Mathigon

The Textbook of the Future

Everything in our world follows mathematical laws, but the school curriculum rarely shows the **incredible power** and **surprising beauty** of mathematics. Students mostly just have to memorise abstract procedures for solving exam questions: this is one of the reasons why so many students dislike maths, and it has also become a significant problem for our economy and workforce.

At Mathigon, we developed a completely **new content format** to change how students learn online. It combines elements from textbooks, videos, physical manipulative and interactive software environments. Rather than passively listening to a lecture or watching a video, students can explore and discover, be curious and creative, learn problem-solving and critical thinking. We call it the **"Textbook of the Future"** – but it is so much more than just a *book*.

Active Learning

At every step, students have to **actively participate** in some way, before more content is revealed. Hundreds of unique interactive components go far beyond traditional question types like multiple choice: you can construct geometric shapes, run probability simulations, build tessellations, unfold 3D polyhedra, search the first million digits of Pi, trace chaotic pendulums, generate large prime numbers, draw sunflower spirals, and so much more.

Personalisation

Over time, we can build a detailed **knowledge tree** for every student, show more detailed explanations to struggling students, or reorder steps if students have not mastered all prerequisites. A **virtual personal tutor** detects if you are stuck and provides real-time help and encouragement in a chat interface. Students can even ask their own questions which we answer using machine learning.

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Storytelling

Every course is filled with colourful diagrams and illustrations, and has a **captivating narrative**. Students don't just learn about abstract concepts and equations, but also about real-life applications and historical context. This makes the content more engaging and memorable, and shows students why what they learn is important.

Our curriculum for secondary mathematics is aligned to the UK and US national standards, but it also contains many additional topics like data science, chaos theory, cryptography, or non-euclidean geometry. So far, we have completed around 25% of all planned courses.

Mathigon has over **350k monthly active users**, from all around the world. Our website and mobile apps for iOS and Android are completely free to use, and volunteers have translated our content into **19 different languages**. Mathigon has won numerous awards, and was recommended by the UK Government.

Mathigon can be used independently by students, for homework assignments, home schooling, or as a blended learning tool in classrooms. Our **dashboards** allows teachers and parents to track their students' progress, and integrate with Google Classroom. We are a signatory of the *Student Privacy Pledge*.

Mathigon was founded by Philipp Legner, who studied maths at Cambridge University and maths education at the UCL Institute of Education. He previously worked as a software engineer at Google, Bloomberg and Wolfram Research.

Watch our Video Trailer

"One of the most accessible and engaging maths resources available on the web, a true mathematical wonderland."
Alex Bellos, The Guardian

"Beautifully designed and interactive courses. A front-runner for a new generation of textbooks."
Common Sense Education

"One of the greatest math resources out there on the internet."
Grant Sanderson, 3blue1brown

"Textbook is the wrong word, because this is something totally new."
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