Best Math Software

AWARD
eSchool News
Readers' Choice
WINNER

At a time when few U.S. students graduate from high school with an interest in mathematics—and developing nations such as China and India are pumping unprecedented numbers of job applicants into an increasingly crowded, highly technical, 21st-century workforce—math teachers in classrooms nationwide are faced with a daunting task: equipping today's students with the technical know-how necessary to prosper in tomorrow's increasingly competitive global economy.

To help, the editors of *eSchool News* are pleased to present our 2005 Readers' Choice Awards in math software—a snapshot of the most effective software and teaching solutions currently used in schools across the country. Nearly 900 educators responded to our online survey, which closed March 4. Here, you'll see which products our readers have enjoyed the greatest success with in teaching a variety of disciplines: basic math literacy; fractions, decimals, and percents; pre-algebra; algebra; geometry; trigonometry; and calculus—plus, a category for the best graphing calculators.

Though many educators who participated in the survey pledged their loyalty to a single brand or manufacturer—Texas Instruments' graphing calculators, for instance—others indicated that their options are often reduced to what their districts can afford, a condition that has largely precluded the budget-conscious teacher from canvassing the market for alternative solutions.

Whether students aspire to be engineers or entrepreneurs, doctors or scientists, a solid understanding of mathematics is a foundation essential for today's learners. As you consider what approaches to use in your schools, take a look at the findings of our survey and the brief analysis that follows to see which products are having the greatest impact. We hope you'll use some of what you've learned here to make a decision that is best for your schools and, ultimately, your students.
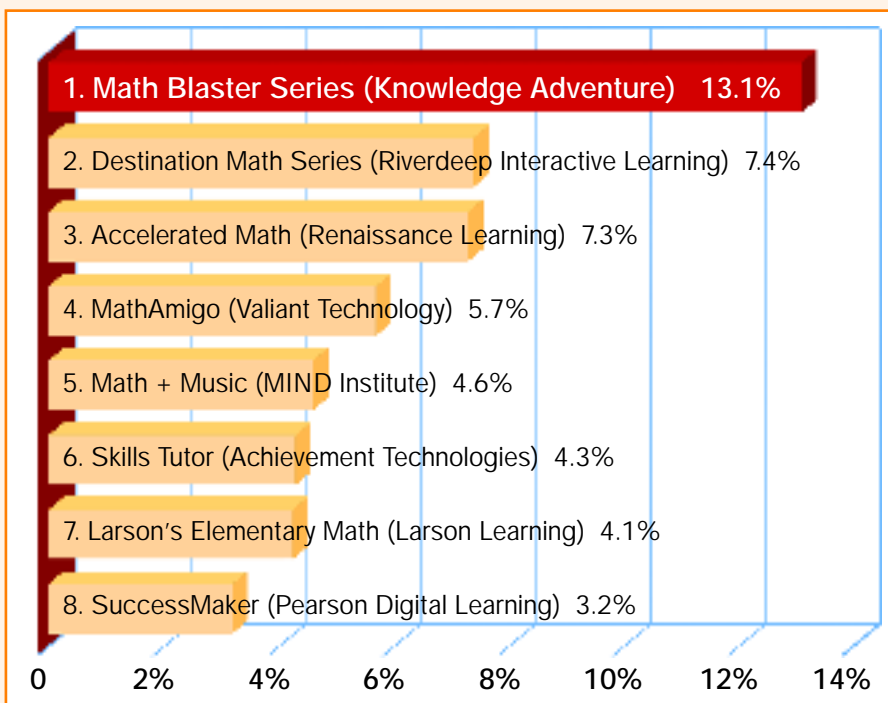
Best Software for Teaching Basic Math Literacy

In the category of basic math literacy, Knowledge Adventure claimed first-place honors with its popular Math Blaster Series software. Just over 13 percent of respondents voted for this interactive software adventure program, which encourages students to apply such basic skills as addition and subtraction in a fight to rescue the galaxy from the evil Dr. Zero. "The Math Blaster Series has a well-recognized name and interactive platform that is consistent from one product to another," said one educator, who branded it "very good for basic mathematics skills."

Destination Math, from Riverdeep Interactive Learning, got the better of a dead heat for the No. 2 spot, raking in 7.4 percent of the vote—just barely edging out Renaissance Learning's Accelerated Math product (7.3 percent). One educator selected Destination Math for its dual focus on instruction and explanation, calling it a "visual learning tool" that provides engaging, hands-on learning opportunities for students.

Accelerated Math (AM), which focuses on providing data to help teachers assess student progress, also received accolades from satisfied customers. One educator said AM's "ability to assist the teacher in collecting data allows the teacher to operate as a teacher/coach for [his or her] students."

Other products receiving significant votes in this category included MathAmigo, a handheld math drill-and-practice tool from Valiant Technology (5.7 percent), and the MIND Institute's Math + Music product (4.6 percent), a combination computer math game and piano lesson proven to boost student test scores. One educator called Math + Music, first launched in 1998, "the best new elementary resource I've seen in years."

Bar chart — Best Software for Teaching Basic Math Literacy:
- 1. Math Blaster Series (Knowledge Adventure) 13.1%
- 2. Destination Math Series (Riverdeep Interactive Learning) 7.4%
- 3. Accelerated Math (Renaissance Learning) 7.3%
- 4. MathAmigo (Valiant Technology) 5.7%
- 5. Math + Music (MIND Institute) 4.6%
- 6. Skills Tutor (Achievement Technologies) 4.3%
- 7. Larson's Elementary Math (Larson Learning) 4.1%
- 8. SuccessMaker (Pearson Digital Learning) 3.2%

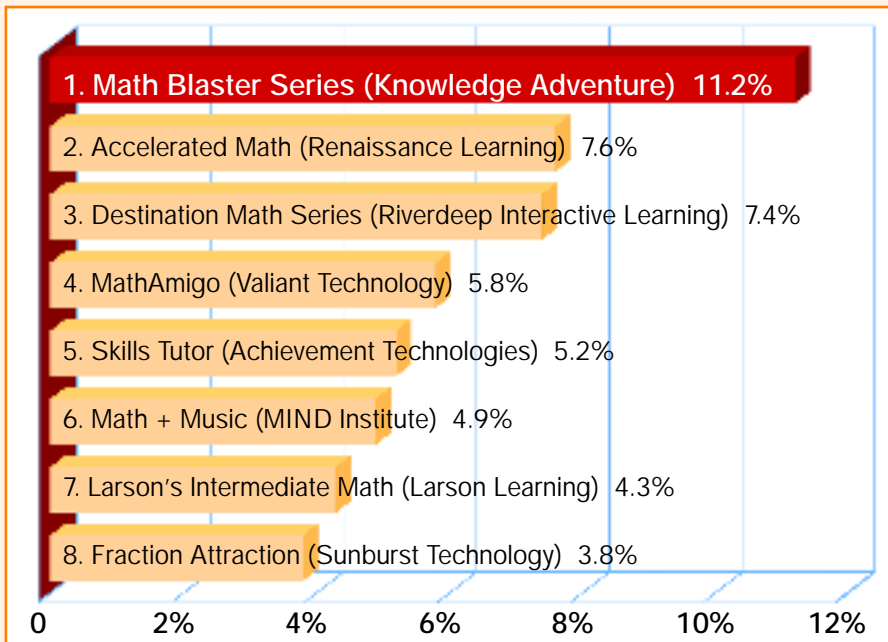(Axis: 0, 2%, 4%, 6%, 8%, 10%, 12%, 14%)

Best Software for Teaching Fractions, Decimals, and Percents

When teaching intermediate-level math concepts, such as fractions, decimals, and percents, educators who responded to our survey indicated they rely heavily on many of the same software products used to teach basic math literacy. Again, Math Blaster finished ahead of the pack, carrying 11.2 percent of the vote, while Accelerated Math (7.6 percent) leapfrogged Destination Math (7.4 percent) to capture second place.

Rounding out the top five were MathAmigo (5.8 percent) and Skills Tutor, from Achievement Technologies (5.2 percent), a fully online drill-and-practice program touted by educators for boosting student achievement in accordance with national standards. "We have utilized this product for several years," affirmed one educator, "and we believe this product has helped us increase our scores in math."

While it failed to crack the top five on our survey, another product receiving considerable support in this category was Larson's Intermediate Math (4.3 percent). "This program helps improve students' understanding of concepts and skills taught in daily lessons," wrote one Larson advocate, "but may also improve their participation, attitude, and confidence in math."

Bar chart — Best Software for Teaching Fractions, Decimals, and Percents:
- 1. Math Blaster Series (Knowledge Adventure) 11.2%
- 2. Accelerated Math (Renaissance Learning) 7.6%
- 3. Destination Math Series (Riverdeep Interactive Learning) 7.4%
- 4. MathAmigo (Valiant Technology) 5.8%
- 5. Skills Tutor (Achievement Technologies) 5.2%
- 6. Math + Music (MIND Institute) 4.9%
- 7. Larson's Intermediate Math (Larson Learning) 4.3%
- 8. Fraction Attraction (Sunburst Technology) 3.8%
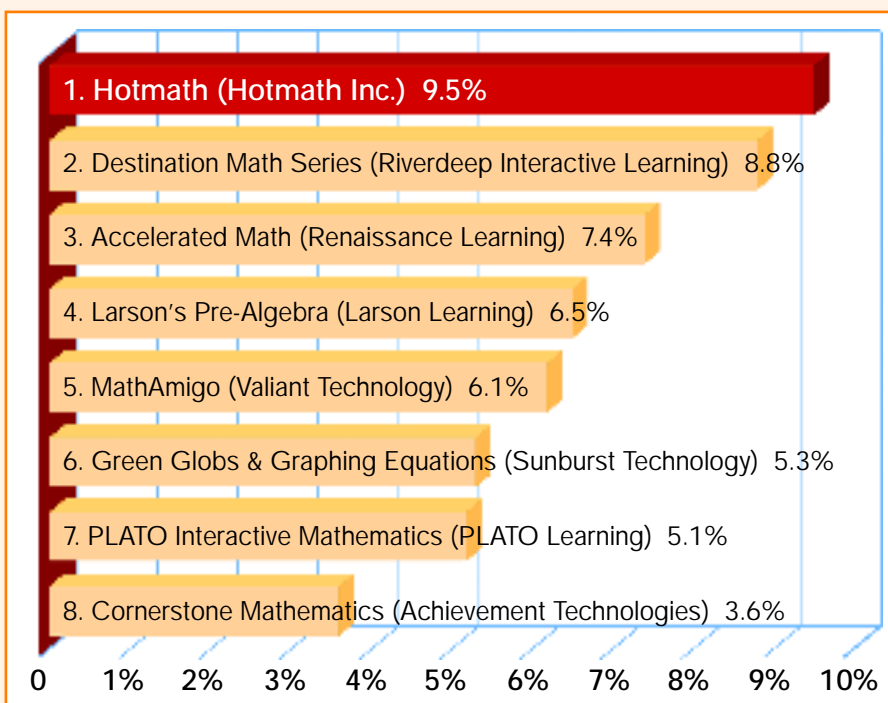
(Axis: 0, 2%, 4%, 6%, 8%, 10%, 12%)

Best Software for Teaching Pre-Algebra

In one of the most competitive categories in our survey, Hotmath, an online tutorial that provides hints and solutions to textbook-based homework assignments, emerged as the product of choice in pre-algebra classrooms, capturing 9.5 percent of the vote. Among the many benefits of the program, educators praised Hotmath for enabling students to view worked-out solutions to problems and for assisting frustrated parents who want to help their children at home, but need a refresher course on the subject matter.

"My students weren't doing their homework before Hotmath," wrote one educator in response to the survey. "Now they are, and it makes all the difference."

For second and third place in our survey, Destination Math and Accelerated Reader swapped places again, netting 8.8 percent and 7.4 percent of the vote, respectively. In fourth place, Larson's Pre-Algebra (6.5 percent) was complimented by one educator for "helping students when they don't understand the concept" and for encouraging kids to use "higher-order problem-solving" skills.

Also receiving support: Green Globs & Graphing Equations (5.3 percent), from Sunburst Technology, lauded by one survey respondent as a standards-based "treasure that has endured … and is very effective," and PLATO Interactive Mathematics (5.1 percent), which aims to provide comprehensive, flexible, self-paced instruction in pre-algebra, elementary algebra, intermediate algebra, and college algebra curricula.

Chart: Best Software for Teaching Pre-Algebra

1. Hotmath (Hotmath Inc.) 9.5%
2. Destination Math Series (Riverdeep Interactive Learning) 8.8%
3. Accelerated Math (Renaissance Learning) 7.4%
4. Larson's Pre-Algebra (Larson Learning) 6.5%
5. MathAmigo (Valiant Technology) 6.1%
6. Green Globs & Graphing Equations (Sunburst Technology) 5.3%
7. PLATO Interactive Mathematics (PLATO Learning) 5.1%
8. Cornerstone Mathematics (Achievement Technologies) 3.6%

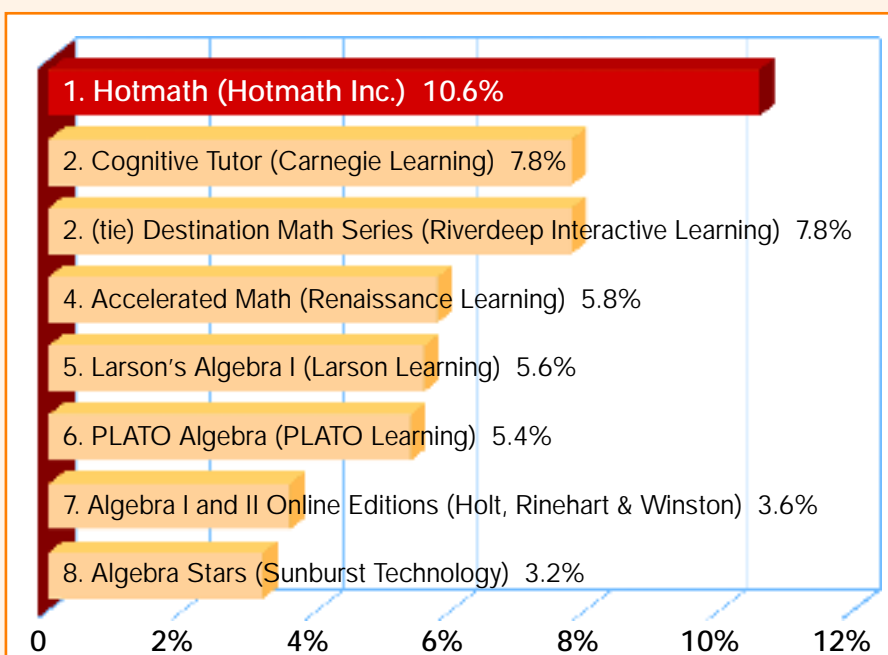(x-axis: 0, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%)

Best Software for Teaching Algebra

When it comes to teaching algebra, *eSchool News* readers again made Hotmath (10.6 percent) their top pick. In a two-way tie for second place, Carnegie Learning's Cognitive Tutor and Destination Math managed 7.8 percent of the vote a piece.

"This program … [provides] all the nuts and bolts of an Algebra I program in a student-friendly way," wrote one educator about Cognitive Tutor. After using the product, another said, "students are talking about the math in a way that demonstrates understanding. They love to teach each other, and we know that is when real learning takes place."

Accelerated Math collected 5.8 percent of the vote, while a couple of algebra-specific titles—Larson's Algebra I and PLATO Algebra from PLATO Learning Inc.—tangled in a battle for fifth place, reining in 5.6 percent and 5.4 percent of the vote, respectively. Other algebra solutions receiving considerable support included textbook publisher Holt, Rinehart & Winston's Algebra I and II Online Editions and Algebra Stars from Sunburst Technology.

Chart: Best Software for Teaching Algebra

1. Hotmath (Hotmath Inc.) 10.6%
2. Cognitive Tutor (Carnegie Learning) 7.8%
2. (tie) Destination Math Series (Riverdeep Interactive Learning) 7.8%
4. Accelerated Math (Renaissance Learning) 5.8%
5. Larson's Algebra I (Larson Learning) 5.6%
6. PLATO Algebra (PLATO Learning) 5.4%
7. Algebra I and II Online Editions (Holt, Rinehart & Winston) 3.6%
8. Algebra Stars (Sunburst Technology) 3.2%

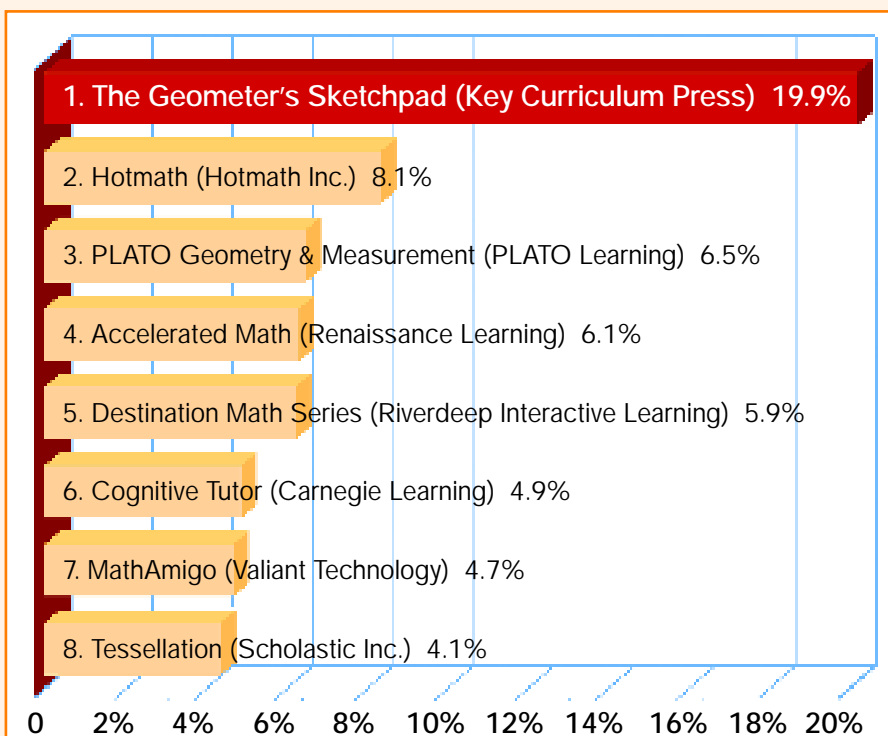(x-axis: 0, 2%, 4%, 6%, 8%, 10%, 12%)

Best Software for Teaching Geometry

The most clear-cut winner of any of the software categories was the award for best geometry software, which goes to Key Curriculum Press for The Geometer's Sketchpad. This computer-based program, which lets students construct an object and then explore its mathematical properties by dragging the object with the mouse, received nearly 20 percent of the vote.

One educator praised the product for its flexibility in the classroom. "You can customize lessons to make them appropriate for your learners' ability level," this reader said. "I've used this software in sixth grade, as well as for juniors in [high school]." Another satisfied customer branded the Sketchpad "great as a teacher demonstration tool and for creating figures to use on handouts and assessments."

Once again, Hotmath proved its value by securing 8.1 percent of the vote to come in second. "Teachers, students, and parents have praised Hotmath for helping to improve student performance," wrote one educator. Another said, "Hotmath really shines in geometry" because it enables students to see step-by-step how to arrive at the correct answer to a given problem set. In geometry, this reader said, students "need to see the proofs … over and over."
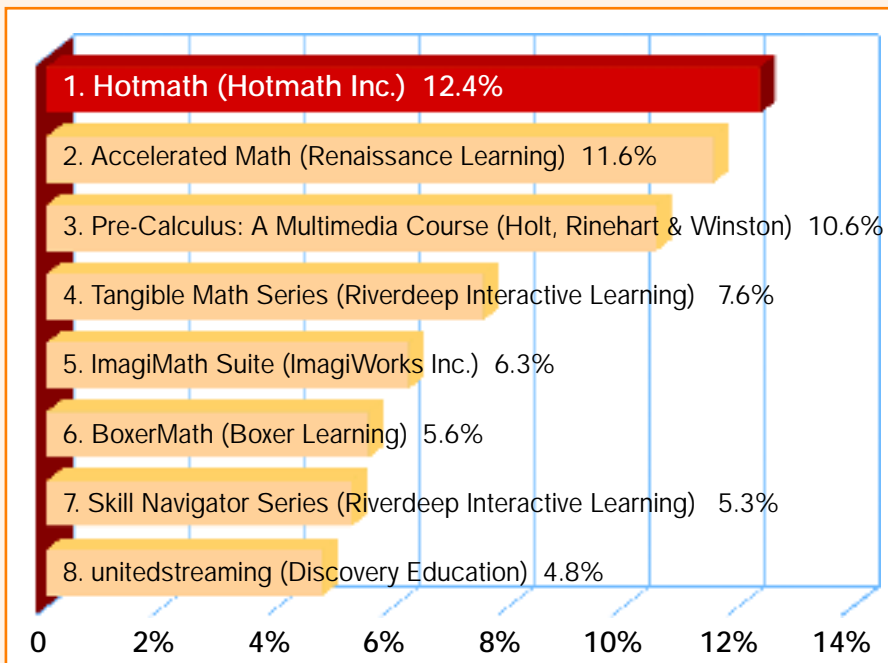
PLATO Geometry & Measurement (6.5 percent) snagged just enough votes for third place, beating out Accelerated Math, which—along with Riverdeep's Destination Math—remained among the top five vote-getters for the fifth consecutive category. Other products receiving several votes included Cognitive Tutor (4.9 percent), MathAmigo (4.7 percent), and Tessellation from Tom Snyder Productions (now owned by Scholastic Inc.), which netted 4.1 percent of the vote.

Chart: Best Software for Teaching Geometry

1. The Geometer's Sketchpad (Key Curriculum Press) 19.9%
2. Hotmath (Hotmath Inc.) 8.1%
3. PLATO Geometry & Measurement (PLATO Learning) 6.5%
4. Accelerated Math (Renaissance Learning) 6.1%
5. Destination Math Series (Riverdeep Interactive Learning) 5.9%
6. Cognitive Tutor (Carnegie Learning) 4.9%
7. MathAmigo (Valiant Technology) 4.7%
8. Tessellation (Scholastic Inc.) 4.1%

(x-axis: 0, 2%, 4%, 6%, 8%, 10%, 12%, 14%, 16%, 18%, 20%)

Best Math Software

Best Software for Teaching Trigonometry and Pre-Calculus

Moving into the more advanced disciplines, the range of products educators gave the nod to narrowed considerably. Still, some familiar names dominated the voting. Among these, Hotmath received 12.4 percent of the vote and Accelerated Math, which came in a close second, got 11.6 percent.

Holt's Pre-Calculus: A Multimedia Course made its first appearance on the survey, snagging third-place honors with an impressive 10.6 percent of the vote. Other notable vote-getters included Riverdeep's advanced Tangible Math Series (7.6 percent), the ImagiMath Suite from ImagiWorks Inc. for use with handheld computers (6.3 percent), and BoxerMath, a set of interactive math tutorials from Boxer Learning (5.6 percent).

Chart: Best Software for Teaching Trigonometry and Pre-Calculus

1. Hotmath (Hotmath Inc.) 12.4%
2. Accelerated Math (Renaissance Learning) 11.6%
3. Pre-Calculus: A Multimedia Course (Holt, Rinehart & Winston) 10.6%
4. Tangible Math Series (Riverdeep Interactive Learning) 7.6%
5. ImagiMath Suite (ImagiWorks Inc.) 6.3%
6. BoxerMath (Boxer Learning) 5.6%
7. Skill Navigator Series (Riverdeep Interactive Learning) 5.3%
8. unitedstreaming (Discovery Education) 4.8%

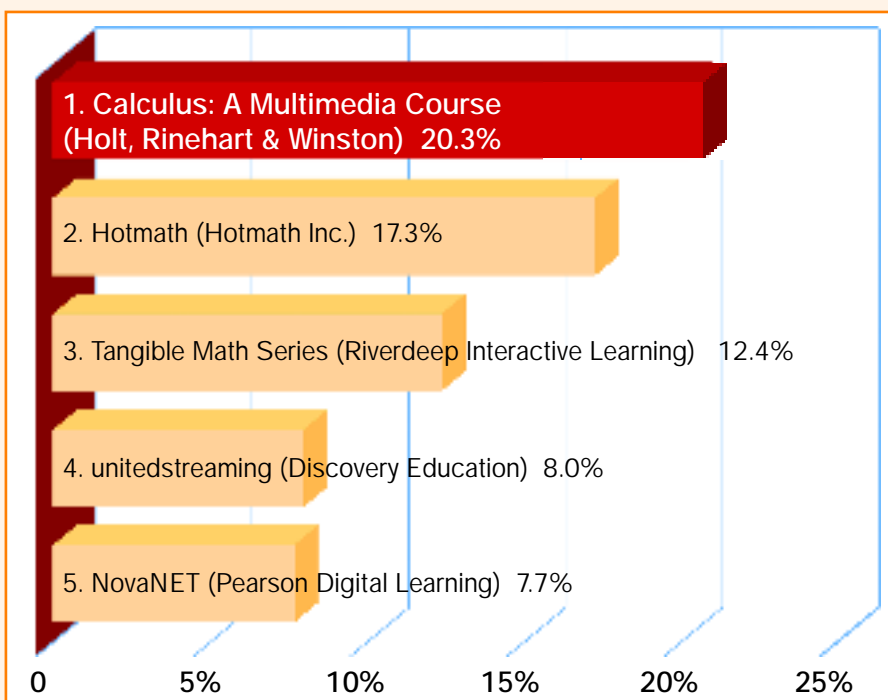*(x-axis: 0 2% 4% 6% 8% 10% 12% 14%)*

Best Software for Teaching Calculus

With calculus, it became clear that there is no single philosophy for how best to teach higher-order math skills. While 20 percent of educators advocated a more traditional approach, including the use of Holt's Calculus: A Multimedia Course, 17.3 percent of respondents pushed for the continued use of Hotmath's online supplements and interactive tutorials. And their arguments varied.

"Students need a more traditional approach at this level to compete in the college-prep setting and score higher on standardized tests like the SAT," wrote one educator who favored Holt's multimedia course. Another supported the use of Hotmath by stating, "Students can find their mistakes, reinforcing their learning and saving me teaching time in class."

Making its second appearance on the survey, Riverdeep's Tangible Math Series captured third place with 12.4 percent of the vote, while Discovery Education's unitedstreaming product—the across-the-board winner in our Readers' Choice Awards for best science software—made its first and only top-five appearance in our math survey. "Video streaming is an effective way to provide visual examples and real-world applications of calculus," wrote one educator who uses Discovery's library of video clips to reinforce upper-level math skills.

Closing out the top five in this final software category was NovaNET from Pearson Digital Learning (7.7 percent), a customizable, interactive curriculum and content management system that helps educators assess student progress across a wide range of disciplines, including mathematics.

Chart: Best Software for Teaching Calculus

1. Calculus: A Multimedia Course (Holt, Rinehart & Winston) 20.3%
2. Hotmath (Hotmath Inc.) 17.3%
3. Tangible Math Series (Riverdeep Interactive Learning) 12.4%
4. unitedstreaming (Discovery Education) 8.0%
5. NovaNET (Pearson Digital Learning) 7.7%

(x-axis: 0 5% 10% 15% 20% 25%)

Best Graphing Calculator for Education

Though four manufactures were featured on the graphing calculator portion of our survey—Casio, Hewlett-Packard, Texas Instruments, and Sharp—educators indicated, somewhat overwhelmingly, that TI remains the graphing calculator manufacturer of choice in K-12 classrooms.

The most popular of TI's calculators proved to be the TI-83 Plus (22.2 percent). When asked to explain their choice, several educators praised the calculator for its "durability" and its versatility, citing TI's line of attachable accessories, which includes portable wireless keyboards and probes for conducting experiments, among other tools.

"TI has great support materials and lesson resources that come with the calculators, as well as strong support materials to purchase," said one educator in support of the product. Another reader, who voted for the more advanced TI-84 Plus Silver Edition, complimented the longtime manufacturer for its service. "TI has great customer service," the educator wrote. "When students have questions, they can contact TI by eMail or on the phone for quick answers to their questions."

PowerOne Graph, from Infinity Softworks, cracked the top eight solutions in our survey, despite being a software program and not a calculator. The program, when employed on a handheld computer, turns the machine into a fully functioning graphing calculator. Among the other hardware manufacturers, HP's 49g+ and Casio's CLASSPad 300 received the most support.

Chart: Best Graphing Calculator for Education

1. TI-83 Plus (Texas Instruments) 22.2%
2. TI-84 Plus (Texas Instruments) 13.6%
3. TI-84 Plus Silver Edition (Texas Instruments) 12.7%
4. TI-89 (Texas Instruments) 11.7%
5. TI-83 Plus Silver Edition (Texas Instruments) 10.8%
6. TI-84 Titanium (Texas Instruments) 6.0%
7. TI-73 Explorer (Texas Instruments) 3.2%
8. PowerOne Graph (Infinity Softworks) 2.6%

(x-axis: 0 5% 10% 15% 20% 25%)