

Lesson plan

Lesson Objective: To understand the importance of fact-checking images online and to recognise some of the positive sides of AI.

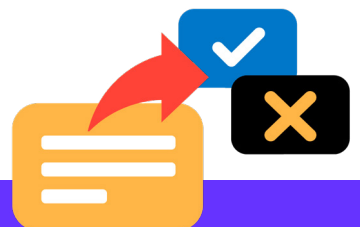
Time: 1 hour (or two lessons at 25 and 35 minutes)

By the end of this lesson, students will be able to:

Under-11s	11-13s	14+
<ul style="list-style-type: none"> Identify some risks of realistic AI-generated images Explain how to fact-check online images Explain how to find an image's source online 	<ul style="list-style-type: none"> Summarise risks of realistic AI-generated images Identify positive uses of AI Explain how to fact-check online images Explain how to find the source of an online image 	<ul style="list-style-type: none"> Summarise the risks of realistic AI-generated images Identify positive uses of AI Recognise that some images are harder to verify than others Demonstrate steps to fact-check online images Demonstrate how to locate the source of an image online

Prep

- ☐ Teachers will need a screen or projector for the slides.
- ☐ Ensure students have access to devices – at least 1 device per 4 students – to engage in the final activity of the lesson (Activity 4).
- ☐ Students will need internet access.
- ☐ Print out handouts for Activity 4.
- ☐ Consider how you will teach this lesson and edit the Lesson Slides to align with any changes. For example, if you will not be splitting the lesson into parts, you may wish you remove the optional plenary/ starter activities within the slides (identifiable by their purple background) to avoid confusion.



Starter: Benefits and risks of AI

Time: 5 minutes

Discuss the positive ways AI can be used in different fields (**slide 2**). Explain that artificial intelligence can support healthcare, science, history, agriculture, communication and more.

Ask students to share: What are some other ways AI could be used as a benefit?

Possible answers include:

- Restoring art/fixing pictures
- Improving privacy (such as removing identifying features like faces, license plates, etc.)
- Supporting learning and creativity
- Creating 3D images to help architects, archaeologists and other professionals.

Explain that there are a lot of benefits with using AI tools. However, when we interact with the online space daily, there are risks of misleading information because it can be difficult to tell which images are real and which are AI-generated.

Activity 1: Real or AI?

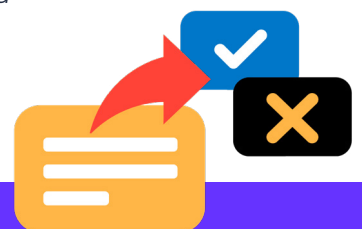
Time: 7 minutes

Introduce the first activity. From **from slides 3 - 17**, you will show students a selection of images. They will have to decide whether the image is real or generated by artificial intelligence. You can do this by students putting their hands up if they think it's AI or keeping them down if they don't.

After each image, move to the next slide and tell them which is correct and how to tell the AI images apart.

Correct answers:

- Tools on the table: **real**
- People in the marketplace: **AI**
If you look closely, the way some people are standing is really unnatural. On the right, it looks like people are standing but they're missing heads. In the background, many people are missing heads.
- Forest path: **AI**
The texture of the image is strange and all the leaning trees seem to follow the same angle, which you likely wouldn't see in a real forest (all the trees would have their own unique patterns). The light also falls in an unnatural way.
- Seagulls on a wall: **real**
- Cake on a plate: **AI**
It is a very realistic picture, but you can see the edge of the fork looks strange, and there is a drip off the cheesecake that also looks slightly out of place.



Activity 2: The risks of AI images

Time: 10 minutes

Go to **slide 14** and ask them if that image is real or AI-generated. Reveal that it is AI-generated and talk through what clues tell us it is AI-generated.

Answers might include:

- The unrealistic person
- Her folded arms merging into one
- The paintings are all jumbled together and unclear
- The wall is slightly curved
- The objects on the table all merge together

Move on to **slide 16** and ask them again if it's real or AI-generated. Reveal that it is, in fact, AI-generated and actually comes from the same series as the previous AI-generated photo of a woman sitting with her art.

Go to **slide 18** to show a side-by-side. Explain that the first photo was generated by an AI tool in February 2022 after it was first launched. The second photo was generated by the same AI tool just over a year later in June 2023.

Summarise that as technology continues to improve, AI-generated images and videos might become impossible to identify just at a glance. Many platforms now include a watermark or further information on AI-generated content (such as data hidden in the image itself) because of this. However, this might not be the case for every image you come across online and not all watermarks are noticeable to the naked eye.

Ask: What are some potential risks of these AI-generated images and videos?

Go to **slide 19**. Students can share their thoughts but make sure you emphasise the following:

- People might believe the images are real; if the images show something harmful, it could spread anger or hurt a lot of people. This is called misinformation or disinformation.
- AI-generated images that features public figures around the world (such as presidents or dignitaries, celebrities, etc.) could lead people to think something happened when it didn't. This could spread fear or confusion.

Because of the effects AI images have, some companies are addressing it in different ways, like labeling AI-generated content or adding watermarks that are not perceptible to the naked eye. However, because this is not flawless, it is important to always do research and think critically.

Part 1 Plenary

Time: 5 minutes

If you decide to split the lesson into two parts, use this plenary to end the first part.

With a partner, come up with 3-5 clues that an image might be AI-generated. Then, brainstorm at least 2 ways someone could confirm that the image is AI-generated.



Part 2 Starter

Time: 5 minutes

If you split the lesson into two parts, use this starter to begin the second part.

Recap – What are the potential risks of realistic AI-generated images?

Explain that some platforms will now tell you if an image is AI-generated. Some watermarks are not perceptible to the human eye.

However, not all platforms will do this, and not all images will be recognised. So, we need to fact-check those images. This might include using websites that help identify whether or not an image has been generated by AI or by searching for the image's source.

Activity 3: Fact-checking AI

Time: 10 minutes

Go to **slide 23** that features Taylor Swift cutting pizza and the news headline. Work with students to methodically decide whether this image is real or not.

Step 1: Examine the picture. Is there anything that suggests the image could be fake?

Potential answers could include:

- The lighting is very dark
- Her eyes seem a little off
- She only looks a little like Taylor Swift
- She looks computer-generated or plastic-like
- Her face doesn't have much expression
- The tool she's using doesn't make much sense
- It's unlikely that she would have time to do this with how busy a performer's schedule is

Step 2: Search the headline online. Are there any sources that match the headline?

There is unlikely to be, though some results might talk about pizza. None are likely to talk about her volunteering her time in a hometown pizza restaurant. However, there's unlikely to be anything disputing it either, so we should double check the image to be sure.

Step 3: Use Google's 'Search by image' function to search for other versions of the photo.

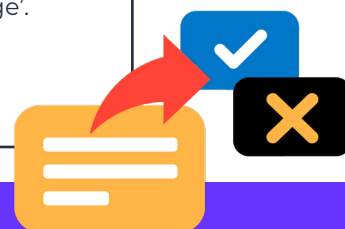
To search with Google:

From the PowerPoint, right click on the Taylor Swift image and click 'Save as Picture...'

Go to Google.com and select the icon to the right of the microphone to 'Search by image'.

Upload the saved file and 'Search'.

Above the image, select 'Find image source' and review the results.



Show students the source of the image is a BuzzFeed article titled 'AI Photos of Celebrities With Normal Jobs'. You don't need to go to the page.

Tell students that this has helped us find the source, which tells us it is AI-generated. Note that sometimes, we might have to look a little deeper to find the source.

Note: If they don't have access to Google Lens, they can try describing the image in an image search to find it.

Show students the example summary assessment of the image (**slide 28**).

Activity 4: Applying knowledge

Time: 15 minutes

Divide students into groups of 3 or 4. Provide them with Handout 1, which features an image and headline, and task them with investigating the validity of the image using the three steps you've just demonstrated. They must fill in the questions on the handout as part of the investigation.

You should ensure that you use all versions of Handout 1 so that there is some variety among which image the groups are researching.

If you use a virtual classroom tool like Microsoft Teams or Google Classroom (or something similar), you can upload the images to the platform so children can try using the Search by image tool.

Students must:

- Identify anything strange they see about the image that could suggest it isn't real. This could include things in the image but also the likelihood of the story.
- Research the headline to find where it comes from or if it's completely made up. They should cite which websites confirm or refute the headline's validity. As a part of this, they should assess whether the website is a trustworthy source.
- Find the source of the image using Google's image search. If there are multiple sources, they should list them all and investigate which is most likely to be the original.

Students must then write a short summary about whether the image is AI-generated or real, and how they know. They should include mention of the source material.

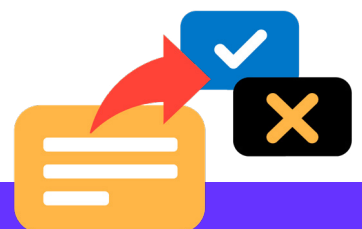
Plenary: AI benefits and risks

Time: 5 minutes

Task students with writing an exit slip.

A. They should write a list of 1-3 ways AI tools can help people and society now or in the future.

B. Then they should write 3-5 ways someone could check if images or other content online is AI-generated.



Fact-checking AI

Names:



Millions take over Lisbon to attend mass led by Pope Francis

Using the above image and headline, complete the steps that you learned to fact-check images.

Step 1: Examine the image

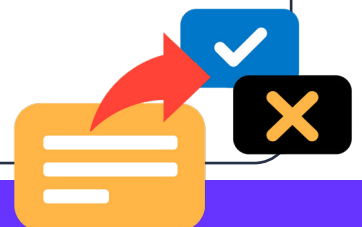
In your opinion, is this image AI-generated? Explain how you know.

Step 2: Search the headline

Were you able to find a matching or similar headline? If so, list your source(s).

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Is the headline true and does it match the image?



Step 3: Search for the image

Were you able to find the same exact image in your search? If so, list your source(s).

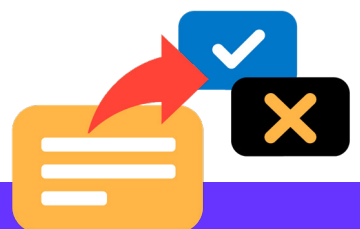
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-
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Does the image's source tell you it's real or AI-generated?

Conclusion

Write a short summary that explains what you found and whether the image is real or AI-generated.

Example: This image is AI-generated. The scenario is unlikely, and the image does not look realistic. It comes from an article titled 'AI Photos of Celebrities with Normal Jobs' from the website BuzzFeed, which confirms this is an AI-generated photo.



Fact-checking AI

Names:



Multi-Oscar-winner Morgan Freeman takes part-time job to pay off credit card debt

Using the above image and headline, complete the steps that you learned to fact-check images.

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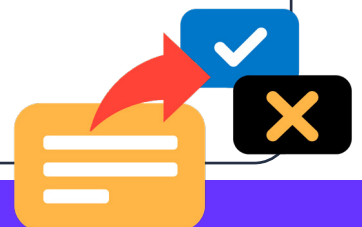
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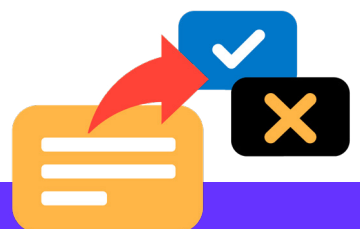
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Fact-checking AI

Names:



Prince William and Prince Harry reconcile on anniversary of Diana's death

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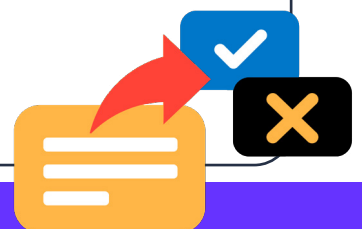
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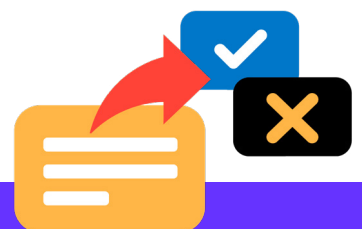
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Fact-checking AI

Names:



French farmers take over Paris with hay bale protest

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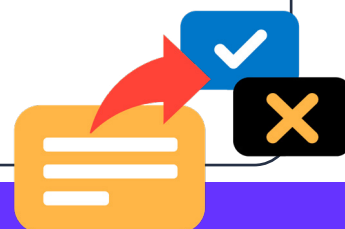
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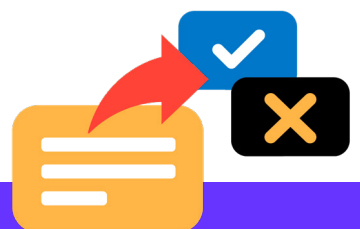
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Fact-checking AI

Names:



'Male' hippo in Japan zoo found to be female after 7 years

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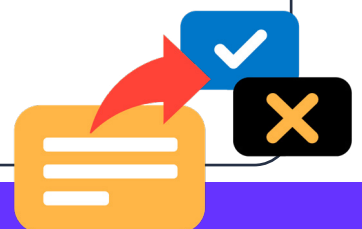
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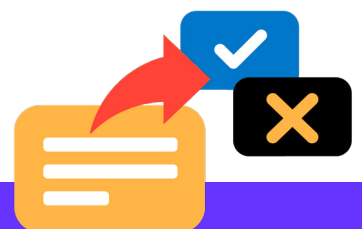
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Fact-checking AI

Names:



Bears take a ride on swan pedalo at Woburn Safari Park

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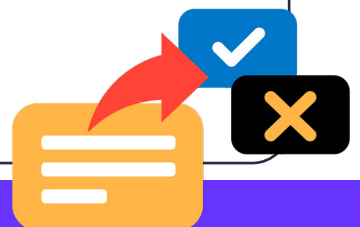
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