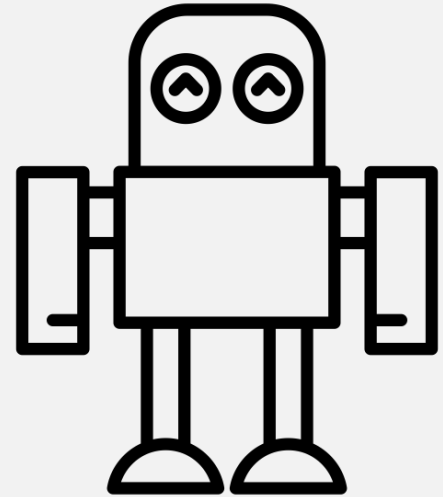


Learn Sheffield RAP AI for Revision

Catherine Elliott
Sarah Hubbard

What is AI & machine learning?

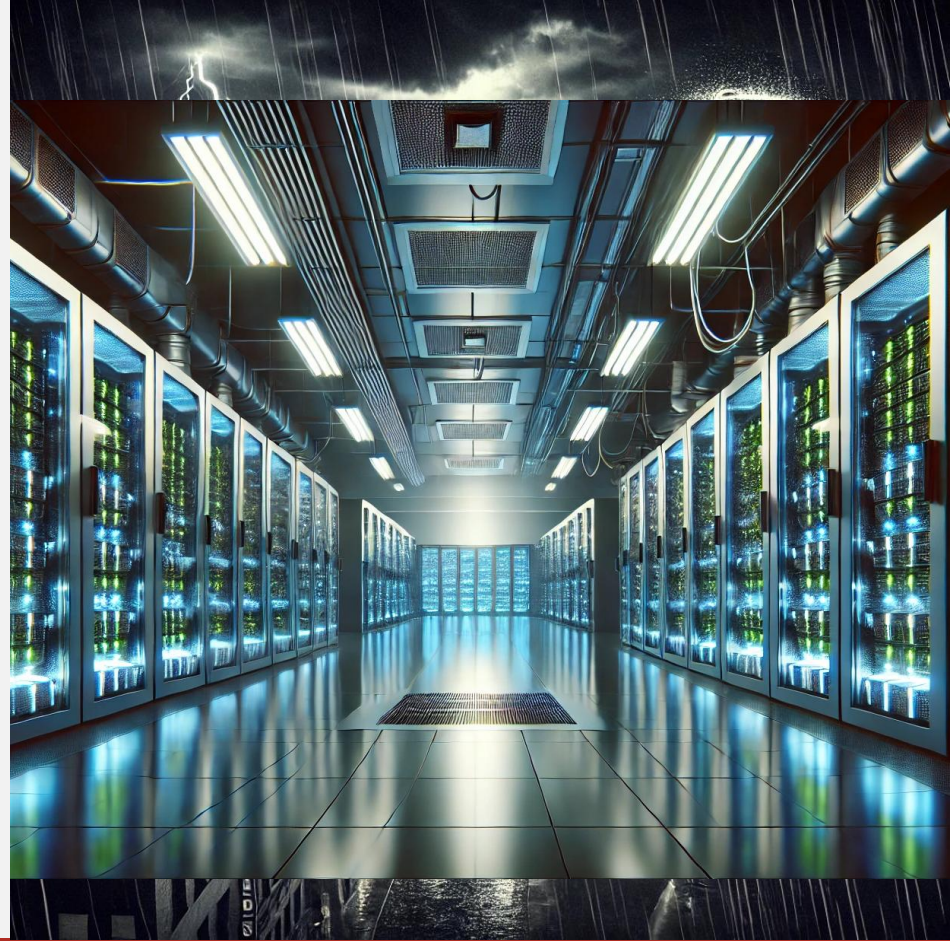


Created by iconcheese
from Noun Project

What is Artificial Intelligence?

Artificial intelligence (AI) refers to computer systems capable of performing complex tasks that historically only a human could do, such as reasoning, making decisions, or solving problems.

<https://www.coursera.org/articles/what-is-artificial-intelligence>



Artificial Intelligence (AI): The ability of computers to perform tasks that usually require human intelligence, like problem-solving or recognising images.

Generative AI (GenAI): A type of AI that creates new content, such as text, images, or music, based on the data it has learned from.

Machine Learning (ML): A method where computers learn from data and improve at tasks without being explicitly programmed.

Large Language Model (LLM): A computer program trained on massive amounts of text to understand and generate human-like language, e.g. ChatGPT.

Prompt: A question or instruction given to an AI to guide its response.

Risks of Generative AI



Risks

- Safeguarding
- GDPR
- Cybersecurity
- Unreliable outputs
- Bias
- Assessment issues
- Environmental impact
- Eroding purpose of education



Acceptable Use*

Draft AUP here:

<https://learnsheffield.co.uk/Projects/Sheffield-AI-in-Education>

1. Do not share any personal or sensitive data with an AI tool, e.g. ChatGPT, Copilot (either directly or as part of another application). Check with the school GDPR policy for more information about personal data.
2. You are responsible for applying professional judgement when checking any outputs from GenAI for accuracy, suitability of purpose and bias.
3. Any concerns about harmful or inappropriate content should be dealt with using the existing online safety and safeguarding systems and policies.
4. A human should always check and verify any decisions made with the assistance of GenAI e.g. shortlisting candidates for interview.

Tool	Risk rating	Comments
ChatGPT	<i>Medium</i>	13+, permission required for <18, sign up required Reinforces stereotypes, engages in unsuitable topics, anything you input is used for training
Gemini (Google)	<i>Low</i>	13+, Google login required Teen-specific protections, activity-saving turned off for teens (adults can turn this off too – data not shown to human reviewers or used for training – however data stored for 72 hours)
Copilot (Microsoft)	<i>Not reviewed</i>	18+, Microsoft login – includes commercial data protection (prompts aren't saved or used to train the LLM) Built on GPT4
Perplexity	<i>High</i>	13+ but no account required Provides references to where information comes from, reinforces stereotypes, often unreliable, can turn off using input for training data

Key over-arching principles

- The 'what' still matters: Why this, why now
- Going with the grain of the discipline rather than the generic
- Deep learning more than superficial structures
- Research on cognitive science still stands: Sweller (cognitive load theory and novice V expert theory), semantic and episodic memory etc.

What AI cannot do

- Application of knowledge, e.g. fieldwork
- Developing tacit knowledge
- Developing deep knowledge of a text

Subjects where AI may need more development

1. Creative Arts (Art, Music, Drama, Dance)
2. Physical Education (PE, Sports Science)
3. Practical and Vocational Subjects (Design & Technology, Woodwork, Engineering workshops, Cooking, Lab-based sciences)
4. Humanities with Deep Subjectivity (Philosophy, Religious Studies, Ethics)
5. Languages (Speaking & Pronunciation)

AI can be used by:

- teachers to help create resources, develop learning sequences, and save time
- pupils to assist them in revision and exam practice and self-assessment/ feedback

But

- Teachers will need to train pupils in how to get the most from AI.
- Educate around safety, data, bias and unreliability.
- This might also be something support staff and learning mentors can do.

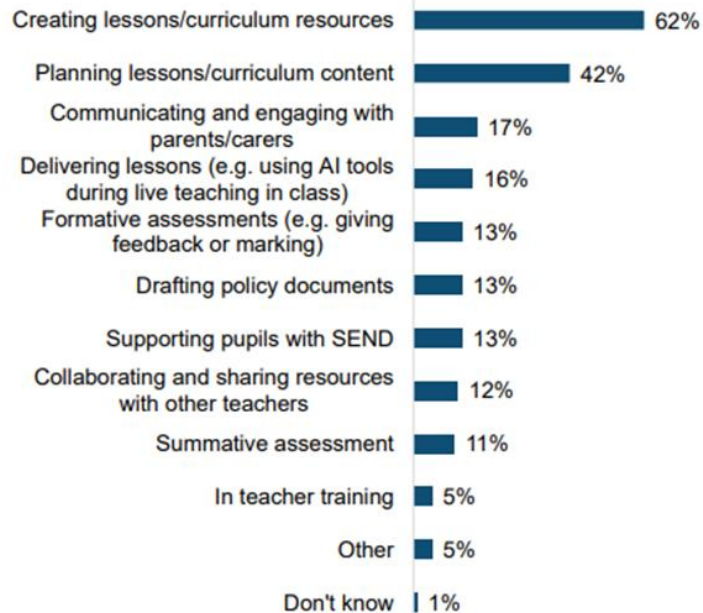
Key government document

Generative AI in education

Educator and expert views

January 2024

Authors: The Open Innovation Team and
Department for Education



AI can support Inclusion

- GenAI benefits EAL students and those with SEND by improving the accessibility of educational content (e.g. tailoring content to a learning level or translating material).
- One educator noted that GenAI was helping ADHD learners overcome the “starting paralysis” they experienced with some tasks.





Using AI to support revision: teachers

Teacher use of AI

- Chatbot
- Podcast
- Model answers
- Mind Maps

Chatbot



Spanish Waiter Roleplay

Session of March 17, 2025

 Invite Students

- Create bespoke chatbots at <https://mizou.com/>
- Log of student interaction, no sign up required, limited use for free
- Bank of ready-made chatbots or create your own
- Safety details: <https://mizou.com/security> - student input not used for training, under 13 use enabled
- Alternatives: <https://app.magicschool.ai/> (lots more tools too!)

Podcast

- Use <https://notebooklm.google.com/> (18+ use only)
- Upload your sources (PDF, weblink, YouTube videos, copy and paste text)
- Generate Deep Dive Conversation
- Can also generate a timeline and FAQs

- Alternative: <https://elevenlabs.io/> - plus generate audio from text (for inclusive materials)

Magic School

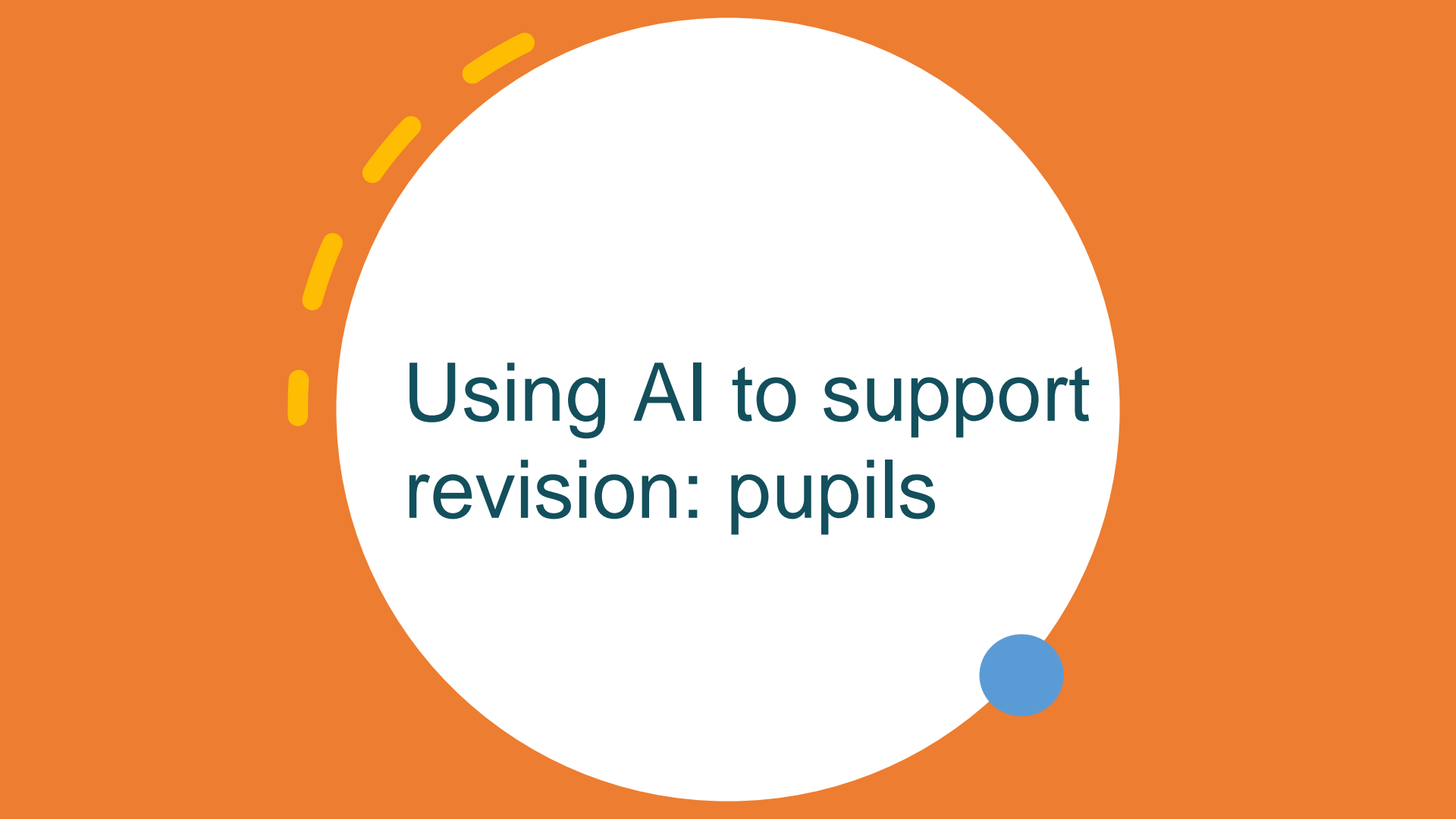
- <https://www.magicschool.ai/>
- Privacy information: <https://www.magicschool.ai/privacy>
- Student tools include:
 - Chatbot
 - Multiple explanations
 - Podcast
 - Quiz me

Model answers

- Use any LLM
- Provide as much context as possible
- Upload any rubrics/mark scheme
- Can also generate a bank of similar questions

AI and Literacy

- Formatting [disciplinary texts](#) so they can be accessed more easily and include a tier 3 [glossary](#)



Using AI to support
revision: pupils

Intent

- Develop autonomous, self-starting learners
- More effective revision = better outcomes
- Better support for disadvantaged pupils and pupils with SEND
- Remove barriers to revision

Research on best revision techniques (1)

Active recall:

- Flashcards and practice questions force you to actively retrieve information from memory, which strengthens learning compared to simply re-reading notes.

Spaced repetition:

- Reviewing information at increasing intervals (e.g., the "2-3-5-7 days rule") helps to prevent forgetting and embed knowledge in long-term memory.

Revision techniques (2)

Mind mapping:

- Visualizing information through mind maps allows for effective organization and connection between concepts.

Pomodoro Technique:

- Breaking down study sessions into focused blocks with short breaks enhances concentration and prevents burnout.

Revision plan:

- Creating a structured timetable with dedicated time for each topic ensures comprehensive coverage and prevents last-minute cramming.

Supporting revision - students

- Mind maps
- Revision timetables
- Quizzes / 3 ways to explain a key concept
- Marking and feedback on practice questions

Mind mapping

- Tool: <https://whimsical.com/a> (see info about user age restrictions)
- Might be something teachers use to generate resources
- May suit some students more than others but has huge potential
- Good for taking a big topic, which is content heavy and making it manageable.
- AI support with content.

Revision Timetable (ChatGPT)

- Requires upload of exam schedule for 2025 from exam board
- Identification of subjects being taken and how much time you want to spend
- AI can suggest revision techniques and [spaced learning](#)

Marking and feedback



- Only meaningful if it is students' own work that is assessed
- AI can grade work and give detailed feedback linked to exam spec

Creating quizzes

<https://quizizz.com/> - Quizziz (free trial) - for teachers BUT could be downloaded and assigned for homework (AI tool will generate questions)

<https://www.magicschool.ai/> - Quiz Me tool in student tools (free)

Key behavioural messages to share with students

- AI can help you with revision but doesn't take away the need to revise.
- Acceptable use in terms of AI use for homework – submitted work for assessment shouldn't be using AI (or any input declared)
- Outputs are not 100% reliable – check everything!
- Content produced by AI can be biased and perpetuate stereotypes.
- Do not enter any personal data into an AI model.

Effective Prompting

- Be specific
 - Provide information about tone and style
 - Keep it simple and build up complex tasks gradually
 - Refine your prompts, suggest improvements
 - Provide exemplar text, sources, policies etc
 - Try different LLMs if you're not getting what you want
- Create a bank of effective prompts to share with colleagues/students

Tips for students

- Check any specifics like dates and numbers as they can be wrong.
- Revise prompts as you go along.
- Free ChatGPT has a limit so watch that you do not run out of requests (30 per hour).

Further Reading & Resources

Final Messages

- Infrastructure and policies must be in place
- Be clear about intended purpose
- Quality of the prompts has a massive impact
- Bite the bullet, have a go!

Lesson planning

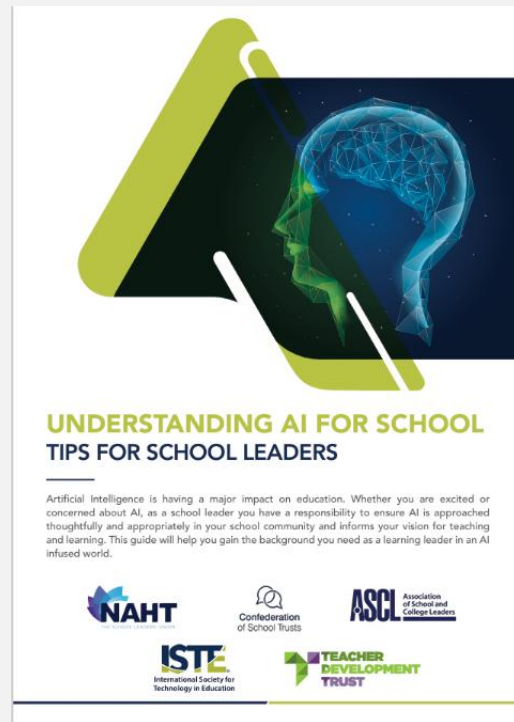
- Aila – Oak National Academy: <https://labs.thenational.academy/> (free)
- Diffit: <https://web.diffit.me/> (subscribe to save in more formats)
- TeachMate AI: <https://teachmateai.com/> (limited free tools, subscribe for full access)
- Magic School: <https://www.magicschool.ai/> (free)
- Create a set of slides based on a lesson plan/outline: <https://gamma.app/>

Other tools

- Mizou – bespoke chatbots - <https://mizou.com/>
- Eleven Labs – create an audio recording from text - <https://elevenlabs.io/>
- Goblin Tools for neurodivergent students: <https://goblin.tools/>
- NotebookLM – create a podcast: <https://notebooklm.google.com/>

Further Reading & Support

- DfE Report: [Generative Artificial Intelligence \(AI\) in Education](#), updated Jan 2025
- DfE Report: [Generative AI in Education: educator and expert views](#), Jan 24
- [Understanding AI for School: Tips for School Leaders](#)
- [Generative AI course and guidance for educators from Google](#)



Any questions?

GCSE prompts

- Can you assess my GCSE literature essay and give me feedback on how to improve it?
- Here it is. The Essay is about how Shakespeare presents Lady Macbeth in Act 1
- Can you assess it using the AQA English literature GCSE mark scheme, identifying where in the essay, specific GCSE objectives were hit?
- Can you re-write the weakest section ?
- Can you identify some next steps for me to move it to the next band up?