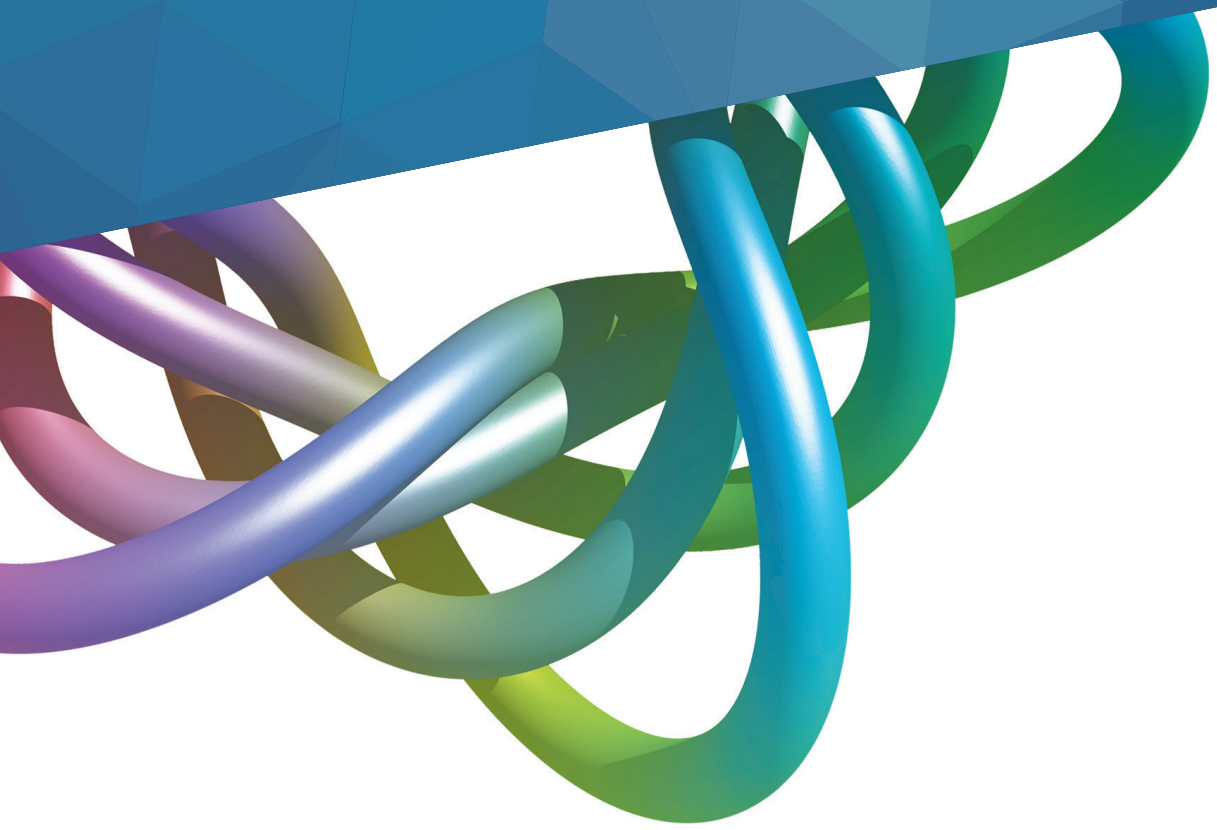
The Essential Tool for Mathematics

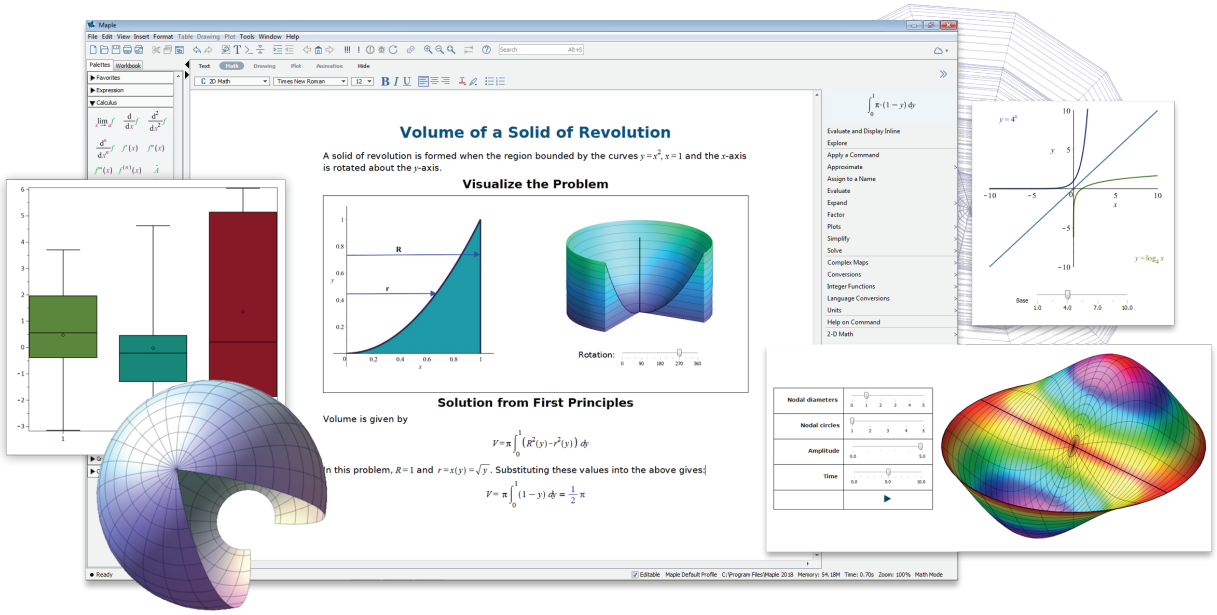


Maple™

Maple™

The Essential Tool for Mathematics

Maple™ is math software that combines the world's most powerful math engine with an interface that makes it extremely easy to analyze, explore, visualize, and solve mathematical problems. With Maple, you aren't forced to choose between mathematical power and usability, making it the ideal tool for both education and research.



Extremely Powerful Math Engine

Maple has the depth, breadth, and performance to meet all your mathematical challenges.

- Over 5000 functions covering virtually every area of mathematics, including calculus, algebra, differential equations, statistics, linear algebra, geometry, and much more
- Symbolic, numeric, and hybrid computation algorithms
- World-leading algorithms for solving problems that are beyond the reach of any other software system
- Sophisticated 2-D and 3-D plotting and animations
- Efficient algorithms and tools for high performance computing and large-scale problem solving

Incredibly Easy to Use

Whether you are doing a quick calculation, developing complex algorithms, illustrating a concept, or creating an interactive technical document, Maple makes it easy to get the job done.

- Clickable Math™ interaction for point-and-click problem solving
- Sophisticated programming language designed for mathematics
- Specialized tools specifically for teaching and learning key topics in calculus, algebra, and more
- Rich authoring environment for creating technical documents and applications

Maple Add-ons

Maple Global Optimization Toolbox
Powered by Optimus®

Find the best possible solution to your optimization problems.

Maple Grid Computing Toolbox

Distribute your computations across large-scale compute clusters and supercomputers.

Maple Quantum Chemistry Toolbox from RDMChem

Predict, explore, and design novel molecules in a powerful, easy-to-use environment

Join the Maple Community!

Maple is used by more than 8000 educational institutions, research labs, and companies, in over 90 countries. When you choose Maple, you are immediately supported by:

- Thousands of examples, applications, and Math Apps contributed by Maple users
- An active online community dedicated to sharing experiences, techniques, and opinions
- Teacher and student resource centers, with classroom materials, training videos, tips and techniques, and more

Application areas include:

Calculus
Visualization
Differential Equations
Control Design
Financial Modeling
Transforms
Code Generation
Parallel and Grid Computing
Algebra
Statistics
Polynomial Systems
Physics
Scientific Data Management
Units and Tolerances
Application Development
Web Deployment
Matrices and Vectors
Geometry
Advanced Mathematics
Optimization
Signal Processing
Curve Fitting
CAD Connectivity
...and much more!

Enrich your classroom & accelerate your research

- **Help students learn faster and more deeply** by enabling them to focus on new concepts without getting lost in the mechanics of the calculations, providing them with illuminating visualizations that promote understanding, and helping them develop their intuition through interactive explorations that give immediate results.
- **Keep students engaged and eager to learn more**, with motivating examples and applications that would be too difficult and time-consuming to do by hand, point-and-click problem solving that makes it easy for them to experiment on their own, and interactive learning tools that spark their interest while building their confidence.
- **Gain a trusted tool to advance your research** with powerful software that can help you understand and solve difficult mathematical problems from virtually any branch of mathematics, easily develop your own algorithms and applications, and solve large-scale problems efficiently.

User Stories

Improving Learning for 2000 Students

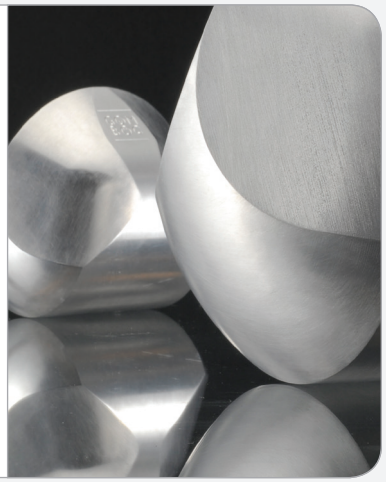
Rose-Hulman Institute of Technology

- Laptop program ensures approximately 2000 students have easy access to Maple, including during lectures
- Visualization of complicated concepts
- Finding patterns and trends in large amounts of data
- **Keeps students engaged and eager to learn more**

Discovering "World's First Self-Righting Object"

Budapest University of Technology and Economics

- Researchers wanted to define and create a homogeneous 3-D object with exactly one stable and one non-stable equilibrium point
- Involved studying two-parameter family of mono-monostatic objects, looking for convexity
- Process involved large amounts of complex, precise mathematical computation
- **Existence long conjectured, finally proven with help of Maple**



Teaching Calculus to 11-Year-Olds

University of Tasmania

- As an experiment on how technology can fundamentally affect education, taught integral calculus to 11-year-olds
- Over 100 students, 5 schools, average or lower-than-average socio-economic advantages
- 2 hours/week, 6 weeks
- Used Maple to set up solutions to word problems, calculate results, graph functions
- **97/108 children received a passing grade on a test that was based on a first-year university engineering exam**

What Customers Are Saying

"Maple goes out of the way to make the learning curve as short as possible."

- Joshua Holden, Rose-Hulman Institute of Technology, USA

"The combination of the consistent user interface, math functions, and visualization tools means that students learn math faster with Maple."

- Roger Kraft, Purdue University Calumet, USA

"Using Maple made the calculations more thorough and secure; its computational power can calculate and explore very sensitive details, so it was a trusted companion in our discovery process."

- Gábor Domokos, Budapest University of Technology and Economics, Hungary

"The students really appreciate the power and the beauty of Maple, and as a result, gain a greater appreciation of the subjects being studied."

- Joanna Ellis-Monaghan, Saint Michael's College, USA

"We realized the potential in Maple to start students earlier – it is simple to learn, but powerful enough to let students grasp the concept."

- Calvin Armstrong, Appleby College, Canada

"Based on the comments these students made after the course was over, it is clear that Maple helped spark their interest in Calculus, and made them justifiably confident in their ability to handle it."

- Andrew Fluck, University of Tasmania, Australia

Teaching Resources

Everything you need to bring the benefits of technology to your classroom! Maplesoft provides a vast array of customizable materials to support dynamic classroom lectures, independent student exploration, and learning consolidation. Resources are available for differential calculus, integral calculus, multivariate calculus, differential equations, linear algebra, vector calculus, algebra, precalculus, engineering, trigonometry, and more.

Visit the Teacher Resource Center for:

- Clickable Math applications
- Tips and techniques
- Videos and recorded webinars
- Community forums
- Lecture notes
- Interactive concept demonstrations
- Homework questions
- Interactive Math Apps

www.maplesoft.com/teacherresource

Featured Content

Video Series: Teaching Concepts with Maple

This collection of videos, together with step-by-step Maple applications that you and your students can use and modify, makes it easy to explore a wide variety of mathematical concepts using Clickable Math techniques. Created by Dr. Robert Lopez, Emeritus Professor of Mathematics at the Rose-Hulman Institute of Technology and Maple expert, this series covers topics taken from a wide variety of courses, with more added every month. Subjects include:

- Differential calculus
- Integral calculus
- Multivariate calculus
- Differential equations
- Linear algebra
- Vector calculus
- Algebra and precalculus
- Trigonometry

Teaching Calculus with Maple: A Complete Kit

Everything you need to teach Calculus 1 and Calculus 2! Teaching Calculus with Maple includes lecture notes, student worksheets, demonstrations, and more, including homework that can be graded automatically through Möbius Assessment™ from DigitalEd. Developed at the University of Guelph under the leadership of an award-winning teacher and field-tested in classes with hundreds of students, Teaching Calculus with Maple makes it easy to provide students with a rich, effective learning environment.

Math Apps for Teaching and Learning

You and your students can explore hundreds of mathematical concepts with interactive, point-and-click Math Apps. Topics include functions, graphing, calculus, statistics, physics, algebra, discrete math, and more.

Clickable Math Applications for the Classroom

The idea of powerful mathematics delivered through very visual, interactive, point-and-click methods has launched a new generation of teaching and learning techniques in mathematics. Classroom materials include interactive concept demonstrations, lecture notes, homework assignments, and more.

Dedicated Student Packages

Student packages, which are included in Maple, offer focused learning environments in which students can explore and reinforce fundamental concepts in the same way you do in class. Maple provides an environment that allows students to explore concepts and break problems down into smaller steps instead of jumping immediately to the solution.

Student Help Center

The Student Help Center provides an unmatched online support system to students in their math and engineering studies. The site contains a dedicated student forum, online calculators, training videos, and much more.

Visit www.maplesoft.com/studentcenter

Application Center

The Application Center features over 2,000 applications and tutorials contributed by the Maplesoft user community. This growing collection shows how Maplesoft solutions are applied to solve technical problems.

Visit www.maplesoft.com/applications

Training

Maplesoft offers a comprehensive set of complementary training materials. From training videos to recorded training seminars to downloadable documentation, you have many options to get up to speed with Maplesoft products.

Visit www.maplesoft.com/support/training

MaplePrimes™

MaplePrimes is a web community dedicated to sharing experiences, techniques, and opinions about Maplesoft products, as well as general interest topics in mathematics and engineering.

Visit www.mapleprimes.com

MapleCloud

The MapleCloud is a service from Maplesoft that makes it easy to share Maple documents, even with people who do not have Maple. Your students and colleagues can use interactive Maple applications and view documents in the MapleCloud from a web browser, using the free Maple Player, and from within Maple.

Visit maplecloud.maplesoft.com

Maplesoft Webinars

Maplesoft's monthly webinars provide an excellent opportunity to learn about interesting applications, new techniques, and products. Hosted live by senior Maplesoft representatives, these one-hour interactive sessions also offer the opportunity to ask questions and interact with the presenter.

Visit www.maplesoft.com/company/webinars

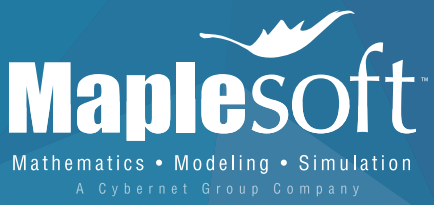
E-books and Study Guides

Maple e-books and study guides offer more chances to explore, learn, and practice mathematics. The collection includes the Clickable Calculus™ study guides, which show how to use Clickable Math techniques to solve hundreds of problems.

Visit www.maplesoft.com/ebooks

Licensing Options

Maplesoft offers a wide variety of flexible licensing options to suit your institution's budget, infrastructure, and policies. We will be happy to work with you to find the best solution to meet the needs of your institution.



education.maplesoft.com

www.maplesoft.com | info@maplesoft.com
Toll-free: (US & Canada) 1-800-267-6583 | Direct:1-519-747-2373