

A Guide to AI in Education

Google's history, and future, in AI

While AI is revolutionary technology, it's not new to us. In fact, it's already in many Google products like Search, Gmail, Photos, and YouTube to help make things better and safer behind the scenes. And with more recent advances in generative AI, tools like [Gemini](#) and [NotebookLM](#) offer even more exciting new possibilities.

We believe AI is going to help learners, educators, and school communities unlock potential in ways we can't even imagine yet. From unleashing creativity to offering personal support to supercharging productivity, AI can advance teaching and learning in all kinds of powerful and interesting ways.

Breaking down AI, ML, LLMs, and gen AI

How to make sense of all these terms:

- **AI** is a computer system taught to mimic natural intelligence to help us understand and recommend information
- **Machine learning (ML)** is the technique that allows machines to learn autonomously from data
- **Large language models (LLMs)** are machine learning models that can understand, predict, and generate human language
- **Generative AI (gen AI)** is a type of AI that focuses on creating new content – like text, images, music, audio, code, and videos – by typing in a simple prompt

A balance of bold and responsible

Google's approach to AI has always been about balancing bold with responsible, and when it comes to tools designed for education, we are especially thoughtful and deliberate.

This means applying our technological expertise and deep knowledge of the educational space, while always keeping educators in the loop: working directly with the education community to create products that are truly helpful in improving the teaching and learning experience. When schools use our AI-powered educational tools, they can feel confident that their experience is safe and secure, and that it's been responsibly designed with educators and students in mind.

Applying Google's AI Principles to our work in education

In 2018, we were one of the first companies to establish [AI Principles](#) as part of our commitment to developing technology responsibly. These are the questions we ask when applying these principles to our education tools:

1. Is it appropriate for education (responsible, safe, & secure)?
2. Is it clear to educators and students what the benefits of using it are, and where and how to start?
3. Is it helping all levels and backgrounds to succeed?
4. Is the educator looped into the student experience to help shape and guide (if needed)?
5. Is it enabling educators and students to utilize our workflows seamlessly?
6. Does it enable leaders to adequately and appropriately support staff and students?
7. Does it provide sufficient tooling and control for leaders?
8. Does it adhere to requirements leaders are beholden to for their institutions?
9. Does it provide leaders with the visibility and insights needed to complete their work?

AI can never replace the expertise, knowledge, or creativity of an educator – but it can be a helpful tool to enhance and enrich teaching and learning experiences.

Google for Education

Putting AI to work in our solutions built for education

In education, AI can be used to do helpful things like make learning experiences more personal, provide immediate feedback, improve accessibility, enhance digital security, give educators precious time back, and so much more. When using Google Workspace for Education and Chromebooks, institutions have control over their data and assurance that it will never be used to train AI models outside of their domain without permission.

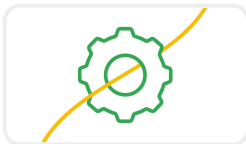
● Elevating the educator

AI can help give educators time back to invest in themselves and their students, while supercharging their creativity and productivity.



More interactivity

Interactive questions for YouTube videos in Classroom delivers engaging video lessons with automatically suggested questions that guide deeper learning.



More productivity

Gemini is a powerful AI assistant that can also provide creative inspiration – from helping with lesson plans to writing emails. **Gemini for Google Workspace** provides access to gen AI features right within Workspace apps, along with our most capable AI models.

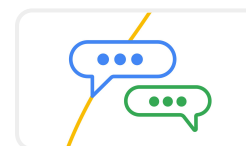


More security

With AI-powered detection and remediation, **Google Workspace for Education** blocks over 99.9% of spam, phishing attempts, and malware. With features like Verified Boot to block threats, there have been zero reported successful ransomware attacks on **Chromebooks**.

● Making learning more personal for students

AI can help meet students where they are, with adaptive tools that help them expand their knowledge and deepen their understanding of the world.



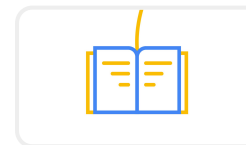
More supportive

Teen students will soon be able to use **Gemini** with their Workspace accounts to learn safely, more confidently, and to prepare for an AI-first future with guided assistance, practice materials, and real-time feedback and ideas.



More accessible

AI built into **Chromebooks** provides advanced text-to-speech, dictation, and live and closed captions. **Google Meet** uses AI for automatic transcription, noise cancellation, and captions.



More adaptive

Read Along in Classroom uses advanced text-to-speech and the power of your voice to help build reading skills at a personal pace.

Check out how we're working
to [advance education with AI](#)

** Product and feature availability will evolve over time and may not be available in all markets.*

Learn best practices and tips on getting the most out of gen AI while using this technology responsibly.

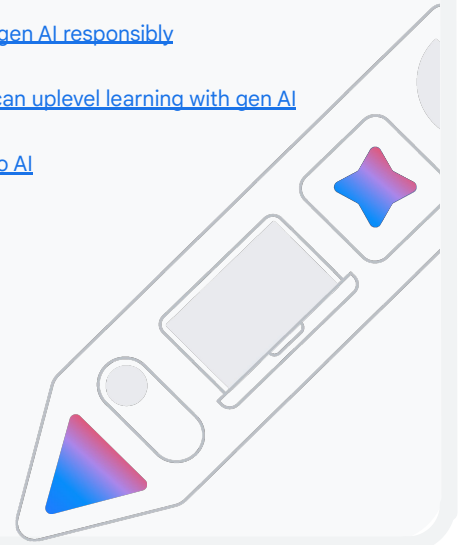


Educators

- [AI basics course: Generative AI for Educators](#)
- [Gemini course: Get started with Gemini for Google Workspace](#)
- [20+ ways to use Gemini for Google Workspace in education](#)
- [Demos: Gemini for Google Workspace](#)
- [Video series: Discovering AI with Google for Education Champions](#)

Students, parents, and guardians

- [Video: How to use gen AI responsibly](#)
- [Video: How teens can uplevel learning with gen AI](#)
- [Guardian's Guide to AI](#)



Frequently asked questions about AI in Google for Education

Accounts and access

What's the difference between AI tools available with a school-issued Google Account versus a personal Google account?

School-issued Google account

[Google for Education](#) is a suite of tools including Google Workspace for Education and Chromebooks, which are designed for teaching and learning in school settings. These secure, private accounts are managed by school IT admins.

School admins are able to use tools with robust privacy controls to restrict what students see and do online with their school-issued accounts. With parental consent, school admins can enable and disable individual services that are not a part of Google Workspace for Education [Core Services](#). There is no advertising in Google Workspace for Education Core Services, and user data from school accounts is never used for ads personalization.

Personal Google account

Other Google tools, like Google Search and YouTube, may be used for learning-related purposes, but may not necessarily be accessible from a [supervised](#) or school-issued Google Workspace for Education account. Personal Google accounts are governed by [Google's Consumer Terms of Service](#) and [Privacy Policy](#), where users have the option to disable personalized advertising – and it's automatically disabled for users under 18. Google provides tools like [Family Link](#) to help parents and guardians manage their children's accounts, devices, and online activity, with features like app approval and screen time limits.

There is no connection between a student's school account and their personal account – meaning that any data from school does not follow learners into their personal account, nor does it follow them after they graduate.

Frequently asked questions about AI in Google for Education

Do students under 18 have access to generative AI tools?

To ensure we're bringing AI to our tools and our students responsibly, we consulted with child safety and development experts like the Family Online Safety Institute (FOSI), partnered with learning science experts, tested with youth advisory panels, and continue to work closely with educators around the world. Additionally, we're rolling out advanced admin controls and user safeguards across Google for Education AI-powered tools.

- **Chromebooks:** Gen AI features are available to educators and students 18 years and older. These features are disabled by default for users under 18 with admin controls in Google Admin console.
- **Gemini for Workspace:** Available to educators and students 18 years and older.
- **Gemini:** In the coming months, [Gemini](#) with [extra data protection](#) will be available to teen students that meet our [minimum age requirements](#) while using their Google Workspace for Education accounts. Gemini will be off by default for teens until school admins choose to turn it on through Gemini settings.

Before expanding student access to Gemini, Google trained the model to recognize content that is inappropriate to younger users and implemented safety features and guardrails to help prevent it from appearing in responses. The first time a user asks a fact-based question, we'll automatically run our double-check response feature, which helps evaluate whether there's content across the web to substantiate Gemini's response. And to help students develop their critical thinking skills, Gemini recommends teens use the double-check response feature for their output.

What is LearnLM and how does it impact Google's educational tools?

[LearnLM](#) is our new family of models fine-tuned for learning, based on Gemini. Grounded in educational research and tailored to how people learn, LearnLM works across several Google products to make them better at teaching and learning. With LearnLM, we are building gen AI experiences for schools guided by learning science principles to inspire active learning and curiosity and to adapt to learners. For more on Google's approach to improving generative AI for education, read our [technical report](#) which highlights how we're working together with the AI and EdTech communities to responsibly maximize its positive impact.

Educator guidance and expertise

Does Google consult with educators and experts when developing AI tools for use in the classroom?

Yes. When introducing any new technology, we believe it's important to be thoughtful about its development and implementation. We're committed to partnering with schools and educators, as well as other education experts and organizations like Columbia Teachers College, Arizona State University, and NYU Tisch throughout product development and beyond.

We don't just build for educators, we build with them. For our AI-powered products, Google for Education:

- Consults with child safety and development experts like the Family Online Safety Institute (FOSI), ConnectSafely, the Future of Privacy Forum, and more to help shape our content policies
- Partners with learning science experts to improve tools made for teaching and learning
- Tests with youth advisory panels to understand their global perspectives and experiences
- Works closely with school communities through Customer Advisory Boards and [Google for Education pilot program](#) to gather feedback on our products and features before making them widely available

By listening to these perspectives, understanding how they're using our tools, and we can thoughtfully address educator and student challenges with the products we develop. We also roll out new features gradually, ensuring that schools can stay in control and do what works best for them.

Safety and privacy

How does Google keep student data safe and secure?

With Google for Education, privacy and security are priorities – and the very foundation of our platform. All of our Google Workspace for Education Core Services – like Gmail, Google Calendar, and Classroom – share a common foundation: They're secure by default, private by design, and free from advertising. While gen AI capabilities introduce new ways of interacting with our tools, our privacy policies and commitments keep users and organizations in control of their data now more than ever.

These core tools all meet rigorous local, national, and international compliance standards, including GDPR, FERPA, and COPPA. And schools and users always maintain the ability to control their data. Google Workspace for Education is built on our secure, reliable, industry-leading technology infrastructure and users get the same level of security that Google uses to protect our own services, which are trusted by over a billion users around the world every day. Chromebooks are designed with multiple layers of security, using AI behind the scenes, to keep them safe from viruses and malware without any additional software required. Each time a Chromebook powers on, security is checked. And because they can be managed centrally, Chromebooks make it easy for school IT admins to configure policies and settings, like enabling safe browsing or blocking malicious sites.

Does Google use my data from Gemini to train AI models?

When using Gemini with a Gemini for Google Workspace license, users are covered under the Google Workspace for Education Terms of Service, and their chats with Gemini are not used to improve AI models.

Gemini is also offered free of charge as an Additional Service for all Google Workspace for Education users. This Gemini experience is covered under the Google Terms of Service and the Gemini Apps Privacy Notice. This experience will soon have added data protection, meaning chats with Gemini are not used to improve AI models.

How does Google ensure its AI-enabled technology is safe for kids?

Google takes the safety and security of its users very seriously, especially children. With technology as bold as AI, we believe it is imperative to be responsible from the start. That means designing our AI features and products with age-appropriate experiences and protections that are backed by research. And prior to launching any product, we conduct rigorous testing to ensure that our tools minimize potential harms, and work to ensure that a variety of perspectives are included to identify and mitigate unfair bias.

Do schools own the content they generate with gen AI tools?

Yes. When you use Gemini to generate original content, Google does not own any new intellectual property created in the generated output. Unlike other gen AI tools, the content that each person in your school community generates is owned by your school, not Google.

You can learn more about Google for Education's commitment to privacy and security at our [Google for Education Privacy and Security page](#), in our Google Workspace for Education [Privacy Notice](#), and in a primer on some differences between Google Workspace for Education [Core Services and Additional Services](#).