TEACHER GUIDE

Artificial Intelligence (AI) in Action

Overview

The Artificial Intelligence in Action resources help showcase how Artificial Intelligence (AI) is transforming the way we work, socialise and provide services across the globe. While AI has been around for decades, recent advances in how AI systems work has resulted in increases in the capability and complexity of AI available to all.

Developing an understanding of the strengths and limitations of AI is critical to ensuring responsible and equitable use. While there is great potential of AI to improve our everyday lives and society, but there is no guarantee that it will continue to do so. Ultimately it will be people who ensure that AI is developed and used in a way that is positive and beneficial for all.

CSIRO Education & Outreach and Data 61 have collaborated to create a collection of classroom resources to support the exploration of responsible and ethical AI for students in Years 5 to 8. The resources include classroom presentations, student activities and a teacher guide.

To extend your background knowledge prior to utilising these resources you can review the included Background Note section, starting on page 7.

Included Content

Understanding AI classroom presentation, including the following activities:

- understanding AI question time
- understanding AI in 4 minutes video
- AI in everyday lives
- using AI activity (Google Quick, Draw).

Responsible AI classroom presentation, including the following activities:

- understanding AI in 4 minutes video
- responsible AI opinion line activity
- developing Responsible AI worksheet
- AI Ethics Framework activity.

AI in Action

Resource Objectives

The purpose of these resources is to begin a conversation about what AI is and how it should be ethically and responsibly used. Content is split across two sections; Understanding AI and Responsible AI. The included activities are designed to support the development of student understanding, collaborative reflection and critical thinking. Students can explore and share personal opinions about the use of AI and work together on tasks. They can suggest ways AI could solve a problem or issue relevant to them. Or, they could create a set of guidelines for future use of AI in the classroom or school community.

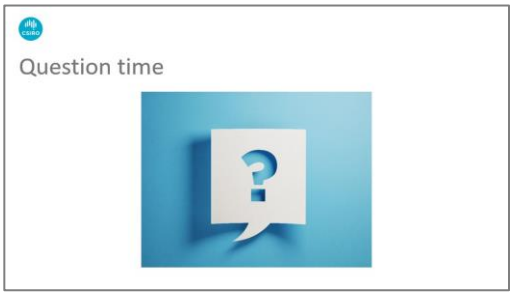
Lesson Structure and Timing

A range of activities are included within the two classroom presentations (Understanding AI and Responsible AI). The presentations can be used as individual lesson activities, with the timings of activities broken up to align with individual school lesson structures. It is suggested that a double or extended length lesson will provide maximum opportunity for related discussions and activities.

Alternatively, you may choose to use the included activities as stand-alone sessions within a longer subject topic that focus on the development and use of AI. Suggested timings and instruction information for each activity is provided on the following pages. Additional information can be found in the presenter notes of the relevant presentation. As noted, you may elect to adapt the timings to suit your classroom setting.

AI in Action

Activity Overview – Understanding AI



Understanding AI Question Time (10 mins)

Select from the question options to lead a general class discussion or hold a mini debate. You may choose to add your own question options. Slides containing the questions are available in Understanding AI presentation – Slides 7-11.

Provided questions include:

- Are human skills like imagination and emotions important to decision-making?
- Are there problem-solving situations where logic and relationships between facts are the only things that matter?
- AI can create art does this count as imagination? Why? Why not?
- What are two things AI systems need to work?
- When did AI become a widely available tool?

Understand AI in 4 minutes video (8 mins)

In this short video the CSIRO team help shed light on the science behind the AI-driven apps and programs we use every day. You can watch the video as a class group or share the link with students to watch individually. The video has been embedded in the presentation. Or you can find the video on YouTube via the following link: https://www.youtube.com/watch?v=5mHxO2JpCR0

AI in Action

Activity Overview – Understanding AI continued

AI in Everyday Lives (20 mins)

Group activity

Split students into pairs or small groups. Have students write examples of AI on Post-It notes (5-10 minutes). Explain that the class will come back together and share their findings through a group discussion. Prompt questions to support student discussions can be found in the presenter notes in Understanding AI presentation – slide 21.

Summary Activity

Have student's group their answers into the categories shown on the slide. You can add more categories if students have different suggestions, or if new categories are becoming clear from student responses.

Using AI – Google Quick, Draw (10 mins)

Allocate a set amount of time for students to try out Google Quick Draw.

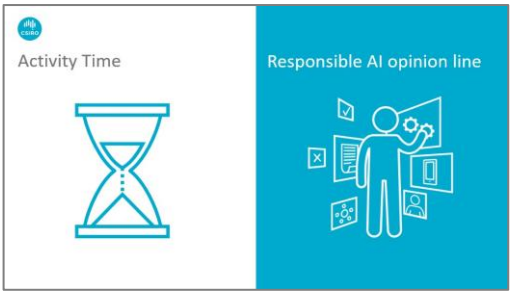
You can use the main classroom screen and have students come up to take turns. Or you could allow students to use individual devices and try the program for a set amount of time (5 mins). The program will allocate items for students to draw at random. You could ask students to keep track of what they have drawn to help with the summary discussion. Find a link to the site and discussion notes in Understanding AI presentation – slides 23 and 24.

AI in Action

Activity Overview – Responsible AI

Understand AI in 4 minute video (8 mins)

In this short video the CSIRO team help shed light on the science behind the AI-driven apps and programs we use every day. You can watch the video as a class group or share the link with students to watch individually. The video has been embedded in the presentation. Or you can find the video on YouTube via the following link: https://www.youtube.com/watch?v=5mHxO2JpCR0

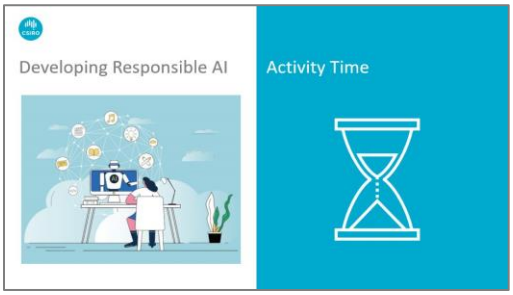


Responsible AI opinion line (10 mins)

Create a real or imagined line on the ground, from one side of the classroom (or another large flat area) to the other. Explain to students that you will read a set of statements to them. Indicate that one side of the line is strongly agree, and the other side of the line is strongly disagree. Make it clear to students that they can stand anywhere on the line depending on how strongly they agree/disagree with a given statement. Read out the statements one at a time. After students have organised themselves for each statement, ask one or two students to explain their thinking. Highlight that there are different answers and explain that these are tricky situations. These responses might sometimes come with caveats or conditions.

AI in Action

Activity Overview – Responsible AI continued



Developing Responsible AI (10 mins)

Students can undertake the activity linked with the Developing Responsible AI worksheet.
Students can work individually or in pairs.
Ask students to choose a problem or issue that they feel passionate about. Students will then use the prompts on the provided worksheet to complete the task. Students can share their ideas and solutions in small groups or as a whole class. Completed worksheets could be displayed around the classroom or used as the basis for a longer project task.

Class Activity – Your Turn (30 -40 mins including sharing time)

Working in pairs or small groups, students create their own set of AI guidelines.
They can be general, focused to one area, or be a use-case scenario for a specific AI. You may wish to start the discussion on the selected topic as a whole class to give students an opportunity to bounce ideas off one another. Alternatively, you could have small groups work on different topics for their frameworks. Students can then come together to discuss during the sharing activity. Framework Topic suggestions listed in slide presenter notes (Responsible AI – Slide 22).

AI in Action

Presenter Background Notes

What is AI?

Artificial Intelligence (AI) is a set of technologies that solve problems autonomously and perform tasks without direct human guidance. While AI has existed for decades, advancements in its underlying technologies have greatly increased its complexity and everyday use. To learn more, explore resources like CSIRO's Everyday AI podcast, the United Nations' Generative AI Primer, or the Digital Technologies Hub.

Ethical and Responsible AI

AI is transforming how we work, socialise, and deliver services, offering great potential but no guarantees of societal benefit. Ethical AI development relies on people ensuring its positive impact and alignment with sound principles. Australia's human rights agreements shape laws guiding ethical AI use. Fairness is a key challenge as AI systems rely on mathematical definitions to approximate complex human concepts. Decisions made by AI may be contested, making it critical to hold humans accountable for high-stakes decisions.

AI Ethics Framework

CSIRO created one of Australia's first AI ethics frameworks, emphasising that technology should serve human interests and align with human values. The framework's eight core principles evaluate potential AI projects and formed the basis for the Department of Industry, Science and Resources AI Ethics Principles and the Australian Framework for Generative AI in Schools. Ethical AI requires ongoing review, as existing laws and principles must adapt to new technologies. CSIRO also provides a toolkit to assess AI risks and compliance.