

What is AI?

KS2-3: Introducing Artificial Intelligence



Introducing Artificial Intelligence

This lesson, designed with The Alan Turing Institute, can be used with either upper key stage 2 pupils (in years 5-6) or key stage 3 students (in years 7-9).

The lesson introduces learning about artificial intelligence (AI), how it is used in daily life, and some of the benefits and challenges of using AI. The lesson includes stimuli for pupils to participate in a competition with The Alan Turing Institute, to win places for them and their peers at the first ever Children's Summit on AI (please see the Teacher Guidance for more details on how to enter).

Learning objective

To learn about what artificial intelligence (AI) is and how it is used in our daily lives.

Learning outcomes

Pupils will be able to:

- identify what AI is and how it is used in daily life
- explain how AI systems work and affect people's lives
- evaluate potential challenges of AI becoming part of daily life

Climate for learning

Make sure you have read the accompanying teacher guidance notes before teaching this lesson. These include guidance on creating a safe learning environment, curriculum links and details of the Children's AI Summit.

Resources required

- Box or envelope for questions
- Resource 1: *Overheard conversation* [1 per pair]
- Resource 2: *Challenges card sort* [1 per group]
- Resource 2a: *Benefits card sort* [as required, 1 per group]

Key words

artificial

intelligence

data

generate

predict

recommend

Baseline assessment

Baseline assessment activity (Slides 8–9, 10 mins)

Revisit or establish ground rules with the class, using slide 8. Remind pupils of the question box, and that they can submit questions at any time throughout the lesson, either anonymously or with their name.

Show slide 9 and explain that some children are talking about AI, and what they think AI means. Give pairs **Resource 1: Overheard conversation** and ask them to read the children's different ideas.

Together, they should discuss:

- Do you agree with what any of the children are saying?
- Have any of the children made a mistake?
- What is AI and where is it used in our daily lives?

Ask them to leave the final bubble empty for now (as they will come back to this at the end of the lesson). Take feedback from pairs, noting existing knowledge and any gaps in understanding. Plan to address these throughout the lesson, for example by spending more time on specific activities or through tailored questioning.

Introduction (Slides 10–13, 5 mins)

Introduce the learning objective and outcomes using slide 10. Explain that today's lesson will help them understand what AI is, how it is used in our daily lives, and what this means for the future.

Use slide 11 to give a brief definition of artificial intelligence (AI). Explain that Artificial Intelligence allows computer systems to be trained on data and predict patterns. For example, AI systems could be trained on data about how many people visit certain shops each month. By finding patterns in this data, AI can predict which shops and areas will be busy. Emphasise that though AI does stand for 'Artificial Intelligence', the word intelligence is a bit misleading because AI does not think for itself.

Using slide 12, explain that AI needs data in order to work. Emphasise that some data is personal – this means it can be used to identify an individual (for example, name, date of birth or photograph). Next, use slide 13 to briefly highlight some of the things that AI can do.

Core activities

Where is AI? (Slides 14–15, 10 mins)

In groups of four, ask pupils to mind-map examples of where AI is used in our daily lives. Challenge groups to try to name up to 10 different ways they might encounter AI. They could also try to identify different types of AI tools (for example, AI that makes predictions, classifications, generative AI etc).

Take feedback, identifying some of the common ways or places where AI might be encountered by children and young people, for example:

- *Film recommendations when viewing online (e.g. “If you watched this, you might like...”). Streaming services recommend what people might be interested in watching based on what they have viewed already*
- *When using search engines on the internet – AI can answer questions and find information people search for*
- *Chatbots on some websites or social media apps*
- *Smart devices at home (e.g. a smart fridge, heating solutions or voice-automated assistants)*
- *Autocorrect and predictive text programmes on phones or tablets*
- *Some computer games, where AI might be used to make realistic characters and backgrounds*
- *Facial recognition technology is a type of AI that is sometimes used for security to access a phone, device or app*

Make sure you take this opportunity challenge any misconceptions that pupils share on what AI is. However, be sure not to introduce these misconceptions and let them arise from pupils themselves. For example, pupils should recognise that AI is not just robots, and it is not the wires, hardware or tangible parts of a computer system. Some pupils may think that anything automated is AI – for example, ticket barriers at train stations – but automated technology is also not the same as AI.

Next, share some wider uses of AI, as shown on slide 15. For example:

- in health care – AI can be used to look at lots of information about different illnesses and find patterns to help understand why people become ill and what treatment might help them
- in the environment – AI is being used to help monitor endangered species and predict extreme weather events.



Support: If groups are struggling to identify examples, click to show the animations on slide 14, which give visual prompts of different places where children might experience AI.



Challenge: Encourage pupils to think about why AI has become part of our daily lives.

For example, pupils might say: it makes life easier, for fun, it saves humans time and effort, it makes technology function better.

How does AI work? (Slides 16-20, 10 mins)

Ask pupils to imagine that an AI system that makes recommendations is going to be used to help design a new school. (Emphasise that making recommendations is just one of the things AI can do – and other AI systems might do different things, as discussed in the introduction). Use slide 16 to explain that this AI research tool has been trained on data about what currently happens in schools all over the United Kingdom. The AI system will use this existing data to output a series of recommendations.

Show slide 17 and ask, “**What should be in the playground?**” give pupils a minute to discuss in pairs which of the options they would like the most.

Then click to reveal the data that AI has gathered and ask, “What will the AI system most likely recommend for the playground based on the data?” (*pupils should identify this will be a football pitch*).

Show slide 18 and ask, “**What will be served for lunch in the new school?**” give pupils a minute to discuss in pairs which of the options they would like the most.

Then click to reveal the data that AI has gathered and ask, “What will the AI system most likely recommend for lunch based on the data?” (*pupils should identify that this will be beef burgers*).

Show slide 19 and ask, “**What lesson should be taught the most?**” give pupils a minute to discuss in pairs which of the options they would like the most.

Then click to reveal the data that AI has gathered and ask, “What will the AI system most likely recommend for lessons based on the data?” (*pupils should identify this will be maths*).

Ask pupils to reflect on this activity using the questions on slide 20. This discussion should start to highlight that sometimes AI recommendations may not seem fair, or suit everyone, and are only based on data rather than human thinking, so may not always lead to the best result. For example, in recommending a lunch option the AI system did not take into account that pupils might have different dietary requirements, for instance because of their religion, or if they are vegetarian.

What are the benefits and challenges? (Slides 21-22, 10 mins)

Building on the previous activity and still working in their pairs, tell pupils they have three minutes to list as many benefits and challenges of using AI as they can think of. These can be drawn from the previous activity, or any benefits and challenges they are aware of from their own knowledge of AI.

After three minutes, invite feedback from pairs and create a class list. Pupils might suggest:

- **Challenges:** *AI might be biased or make suggestions that aren't always fair, it might take people's jobs, it can make being online more confusing or hard to know what's real, it can make human communication more challenging, it is sometimes based on bad information, it still needs humans to check the suggestions, AI collects lots of information about what people do online – and this can create issues around privacy, the technology used to power AI can use up lots of energy and cause harm to the environment.*
- **Benefits:** *AI can make some work easier, it can help humans to think in new ways, it can summarise lots of information quickly, it can make online experiences more fun, it's recommendations can be helpful, it can be used to help with important issues like healthcare, education and the environment.*

Join pairs back into groups of four and give them **Resource 2: Challenges card sort**. Using slide 22, ask pupils to prioritise the cards into a Diamond 5, placing the challenge they think is the most important at the top, three challenges of mid-concern in the middle row, and the challenge they think is the least important at the bottom.

Circulate between groups as they complete this activity and take note of which challenges groups are most concerned about.



Challenge: Give groups **Resource 2a: Benefits card sort** and ask them to also prioritise five key benefits of AI, based on which they think are most helpful to society.

Competition introduction (Slides 23-24, 5 mins)

Use slide 23 to introduce the Children's AI summit, explaining to pupils what it is and why it is needed. Explain that the first ever Children's summit on the issue of AI will be held in February 2025, and they have a chance to be there!

Children and young people across the UK have a chance to win tickets to present their own ideas about AI at the summit, and this lesson has been helping them to think about what AI means to them. Show slide 24 and explain that, to enter the competition, children and young people are being invited to create:

1. **A message for world leaders:** submit a letter or a short video/audio recording addressed to world leaders to let them know what they should do to make sure that AI is good for children and young people. You can also share your idea of what world leaders need to discuss at the Paris AI Action Summit.
2. **A video or audio pitch:** send a short video/audio recording sharing your idea of how AI could be used to do something great.
3. **An artwork:** create a piece of art showing what AI means to you, or how you want to see AI developed in the future.

Winning entries will be asked to present or showcase their ideas at the summit.

Give pupils a few minutes to think about which option they would like to enter, and to plan out their initial ideas of what they might say, thinking about everything they have learnt in the lesson. Explain they will have an opportunity to complete their entry as an extension / homework activity.

Signposting, reflection and endpoint assessment

Signposting support (Slide 25, 2 mins)

Show slide 25 and remind pupils that if they have any concerns about AI systems, or anything else they have encountered online, they can speak to a trusted adult, such as a parent or carer.

You can also direct pupils to the following websites for more advice and support:

www.childline.org.uk

www.ceopeducation.co.uk/8_10 - for pupils in KS2

www.ceopeducation.co.uk/11_18 - for pupils in KS3

Also highlight where details about the competition and the Children's AI summit can be found here:

www.eventsforce.net/turingevents/389/170339

Personal reflection (Slide 26, 3 mins)

Show slide 26 and invite pupils to quietly reflect on the question: How do you think AI could be used to help people and improve their lives?

As this is a personal reflection question, they do not need to share their ideas with anyone else.

Endpoint assessment (Slide 27, 5 mins)

To demonstrate progress and their learning in this lesson, ask pupils to revisit **Resource 1:**

Overheard conversation from the start of the lesson. Ask them if they can add to or amend any of

their initial ideas about the children's views. Finally ask them to add their own sentence, in the final bubble, to summarise what AI is based on their understanding from today's lesson.

Extension activity

Encourage pupils to complete their creative activity and submit it for a chance to win entry tickets to the first ever Children's AI summit! Details of how to submit entries can be found in the teacher guidance, and also online [here](#).