

AUSTRALIA

Educator Guide

DAYOFAIAUSTRALIA.COM

Overview

Day of AI is a complete unit of work consisting of five sequenced lessons. Each lesson consists of a set of presentation slides, teacher- and student-led activities and discussions, as well as hands-on AI tools that students can engage with. In addition, students can apply their knowledge, skills and creativity to solve a real-world problem in our Student Challenge, for their chance to win some great prizes.

RATIONALE

Artificial Intelligence (AI) encompasses a range of complex technologies that have already had a considerable impact on the world around us. It is something that affects and will increasingly impact our lives daily, in Australia and around the world.

A basic literacy of AI – what it is, how it works, its ethical implications and its impact on society – is an essential part of a modern education for all young Australians. Day of AI is designed to spark students' curiosity about AI and to encourage them to understand the technology at a high level, and develop the skills that will be critical to the future.

AIMS

Day of AI's curriculum aims to ensure that students:

- Develop an understanding of what Artificial Intelligence (AI) is
- Explore and interact with AI systems in a safe and responsible manner
- Understand how algorithms are used to process data into predictions
- Explore data and its many forms, including images, sound and text
- Learn how machines require curated datasets to learn, or gain intelligence
- Consider modern examples of generative AI technology, and explore its implications
- Reflect on ethical considerations relating to AI, including bias and responsible use
- Discover how AI is impacting a wide range of industries today

CURRICULUM ALIGNMENT

Day of AI is aligned to the [Australian Curriculum \(Version 9\)](#) developed by the [Australian Curriculum, Assessment and Reporting Authority \(ACARA\)](#) across a number of dimensions.

Artificial Intelligence (AI) Curriculum Connection

Day of AI aligns with the [Artificial Intelligence \(AI\) curriculum connection](#)'s stated purpose to:

- Develop student understanding of concepts associated with AI systems and the responsible use of AI; and
- Encourage students and teachers to critically evaluate the broader impact of AI on society and reflect on ethical considerations

Day of AI also aligns directly with the key aspects of the AI curriculum connection:

Understanding how AI works

Students develop knowledge of how concepts associated with pattern recognition, chance, data and algorithms are applied to train AI through machine learning to produce an output or result, and how the quality of the training data impacts on the quality, reliability and bias of the output.

Types of AI (digital tools and AI systems)

Students explore how AI systems can be used to perform tasks or solve problems using predictive strategies based on large amounts of data, operated by machine learning and predictive algorithms such as those used in autonomous vehicles, robotic systems and generative AI platforms. They build awareness and assess if a digital tool includes AI in its design and function.

Responsible use and application of AI

Students consider their needs and those of others when acquiring data for purposes such as data associated with machine learning algorithms used in training applications for AI systems. They learn about ethical considerations relating to the use of AI, such as job displacement, economic and environmental sustainability, and the need for diverse representation in AI design and development to address issues of bias.

Learning Areas

Day of AI lessons cover a range of content descriptors across the Mathematics and Digital Technologies learning areas. Please refer to individual lesson plans, [available on our LMS](#) once logged in, for links to specific content descriptors. See band level learning summaries below.

Years 5 and 6

Students have the opportunity to consider the impact of AI systems from multiple perspectives as users or designers of AI. They explore the output of various AI systems and use critical thinking and research techniques to evaluate the response of chatbots to different types of questions and prompts. Students investigate bias and fairness in relation to outcomes and discuss how this might inform strategies for mitigating bias in AI systems.

Years 7 and 8

Students evaluate the advantages and disadvantages of AI. They consider society and ethics, and economic, environmental and social sustainability factors. Students consider the design and purpose of AI systems and investigate how AI agents make decisions relating to sampling techniques, recognising the need to mitigate any potential bias. They explore how generative AI systems can be used to generate synthetic data that closely resembles the distribution of real data from primary sources. Students decompose real-world problems and consider the role of AI as a designed solution.

Years 9 and 10

Students use their computational thinking skills and digital tools including generative AI to decompose real-world problems and critically evaluate alternative solutions against stakeholder elicited user stories. Students have opportunities to recognise how the identification of bias is a critical aspect of machine learning and deep learning, and how biases significantly impact the fairness, accuracy and ethical implications of AI systems.

General Capabilities

Day of AI provides opportunities for students to develop the following general capabilities:

Digital Literacy

Students have multiple opportunities to use digital AI tools and learn about the context and purposes of using AI systems and applications, and consider their use as types of digital tools. Students also consider the intellectual property implications, originality and ownership of content created with AI, and obligations concerning attribution of existing authors whose work may have been included in an AI data set, with or without permission, or used as training data. In our Student Challenge, students create AI as a designed solution to tackle sustainability and climate change.

Ethical Understanding

Students investigate and make decisions about the ethical use and application of AI in real-world situations. Students consider bias and consider how different stakeholder perspectives may influence decision-making processes. Students also explore intentional and accidental errors or distortions in AI-generated media, and question the validity in propositions and inferences.

Critical and Creative Thinking

Students learn about and critically reflect on generative AI including large language models (LLMs) by identifying, processing and evaluating information that is returned as output from AI systems and interrogating the returned responses for bias and reliability. Students also explore the use of AI for generating and connecting ideas or generating alternative solutions to problems.

Personal and Social Capability

Students have multiple opportunities to develop empathy and build respect for the needs and concerns of others and their perspectives.

Cross-Curriculum Priorities

Sustainability

In our Student Challenge, students will apply the concepts learned throughout previous lessons by developing an idea for their own AI technology project that tackles climate change, environmental issues like air pollution and deforestation, or helps improve sustainability in communities in Australia or around the world.

USE OF AI TOOLS

In our lesson materials, we make use of a number of AI tools to create practical, hands-on activities that are engaging for students. We have reviewed and measured each of these tools against relevant policies such as the [Australian Framework for Generative Artificial Intelligence \(AI\) in Schools](#).

You can find links to the AI tools we use in each lesson plan, as well as on [our helpful tech sheet](#) resource which you can share with your IT team to ensure students can access the tools during your classes.

USE OF CHATGPT IN LESSON 3

Lesson 3: How do Machines Create Things? features an activity where you will facilitate an interactive session and guided discussion using ChatGPT. We have purposefully designed this activity as a teacher-led demonstration and guided discussion for two main reasons: 1) to ensure the safe and responsible use of ChatGPT in line with the [Australian Framework for Generative Artificial Intelligence \(AI\) in Schools](#), and 2) to ensure compliance with [OpenAI's terms of use for ChatGPT](#), which requires people to be **“at least 13 years old to consent to use the Services.”**

PLEASE NOTE:

- As of the 1st of April 2024, [ChatGPT no longer requires an account to use](#). You may still be prompted to login, but you can choose to continue without doing so.
- [OpenAI's Terms of Use](#) still apply, meaning students under 13 cannot use the service, and students under 18 require permission from a legal parent or guardian to use the service.
- Data which you provide to ChatGPT via the text prompt interface may be used in training the AI in future. You can opt-out of this behaviour by [following these instructions](#).
- Take care not to include and personally identifying information (PII) about you or your students in your input prompts to ChatGPT, to ensure compliance with the [Privacy Act 1988](#) and other relevant legislation in your state or territory.

As a responsible adult, you can safely guide students through conversations with ChatGPT, taking input from students only as you deem appropriate. We strongly encourage you to pause often during this activity to allow students to ask questions, and give them an opportunity to share their thoughts and feelings around large language models like ChatGPT. Some students may need additional time to reflect on the implications of the technology. If you feel the need, re-emphasise that ChatGPT (and other generative AI models like it) are simply a tool, one that can be used responsibly like any other tool.

LESSON STREAMING

Our program is divided into two streams, labelled 'Junior' and 'Senior'. We have deliberately used these terms, rather than year levels, to describe the lessons in order to provide flexibility to teachers in how they can be used. Our recommendation is that Junior correlates to Years 5 and 6, and Senior correlates to Years 7 to 10.

However, it is entirely up to you as the teacher to decide which lesson is appropriate for your students. There is no content in either stream that presents a barrier for any age group. Please feel free to use whichever version of the lesson that is most appropriate for your students. Lessons 1-3 are the same for both streams. Lesson 4 has both a Junior and a Senior version, and Lesson 5 has a Senior version only and is optional for those in the Junior stream.

REQUIREMENTS

- A web browser, e.g. Google Chrome or Microsoft Edge
- Internet access
- A way to project presentation slides (e.g. projector, smartboard, TV) and speakers
- Whiteboard, blackboard, or chart paper
- Chromebooks, laptops, or desktop PCs with a functional webcam
 - One device per two students is recommended

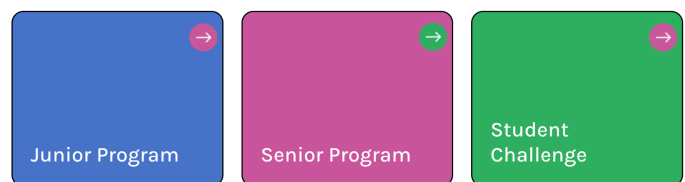
PROGRAM RESOURCES

THE LESSONS

Day of AI is available via our website dayofaiaustralia.com

To access these lessons in our Learning Management System (LMS) you will need to register as a Teacher or Principal for 2024 [here](#).

The 2024 Program



TEACHER SUPPORT

Support is available to all educators. You can:

- Watch the teacher support videos on [YouTube](#) or through the LMS
- Access the FAQ and additional resources on our website
- Contact support at hello@dayofaiaustralia.com

Visit dayofaiaustralia.com/teachers to access these resources.

NEXT STEPS

After completing the Day of AI program, students may wish to continue their learning journey to discover more about AI and other areas of STEM. We have collated a range of opportunities for

teachers, parents and students to extend their learning, develop new skills, and connect with like-minded peers through other school programs, advice from key organisations in Australia and taking part in other challenges, competitions, excursions and holiday programs. Find out more by visiting our website at dayofai.com.au/additional-resources.

LESSON PLAN OUTLINE

Available **once you have registered for 2024**, you will have access to the programs. Each program is divided into lessons, with a lesson plan provided for each one. Here is an outline of the lessons and plans available.

<u>Lesson 1: What is Artificial Intelligence? 45 mins</u>	<u>ALL YEARS</u>
<u>Lesson 2: How do Machines Learn? 45 mins</u>	<u>ALL YEARS</u>
<u>Lesson 3: How do Machines Create Things? 60 mins</u>	<u>ALL YEARS</u>
<u>Lesson 4: Ethics and the Responsible Use of AI 60 mins</u>	<u>JUNIOR PROGRAM</u>
<u>Lesson 4: Ethics and the Misinformation in AI 60 mins</u>	<u>SENIOR PROGRAM</u>
<u>Lesson 5: AI in Different Careers and Industries 60 mins</u>	<u>SENIOR PROGRAM</u>
<u>Student Challenge: Using AI to Tackle Sustainability 45 mins</u>	<u>JUNIOR</u>
<u>Student Challenge: Using AI to Tackle Sustainability & Climate Change 45 mins</u>	<u>SENIOR</u>