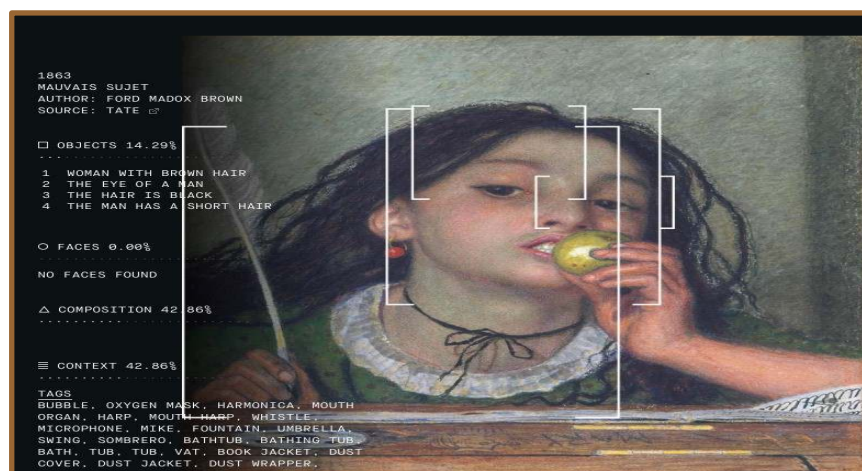
Vocabulary Part 1: Guessing Word Forms & Matching Synonyms

Check the highlighted words in the text. First, find their word form and then examine them in context to match them with the synonyms given on the right.
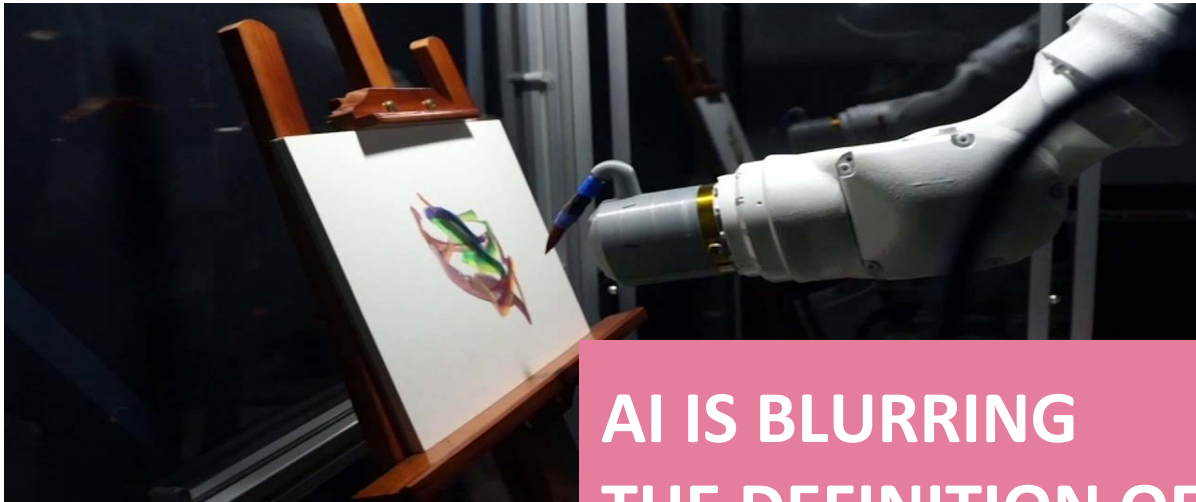
Target Word	Word Form	Synonym (a-t)
1. blurred	**adj.**	**i**
2. generate	**v.**	**c**
3. tweak	**v.**	**b**
4. auction	**n.**	**g**
5. compel	**v.**	**h**
6. penalize	**v.**	**j**
7. novel	**adj.**	**f**
8. showcase	**v.**	**d**
9. genre	**n**	**a**
10. relent	**v.**	**e**

Synonyms

a. style; category

b. adjust; modify

c. create; make

d. display; exhibit

e. give up; stop resisting

f. new; innovative

g. public sale; bargain

h. force; oblige

i. obscure; vague

j. punish; fine

Read the text below and answer the questions that follow.

AI IS BLURRING
THE DEFINITION OF ARTIST

By Ahmed Elgammal

1   With artificial intelligence's (AI) having *incorporated into* more aspects of our daily lives, from writing to driving, it's only natural that artists would also start to *experiment with* it. Indeed, Christie's recently sold its first piece of auctioned AI art—a <u>blurred</u> face titled "Portrait of Edmond Belamy"—for $432,500.

2   The painting is "not the product of a human mind," Christie's noted in its preview. "It was created by artificial intelligence, an algorithm defined by an algebraic formula."

If artificial intelligence is used to create images, can the final product really be thought of as art? Should there be a threshold of influence over the final product that an artist needs to wield?

The Machines Enrol in Art Class

3   To create AI art, artists write algorithms not to follow a set of rules, but to "learn" a specific aesthetic by analysing thousands of images. The algorithm then tries to <u>generate</u> new images in adherence to the aesthetics it has learned.

4   To begin, the artist chooses a collection of images to feed the algorithm, a step I call pre-curation*.* For example, an artist could feed portraits from the past 500 years into a generative AI algorithm. The algorithms then try to imitate these inputs, producing a range of output images. The artist must *sift through* the output images and select those he or she wishes to use, a step I call post-curation. Throughout this process, the artist maintains an active hand: He or she is very involved in pre-curation and post-curation stages and might also <u>tweak</u> the algorithm as needed to generate the desired outputs.

Meet AICAN

5   But what if a machine were programmed to create art on its own, with little to no human involvement? Our lab has created AICAN (artificial intelligence creative adversarial network), a program that could be thought of as a nearly autonomous artist that has learned existing styles and aesthetics and can generate innovative images of its own. People genuinely like AICAN's work and can't *distinguish* it *from* that of human artists. Its pieces have been exhibited worldwide, and one even recently sold for $16,000 at an <u>auction</u>.
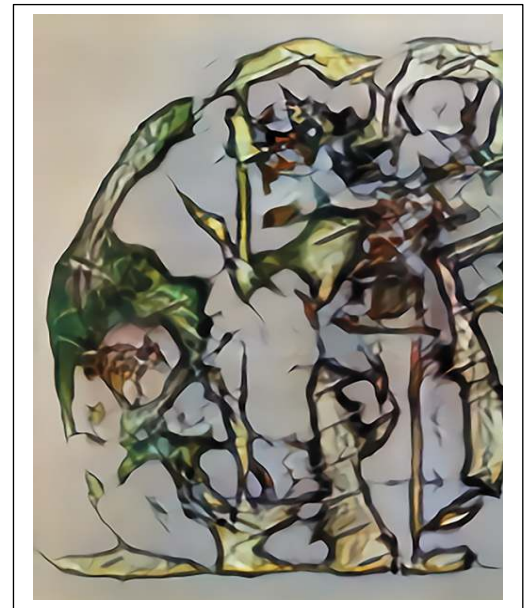
An Emphasis on Novelty

6   When programming AICAN, we used an algorithm called the *creative adversarial network*, which <u>compels </u>AICAN to *contend with* two opposing forces. On one end, it tries to learn the aesthetics of existing works of art. On the other, it will be <u>penalized</u> if, when creating a work of its own, it too closely emulates an established style.

7   At the same time, AICAN *adheres to* what Martindale calls the "least effort" principle, in which he argues that too much novelty will turn off viewers. This careful combination ensures that the art generated will be <u>novel</u> but won't *depart* too far *from* what's considered acceptable. Ideally, it will create something new that builds off what already exists.

Can Humans Tell the Difference?

8   There was still the question of how people would *respond to* AICAN's work. To test this reaction, we showed people AICAN images and works created by human artists that were <u>showcased</u> at Art exhibition in Basel. For each artwork, we asked the participants whether they thought it was made by a machine or an artist. We found that people couldn't tell the difference: Seventy-five percent of the time, they thought the AICAN-generated images had been produced by a human artist.

9   As a scientist, I created the algorithm, but I have no control over what the machine will generate. The machine chooses the <u>genre</u>, the subject, the composition, the colors, and the texture. Though I set the framework, the algorithm is fully at the helm when it comes to the elements and the principles of the art it generates. At the click of a button, the machine creates an image that can then be printed. The works often surprise even me in their range, sophistication, and variation. For this reason, in all exhibitions where the art was shown, I gave credit solely to AICAN for each artwork.

What the Computer cannot Do

10   Still, there's something missing in AICAN's artistic process: The algorithm might create appealing images, but it lives in an isolated creative space that lacks social context. Human artists, on the other hand, are inspired by people, places, and politics. They create art to tell stories and make sense of the world. Of course, just because machines can almost autonomously produce art, it doesn't mean they will replace artists. It simply means that artists will have an additional creative tool at their disposal, one they could even *collaborate with*. AICAN can generate artwork that human curators can then ground in our society and connect to what's happening around us.

11   I often compare AI art to photography. When photography was first invented in the early 19th century, it wasn't considered art—after all, a machine was doing much of the work. The tastemakers resisted, but eventually <u>relented</u>**:** A century later, photography became an established fine art genre. *I have no doubt that art produced by artificial intelligence will go down the same path*.

Comprehension Check

1 According to paragraphs 1 and 2, what sets "Portrait of Edmond Belamy" apart from other art work is that <u>it is the first piece of art generated by artificial intelligence and sold at an auction at a high price.</u>

2 In paragraph 3, the writer states that the algorithms used by AI artists differ from others because <u>they are programmed to learn specific aesthetic styles by analysing thousands of images rather than following a set of rules</u>.

3 In paragraph 4, the steps involved in the generation of AI art can be outlined as:
- <u>The pre-curation stage in which an algoritm is fed by thousands of images by the artist</u>
- <u>The post-curation stage in which the artist goes through all the output images and selects the one(s) he/she wants to use in the work of art</u>

4 According to paragraph 5, the distinctive feature that makes AICAN similar to a human artist is that it can act as autonomous as a human artist while creating its own work of art.

5 According to paragraph 6, the two opposing functions AICAN needs to fulfill while generating art can be outlined as follows:
It needs to have an overall mastery over the existing aesthetic styles to produce fine art.
It needs to generate art that is not too close to the original works of art.

6 According to paragraph 7, an ideal art work generated by AICAN should combine something new that is added on the existing works of art.

7 According to paragraph 8, it can be concluded that most people cannot tell the difference between AI generated art and real art work.

8 In paragraph 9, the writer gives full credit to AICAN as the artist of an artwork because programers do not have any involvement in the generation process. They just write the program and the rest is done by AICAN.

9 According to paragraph 10, the most important feature that keeps human artists one step ahead of AICAN is that they produce their art by considering the social contexts they are in and connect it to the events of their time.

10 In the last paragraph, what does the writer mean by saying that "*I have no doubt that art produced by artificial intelligence will go down the same path.*"?

AI generated art will certainly be accepted as as a form of real art in the future as in the case of photography which was rejected first but later on took its place among one of the established forms of art.

Vocabulary Part 2: Guessing Meaning - Prepositional Verbs

Part 1: The following prepositional verbs are chosen from the text. First, check them in the text for their meaning and then, write a synonym for each in the table below.

Par. No	Verb	Preposition	Meaning
Par. 1	incorporate	into	include; integrate
Par. 1	experiment	with	try out; test
Par. 4	sift	through	separate; select
Par. 5	distinguish	from	differentiate; pick out
Par. 6	contend	with	deal with; cope with
Par. 7	adhere	to	conform to; stick to
Par. 7	depart	from	diverge; deviate
Par. 8	respond	to	react; act towards
Par.10	collaborate	with	work together; team up

Part 2: Check the following sentences and fill in the blanks by using one of the prepositional verb phrases in Part 1.

1. In order to keep the meeting to the point, we shouldn't <u>depart from</u> the agenda and only discuss the items that are specified in it.

2. I have decided to rent a flat with one of my classmates, but I have some concerns about how my parents will <u>respond to</u> it. I don't know what to do if they oppose to my decision.

3. All drivers must <u>adhere to</u> the speed limits. If they violate this rule, this may result in a heavy fine.

4. We need to set off as early as we can. If we leave after 8, I am afraid we will have to <u>contend with</u> rush hour traffic.

5. Before I buy a fully automatic car, I need to <u>experiment with</u> it first. As I am used to driving manual cars, I may find it hard to adapt it.

6. The two paintings are so alike that it is hard to <u>distinguish</u> them <u>from</u> each other. Only an expert can understand which one is real.

7. There are too many tasks to finish. Unless we <u>collaborate with</u> each other, we won't be able to finish them by the deadline.

8. In order to be healthy, one needs to <u>incorporate</u> exercise and good eating habits <u>into</u> his/her lifestyle.

9. The police will <u>sift through</u> every evidence until they find something important related to the case.

Speaking Practice 3: A Paired-Choice Preference

In a paired-choice task, speakers are presented with two situations or opinions on which they are asked to express their preference and explain why. This task tests a number of speaking abilities including:

- giving opinions
- understanding and responding to questions in the classroom
- participating in discussions
- synthesizing information from two sources
- reporting the opinions of others

TIP 1: Choose your position wisely.

Think about which option you can support easily in the given time.

TIP 2: Create a quick outline.

The words should relate to key points of your response: your choice, two reasons and personal details.

TIP 3: Start by restating the prompt and saying your choice.

For paired choice questions, your topic sentence must include the option you've chosen. You can also combine in the same sentence the restatement and the prompt and your topic sentence (optional).

- *I realize that a lot of people may think differently, but in my opinion...*
- *I know that some people like X, but personally, it's my belief that...*
- *Though some people believe that X is …, I am of the opinion that Y is …*
- *While some people may think that X is …, I believe Y is…*

TIP 4: Provide two key points to support your topic sentence.

Your key points serve to justify the choice you have made. A strong response will include two key points that explain your opinion.

- *There are mainly two reasons why I think/believe that …*
- *X and Y are the two main reasons for …*

TIP 5: Use specific details and examples to support each of your key points.

After you state a key point, you should give a personal detail to provide further explanation.

- *For example, …*
- *For instance, …*
- *To illustrate, …*

TIP 6: Make a concluding statement. (optional)

To complete your speech, you may conclude by tying your introductory statement in with the points you have made.

- In conclusion, ….
- In brief/In short, …
- All in all, …
- As a whole, what I am trying to say is that …

Sample Task

Some people believe that successful athletes are born with their talent, while others say that their success comes only through hard work.

Explain which of these arguments you agree with and why. Include details and examples in your explanation.

Sample Outline

Personal Stand: Hard work, not natural ability

- Natural advantages might not be helpful.
    - tall but beaten by shorter players
- It requires hard work.
    - practiced and got better

Sample Speech

I realize that a lot of people may think differently, but in my opinion, successful athletes gain their skills through hard work rather than through natural ability. I hold this opinion for several reasons. First of all, in some cases, natural advantages can work against you. Take me, for example. I play basketball, so it's good that I'm very tall. However, because of my height, I thought that I didn't have to work as hard as shorter people. Imagine my surprise when I played basketball against shorter kids and I lost! It was because I thought my height was all I needed to win, while my shorter opponents worked harder to gain skills. My next reason is that improvement comes through practice. For instance, when I lost against those shorter kids at basketball, it made me want to win, so I started practicing every day, and sure enough, I got better. The next time I played with them, I won!

Speaking Task 3: A Paired-Choice Preference

Read the following prompt and prepare your answer by checking the steps outlined above.

Some people believe that AI generated art cannot be considered as real art while others argue just the opposite and give credit to the machines as the artist of an art work.

Which argument do you agree with and why? Make sure to state your choice clearly and include some details in your explanation/response.

Do not forget to make use of the useful structures and upgrade your speech with new vocabulary you learned in this unit. Below you can find the list of vocabulary items introduced in this unit and an additional list of more words and phrases that you may wish to use in your speech.

Vocabulary items in the exercises		More vocabulary items/phrases
blurred	incorporate into	art/ digital art/ AI-generated art
generate	experiment with	generation/creation of art
tweak	sift through	art tools/ digital tools
auction	distinguish from	art products/ works of art/ art masterpiece(s)
compel	contend with	art exhibition/ gallery/museum
penalize	depart from	make/create/ produce/ perform art
novel	respond to	use/ employ art tools
genre	collaborate with	generate/ produce /create images
showcase		write an algorithm
relent		feed images/input into an algorithm
		exhibit/ display art works
		assess/evaluate/judge the value of art

Recycling Vocabulary 3

Part 1: Fill in the blanks by using one of the words given in the table.

blurs	genre	penalizes
auction	generate	tweak
compels	relent	novel

1. The company went bankrupt as it failed to <u>generate</u> sufficient revenue to cover its operating and capital costs.

2. I think the suggestion offered by one of the executives in the board meeting has merit but we need to <u>tweak</u> it a little bit more to make it compatible with our needs.

3. His disregarding of the rules <u>compels</u> us to take disciplinary action. If he does not behave himself, he may even be dismissed from the company.

4. The wines of these vineyards are sold every year by <u>auction</u> early in November, and the prices they make serve as standards for the valuation of the other growths.

5. When the journalist didn't <u>relent</u> and release the name of her source, she was jailed for obstructing justice.

6. The new law <u>penalizes</u> the taxpayers who can least afford to pay. Unless some new arrangements are made by the government, they will have hard time to pay for the increased tax values.

7. Science fiction is an interesting <u>genre</u> that melds real-life science with fantasy elements.

8. Most of the critics have not been satisfied with his performance in his last play. In their reviews, they have highlighted the fact that there is nothing <u>novel</u> in his latest play and its theme overlaps with some of his previous work.

9. This film <u>blurs</u> the boundary between reality and fantasy. While watching it, you cannot clearly judge which one feeds the other.

Part 2: Read the sentences below and match the underlined parts with the prepositional verb phrases given in the table.

incorporate into	experiment with	sift through
contend with	adhere to	distinguish from
depart from	respond to	collaborate with

1. Neuroscientists are using brain-imaging systems to probe how people **give reaction to** certain stimuli. They study whether these arouse similar feelings in people or not.

respond to

2. They will **go through** all the papers in the old trunk, but they are not sure if they will be able to find what they are looking for. sift through

3. The board of members have asked us to provide more statistical data in the report. We have assured them that we will evaluate all their suggestions and **include them in** the final version of the report. incorporate into

4. Before submitting your thesis, make sure you **stick to** the checklist provided by the institute for the guidelines to be followed. If your work is not compatible with their suggested layout, you may be asked to revise it. adhere to

5. Non-fiction is a genre that refers to literature based on fact but written in a creative way that does not **deviate from** what is real. depart from

6. An increasing number of municipalities **work in cooperation with** private technology companies in the spread of smart technologies. This joint work is done in the hope of providing insight into pollution, congestion and waste production in urban areas. collaborate with

7. The lack of social connectivity is something that is difficult to **cope with** when we are working or studying online. Relying merely on virtual meeting platforms does not always help. contend with

8. During the covid-19 pandemic, pharmaceutical companies have made various attempts **to try out** different drugs that would be helpful to eradicate the deadly virus. experiment with

9. My twin sister and I are so alike that people cannot **separate me from** her when they need to address to us in person. distinguish from

References:

https://www.americanscientist.org/article/ai-is-blurring-the-definition-of-artist

https://youtu.be/_9g5WU3Yhls

(a shorter version of the video is used for the classroom practice)