

Gemini 3 Deep Think: Advancing science, research and engineering

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Our most specialized reasoning mode is now updated to solve modern science, research and engineering challenges.

 The Deep Think team

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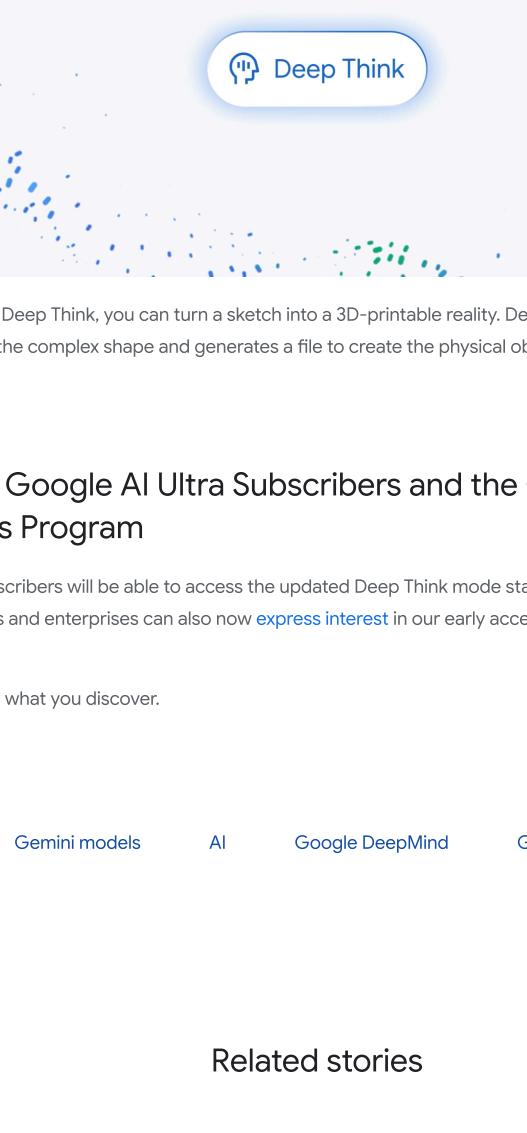
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Today, we're releasing a major upgrade to [Gemini 3 Deep Think](#), our specialized reasoning mode, built to push the frontier of intelligence and solve modern challenges across science, research, and engineering.

We updated Gemini 3 Deep Think in close partnership with scientists and researchers to tackle tough research challenges — where problems often lack clear guardrails or a single correct solution and data is often messy or incomplete. By blending deep scientific knowledge with everyday engineering utility, Deep Think moves beyond abstract theory to drive practical applications.

The new Deep Think is now available in the Gemini app for Google AI Ultra subscribers and, for the first time, we're also making Deep Think available via the Gemini API to select researchers, engineers and enterprises. Express interest in [early access here](#).

Here is how our early testers are already using the latest Deep Think:



Lisa Carbone, a mathematician at Rutgers University, works on the mathematical structures required by the high-energy physics community to bridge the gap between Einstein's theory of gravity and quantum mechanics. In a field with very little existing training data, she used Deep Think to review a highly technical mathematics paper. Deep Think successfully identified a subtle logical flaw that had previously passed through human peer review unnoticed.

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Elevating reasoning with mathematical and algorithmic rigor

Last year, we showed that specialized versions of Deep Think could successfully navigate some of the toughest challenges in reasoning, achieving gold-medal standards at [math](#) and [programming](#) world championships. More recently, Deep Think has enabled specialized [agents](#) to conduct research-level mathematics exploration.

The updated Deep Think mode continues to push the frontiers of intelligence, reaching new heights across the most rigorous academic benchmarks, including:

- Setting a new standard (48.4%, without tools) on Humanity's Last Exam, a benchmark designed to test the limits of modern frontier models
- Achieving an unprecedented 84.6% on ARC-AGI-2, verified by the ARC Prize Foundation
- Attaining a staggering Elo of 3455 on Codeforces, a benchmark consisting of competitive programming challenges
- Reaching gold-medal level performance on the International Math Olympiad 2025

Gemini 3 Deep Think



Navigating complex scientific domains

Beyond mathematics and competitive coding, Gemini 3 Deep Think now also excels across broad scientific domains such as chemistry and physics. Our updated Deep Think mode demonstrates gold medal-level results on the written sections of the 2025 International Physics Olympiad and Chemistry Olympiad. It also demonstrates proficiency in advanced theoretical physics, achieving a score of 50.5% on CMT-Benchmark.

| Benchmark | Gemini 3 Deep Think | Gemini 3 Pro Preview | Claude Ops 4.6 | GPT-5.2 |
|---|---------------------|----------------------|----------------|---------|
| ARC-AGI-2 (Reasoning & knowledge, no tools) | 84.6% | 31.1% | 68.8% | 52.9% |
| Humanity's Last Exam (Academic reasoning, no tools) | 48.4% | 37.5% | 40.0% | 34.5% |
| MMMU-Pro (Multimodal understanding and reasoning) | 81.5% | 81.0% | 53.1% | 45.5% |
| International Math Olympiad 2025 (theory) | 81.5% | 14.3% | - | 71.4% |
| Codeforces (Coding and algorithms, no tools, Elo) | 3455 | 2512 | 2352 | - |
| International Physics Olympiad 2025 (theory) | 87.7% | 76.3% | 71.6% | 70.5% |
| CMT-Benchmark (Chemical theory) | 50.5% | 39.5% | 17.1% | 41.0% |
| International Chemistry Olympiad 2025 (theory) | 82.8% | 69.6% | - | 72.0% |

Methodology: [deepmind.google/models/evals-methodology/gemini-3-deep-think](#)

Accelerating real-world engineering

In addition to its state-of-the-art performance, Deep Think is built to drive practical applications, enabling researchers to interpret complex data, and engineers to model physical systems through code. Most importantly, we are working to bring Deep Think to researchers and practitioners where they need it most — beginning with surfaces such as the Gemini API.

Gemini 3 Deep Think

 Deep Think

With the updated Deep Think, you can turn a sketch into a 3D-printable reality. Deep Think analyzes the drawing, models the complex shape and generates a file to create the physical object with 3D printing.

Available to Google AI Ultra Subscribers and the Gemini API via our Early Access Program

Google AI Ultra subscribers will be able to access the updated Deep Think mode starting today in the Gemini app. Scientists, engineers and enterprises can also [express interest](#) in our early access program to test Deep Think via the Gemini API.

We can't wait to see what you discover.

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