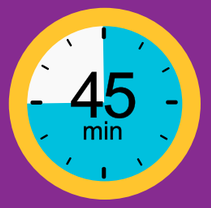
Spotting Artificial Intelligence (AI) Images



This lesson can take up to 45 minutes. It can be broken down into smaller lessons or extended as required.

Ages 7-9

The lesson has been designed for learners aged 7-9. The “checkpoints” offer differentiation strategies to scale learning as required.

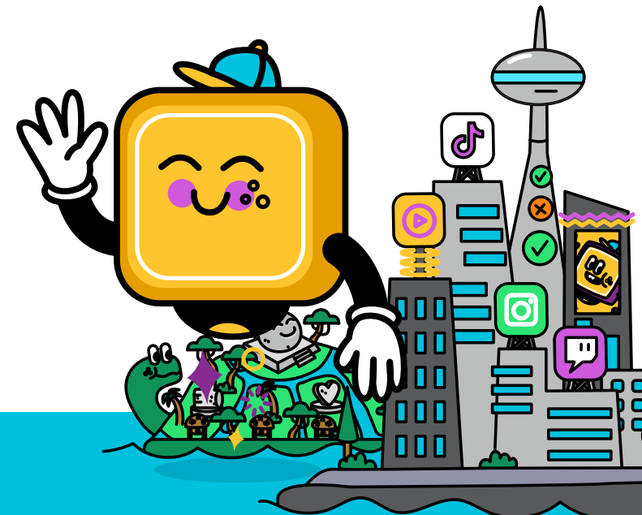
eSmart DIGITAL LICENCE

Join us on the quest!

This lesson is part of the eSmart Digital Licence program

By completing just four engaging lessons, including this one, your class can earn their eSmart Digital Licences—signalling their understanding of safe and responsible online behaviour. Start now and guide your learners toward becoming confident and positive digital citizens.

Learn more about the program
be.esmart.org.au/dl/overview



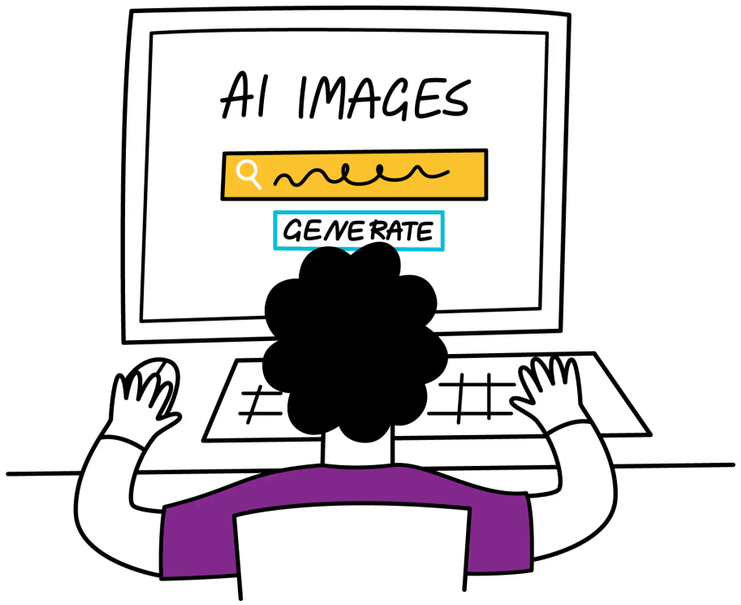
About this lesson

Overview

Students will learn important media literacy skills in distinguishing between AI-generated and human created media, and create their own AI images using digital tools. This activity not only equips students with essential digital skills but also inspires them to think critically about the media they consume.

This activity is relevant for:

- Introducing students to core media and digital literacy concepts, such as critical thinking and content production.
- Students who enjoy creative activities and would benefit from either technology or traditional arts to express themselves.



Activity setup

Download and distribute the "Student Activity Pack" from the Resources section. It can be printed and given to students as a hard copy, or distributed digitally via Google Classroom or similar.

Download the "Educator Tip Sheet" from the Resources section, to help support discussion with students and extend subject matter expertise.

For the “AI image creation” component of this activity, students will need access to computers with internet. This part of the activity can be completed at home, or in an ICT classroom or similar. If the latter method is chosen, students will also require access to a free AI Image Generator site; it is possible that this will need to be whitelisted by your IT department ahead of time.

Recommendations include:

- Canva: Canva can be used to generate AI images, as well as to design and annotate them. Students will need a login to use the program, usually with a school email address.
- Microsoft Free AI Image Generator: Microsoft offers a free tool for generating AI images with a text prompt. The image will need to be saved, copied and pasted into Word, PowerPoint, or printed in order to complete the annotation part of the activity.

Learning intentions & success criteria

By completing this activity, our class intends to:

- Discuss the meaning and ethical implications of AI generated images.
- Identify common elements of AI generated images.

Lesson instructions

1 Spot the AI image

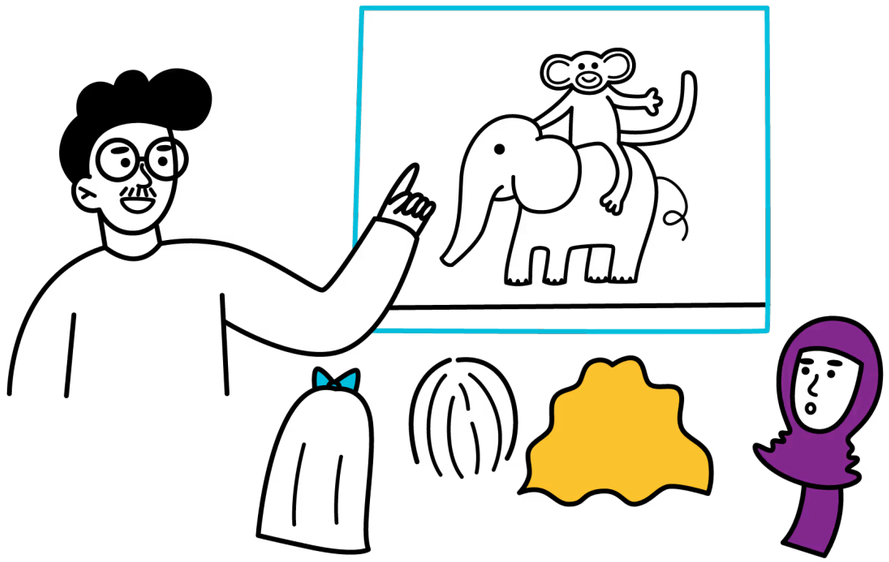
The first activity encourages a discussion of Artificial Intelligence (AI), and how it can be used to create images.

Discuss with students what they know about AI and how it creates images, and refine understanding as necessary using information from the "Educator Tip Sheet".

The following activity asks students to guess whether an image has been created by AI, and to come up with reasons to support their answer.

Discussion prompts include:

- What clues helped you to identify that it was AI-generated?
- Was it difficult to spot? Did the answers surprise you?
- Why does it matter if an image is AI-generated or not?



2 Create an AI image

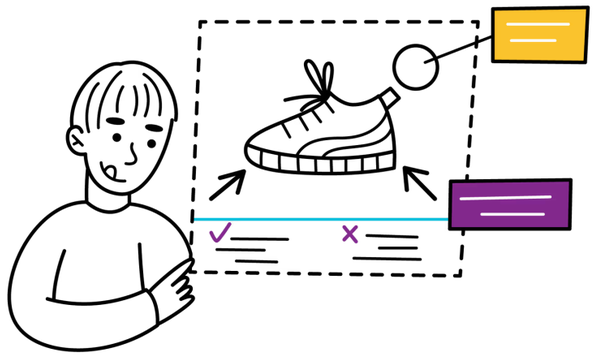
Note: Full instructions and a checklist for students is provided in the "Student Activity Pack".

Direct students to create and/or manipulate an AI image using one of the suggested tools (or similar) in the Activity Setup. You may wish to model an attempt to generate an AI image using this platform prior to starting the activity.

When students have created their AI image, direct them to save, or copy and paste into a document that will allow them to add text boxes, arrows, and annotations towards the image. The image can also be printed and pasted onto project paper, for an offline version of the activity.

Students should write at least three annotations, with arrows that point to or highlight the “clue” in the image. Students should then explain how that element signals that the image is AI generated.

An extension question is provided for this task, which asks: Write 2-3 sentences at the bottom of your work explaining how other images that are not made by AI can still be manipulated, edited, or changed.

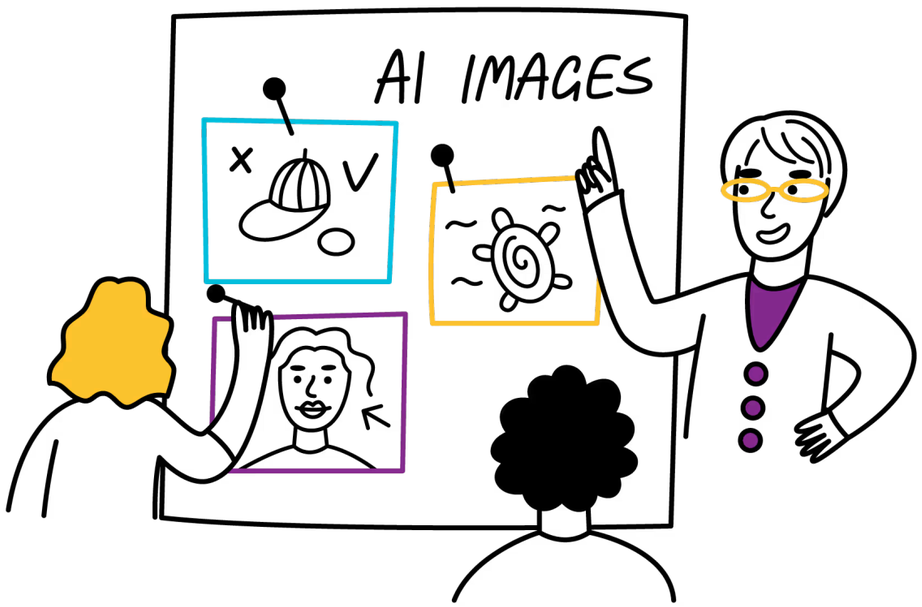


3

Exit pass

Consider displaying the AI images and annotations in the classroom. Together, they should form a group of tips and tricks for spotting AI images.

Ask students to return to the Exit Pass in the “Student Activity Pack”. In particular, they will be asked: How did you feel about using these tools? And, what is one thing you have learned about images that you find on the internet?



Aligned curriculum

Australian Curriculum (Version 9.0)

General Capabilities: Digital Literacy

- Plan (Level 3): Use familiar digital tools to develop and follow a basic plan to complete a task.
- Create, communicate and collaborate (Level 3): Use the core features of a range of digital tools to create content and communicate and collaborate with peers and trusted adults.
- Manage content (Level 3): Save and retrieve content in agreed locations with an appropriate name.
- Select and operate tools (Level 3): Select and use a range of digital tools to complete tasks. Attempt to solve a problem individually and with peers before seeking help.

Years 3 and 4: Digital Technologies

- AC9TDI4P06: Use the core features of common digital tools to create, locate and communicate content, following agreed conventions.
- AC9TDI4P07: Use the core features of common digital tools to share content, plan tasks, and collaborate, following agreed behaviours, supported by trusted adults.

My Time, Our Place

Outcome 1: Children have a strong sense of identity.

Children develop their emerging autonomy, inter-dependence, resilience and sense of agency.

This is evident when children:

- Identify key signs of manipulation to the image or identity of another person.
- Independently use technology to solve a problem or complete a task.

CASEL Framework

Responsible decision-making: The abilities to make caring and constructive choices about personal behaviour and social interactions across diverse situations. For example:

- Learning how to make a reasoned judgment after analysing information, data, and facts.
- Recognising how critical thinking skills are useful both inside and outside of school.

Tips for Educators

Answer Key and Considerations

How are AI images created?

AI generates images by learning from a huge number of examples, understanding requests, and then using its knowledge to draw a new picture. Here's a simple breakdown of the process:

1. Training the AI
First, the AI needs to learn how to draw. This is done by showing it millions of pictures along with descriptions of those pictures. For example, it might see thousands of pictures of cats and learn that "cat" means a furry animal with whiskers and a tail.

2. Understanding the Request
When you ask the AI to create an image, it takes your description and tries to understand what you want. This is similar to how the artist listens to your request carefully before starting to draw. The AI breaks down your description into key elements it has learned, like colours, shapes, and objects.

3. Generating the Image
The AI then uses what it learned during training to create a new image. It combines the different elements based on your description to make something new and unique.

4. Fine-Tuning
Sometimes, the first image the AI creates might not be perfect. Feedback can be given to improve the result.

The technology behind this involves complex algorithms and something called neural networks, which are inspired by how our brains work. These neural networks are very good at recognising patterns and making connections between what they've seen, and what they need to create.

There are a number of sites available that generate AI images, but two examples include Canva and Microsoft Free AI Image Generator .

Tips for Educators

Answer Key and Considerations

Answer 1: AI Images Activity

Is this image AI-generated?

Yes. It was created using Canva's "Magic Media" feature. The prompt was: "A teenage boy is playing a game online and is very excited to win". Some telling factors include:

- Eyes and Hands: AI often struggles with fine details like eyes and hands. Look closely at these features for odd shapes, mismatched sizes, or unnatural positioning.
- Inconsistencies: Look for inconsistencies in the image, such as impossible elements that would not appear in real life (i.e., the game controller), unnatural angles, or shadows that don't match the environment.

Answer 2: AI Images Activity

Is this image AI-generated?

Yes. It was created using Canva's "Magic Media" feature. The prompt was: "Three children are playing an online game together using tablet devices. They are happy". This image demonstrates that it can sometimes be impossible at-a-glance to determine AI images from human-generated illustrations. In these instances, it is important to:

- Look for attributions: Look for attributions to see if an image is AI or human-made, and question if such attributions can't be found.
- Check metadata: The metadata of the file might indicate the use of AI tools or software, providing clues that the illustration was AI-generated.
- Consider ethics: The use of AI-generated illustrations could impact job opportunities for human artists. There is also a risk that the value of human-created art could be undermined if AI-generated illustrations become prevalent.

Tips for Educators

Answer Key and Considerations

Answer 3: AI Images Activity

Is this image AI-generated?

Yes. It was created using Canva's AI image creation tool. The prompt was "A mini cockapoo puppy that is inside with low-level lighting". Some telling factors include:

- Strange Textures and Colors: AI-generated images sometimes have odd textures or colors that don't quite match the real world. For example, the fur on an animal might look too smooth or the sky might have an unusual gradient.
- Too Perfect: AI-generated images can sometimes look too perfect, with flawless skin, perfect lighting, and no imperfections.

Answer 4: AI Images Activity

Is this image AI-generated?

No. This is a stock image that was found in response to a search ("silly puppy"). Even though it is not AI-generated, however, it is useful to discuss with students these ideas:

- The image is still framed and cropped a certain way, and taken at a particular moment in time - it is not necessarily a "real" representation. I.e., maybe the dog is usually grumpy in real life, rather than happy.
- The photographer may have edited and enhanced using filters, colour-correction techniques, or image-manipulation software (such as Photoshop).

Other ways to spot AI images

- AI Detectors: There are online tools and software designed to detect AI-generated images. These tools analyse the image for telltale signs that it was created by AI.
- Reverse Image Search: Use a reverse image search to see if the image appears elsewhere on the internet. This can help identify if the image has been flagged as AI-generated or if it's a manipulated version of a real photo.

Activity Sheet

Can you spot the AI?

Instructions

Are the following images created by AI? Give your verdict, and explain your answer.

Do you think this image has been created by AI?

Why or why not?

Do you think this image has been created by AI?

Why or why not?

Activity Sheet

Can you spot the AI?

Do you think this image has been created by AI?

Why or why not?

Do you think this image has been created by AI?

Why or why not?

Extension question

Write down one positive and one negative point about being able to generate images using AI.

Activity Checklist

Create AI Images

Instructions

- Generate an AI image using a prompt. When accessing an AI site or platform, make sure you closely follow the instructions set out by your educator. ☐
- Paste the image onto a larger sheet of paper, with room around the image to write annotations. ☐
- Find at least three "clues" in the image that show it is made by AI. ☐
- Write annotations around the image that point to these clues, and explain how they show the image is made by AI. ☐
- Extension task: Write 2-3 sentences at the bottom of your work explaining how other images that are not made by AI can still be manipulated, edited, or changed. ☐

Exit Pass

Write an answer to the following questions.

How did you feel about using these tools?

_____

_____

What is one thing you have learned about images that you find on the internet?

_____