# Assistive Technology Devices for Students Struggling in Mathematics

This document contains information on the range of assistive technology supports that can be used by students who are struggling in mathematics. Supports are available to aid in basic calculations through higher level math skills. Supports are also available to help students who are experiencing difficulty in math due to writing and/or reading difficulties. The types of assistive technology supports used are determined by individual student abilities and needs as well as the required mathematical tasks across all instructional environments.

In this document, assistive technology supports are organized into various categories based on the primary features or applications of the technology. Moreover, the age ranges for which the supports are appropriate are identified in the following categories: elementary, middle, and high school. Lastly, tools are linked to the various math skills addressed in the Georgia Performance Standards. It is recommended that individuals utilizing this document refer to the standards to determine the specific skills that are addressed at each grade level.

- Number and Number Relations
- Measurement
- Geometry
- Algebra
- Data Analysis and Probability

The assistive technology supports referenced in this document are included to provide examples of different types of aids used by students with disabilities to accomplish educationally relevant tasks in instructional and access areas. The document does not include all assistive technology supports within a given category and inclusion of a particular support does not constitute endorsement by the Georgia Department of Education. Additional supports may be added to the document by contacting the Georgia Project for Assistive Technology.

Additional information about the assistive technology supports referenced in this document is available on the Georgia Project for Assistive Technology's website at http://www.gpat.org. Additional information about the Georgia Performance Standards is available on the Georgia Department of Education's website at http://www.georgiastandards.org/.

| Support Category | Examples | Age Range | | | Content Strands | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Elementary | Middle School | High School | Number and Number Relations | Measurement | Geometry | Algebra | Data Analysis & Probability |
| | **Calculation and Problem Solving** | | | | | | | | |
| Manipulatives | Counters, fraction, tangram, slideliner, patterns (Kaidy Educational Resources dba MathFun.com, Beacon-Ridge) | X | X | X | X | X | X | X | X |
| | Math Line (Onion Mountain Technology) | | | | | | | | |
| | Master Fraction (Onion Mountain Technology) | | | | | | | | |
| | BarCulator (Kaidy Educational Resources dba MathFun.com) | X | X | | X | | | | |
| | PieCulator (Kaidy Educational Resources dba MathFun.com) | X | X | | X | | | | |
| | Cranmer Abacus (APH) | X | X | X | X | | | | |
| | | | | | | | | | |
| Virtual Manipulatives | National Library of Virtual Manipulatives (http://nlvm.usu.edu/en/nav/) | X | X | X | X | X | X | X | X |
| | Illuminations (http://illuminations.nctm.org/) | X | X | X | X | X | X | X | X |
| | Classroom Suite 4 (IntelliTools) | X | X | X | X | | X | | X |
| | | | | | | | | | |
| Charts & Study Guides | Print | | | | | | | | |
| | • Flip charts, Quick Study guides (Amazon.com, Publisher provided) | X | X | X | X | X | X | X | |
| | • Quick Math Books (Curriculum Associates) | X | X | X | X | X | X | X | X |
| | • CliffNotes (www.cliffsnotes.com, bookstores) | | X | X | X | X | X | X | X |
| | • Teacher made flow chart, cheat sheet | X | X | X | X | X | X | X | X |
| | | | | | | | | | |
| | Electronic | | | | | | | | |
| | • Microsoft Student with Encarta (Microsoft) | X | X | X | X | X | X | X | X |

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| **Charts & Study Guides** (continued) | Web-Based | | | | | | | | |
| | • Ask Dr. Math –Math Forum @ Drexel (http://mathforum.org/dr.math/) | X | X | X | X | X | X | X | X |
| | • Math.com (www.math.com/) | X | X | X | X | X | X | X | X |
| | • WebMath.com (www.webmath.com) | X | X | X | X | X | X | X | X |
| | • Algebra.help (www.algebrahelp.com) | X | X | X | | | | X | |
| | • MathOnline (www.mathonline.org/) | X | X | X | X | X | X | X | X |
| | • SparkNotes (www.sparknotes.com/math/) | X | X | X | X | X | X | X | X |
| | | | | | | | | | |
| Process Aids | StepPad (Attainment) | X | X | X | X | X | X | X | X |
| | Voice Cue (Attainment, EnableMart) | X | X | X | X | X | X | X | X |
| | | | | | | | | | |
| Calculators | Large Key Calculators | | | | | | | | |
| | • Dino Junior Big Number (Independent Living Aids) | X | X | | X | | | | |
| | • Sci-Pod Low Vision Scientific Calculator (MaxiAids) | | X | X | X | | | | |
| | • Desk-top Calculator (MaxiAids) | X | X | X | X | | | | |
| | | | | | | | | | |
| | Talking Calculators | | | | | | | | |
| | • Talking Desktop Calculator (Independent Living Aids) | X | X | X | X | | | | |
| | • Pocket Sized Talking 10-digit Calculator (MaxiAids) | X | X | X | X | | | | |
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| Calculators (continued) | Fraction Calculators | | | | | | | | |
| | • TI-15 Explorer Calculator (Onion Mountain Technology) | X | X | X | X | | | | |
| | | | | | | | | | |
| | Graphing Calculators | | | | | | | | |
| | • TI-84 (Texas Instruments, office supply and discount stores) | | X | X | X | X | X | X | X |
| | • CFX-9850G+ (Casio, office supply and discount stores) | | X | X | X | X | X | X | X |
| | • Accessible Graphing Calculator (Independent Living Aids) | | X | X | X | X | X | X | X |
| | | | | | | | | | |
| | Talking Scientific Calculators | | | | | | | | |
| | • Talking Scientific Calculator (Independent Living Aids) | | X | X | X | X | X | X | X |
| | • Orion T136  Talking Scientific Calculator (APH, Maxi-Aids) | | X | X | X | X | X | X | X |
| | • Ti - 36x Talking Scientific  (Independent Living Aids) | | X | X | X | X | X | X | X |
| | | | | | | | | | |
| | Calculator with Braille input and output | | | | | | | | |
| | • Braille 'n Speak (Freedom Scientific) | X | X | X | X | | | | |
| | • PAC Mate | X | X | X | X | | | | |
| | | | | | | | | | |
| | Onscreen Calculators | | | | | | | | |
| | • Windows Standard and Scientific Calculator (Microsoft) | X | X | X | X | | | X | X |
| | • Giant On-Screen Calculator - free (http://mrjennings.co.uk/teacher/maths/calc.html) | X | X | X | X | | | | |

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| Calculators (continued) | • Large Talking On-Screen Calculator – free (http://www.sensorysoftware.com/software/bigcalculator/index.html) | X | X | X | X | | | | |
| | • Calcu-Scan (Mayer-Johnson) | X | X | X | X | | | | |
| | • Ti -Smart View emulator software (Texas Instruments) | | | X | X | X | X | X | X |
| | | | | | | | | | |
| Software for Graphs and Charts | • Microsoft Word (Microsoft) | X | X | X | | X | | | X |
| | • Microsoft Excel  (Microsoft) | X | X | X | | X | | | X |
| | • Graph Club (Tom Snyder) | X | X | | X | X | | | X |
| | • Ti -Smart View emulator software (Texas Instruments) | | X | X | | X | X | X | X |
| | • Geometer Sketchpad (Key Curriculum Press) | | X | X | | X | X | X | X |
| | • Scientific Notebook (MacKichen Software) | | X | X | | X | X | X | X |
| | | | | | | | | | |
| Portable Math Processors | • CalcuScribe (CalcuScribe) | X | X | X | X | | | | |
| | • Math Applications for Portable Devices | | X | X | X | X | X | X | X |
| | | | | | | | | | |
| Electronic Math Processing Software | Basic Operations | | | | | | | | |
| | • MathPad (IntelliTools) | X | | | X | | | | |
| | • MathPad Plus (IntelliTools) | X | X | X | X | | | | |
| | | | | | | | | | |
| | Higher Level Operations | | | | | | | | |
| | • Equation Editor – Component of MS Word  (Microsoft) | | X | X | X | | | X | |
| | • Math Type (Design Science) | | X | X | X | | | X | |
| | • Microsoft Student with Encarta (Microsoft) | X | X | X | X | | X | X | X |
| | • Ti -Smart View emulator software (Texas Instruments) | | X | X | X | X | X | X | X |

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| Electronic Math Processing Software (continued) | • Virtual Pencil series (Henter Math) | X | X | X | X | | | X | |
| | • Scientific Notebook (MacKichan Software) | | X | X | | X | X | X | X |
| | • Geometer's Sketchpad (Key Curriculum Press) | | X | X | | X | X | X | X |
| | • Algebrator (Sofmath) | | X | X | X | | | X | |
| | | | | | | | | | |
| **Everyday Math Aids - Money** | | | | | | | | | |
| Manipulatives | Bills, coins - Hands on Money (Attainment) | X | X | X | X | | | | |
| | Bills, coins, stickers, trays - (Creative Presentation Resources, PCI Educational Publishing) | X | X | X | X | | | | |
| | Check writing and banking sets (PCI Educational Publishing) | X | X | X | X | | | | |
| | Coin Abacus (PCI Educational Publishing) | X | | | X | | | | |
| | | | | | | | | | |
| Charts & Study Guides | Money Books (Attainment Company) | X | X | X | X | | | | |
| | | | | | | | | | |
| Calculators | Coinulator (PCI Educational Publishing) | X | | | X | | | | |
| | Money Calc (PCI Educational Publishing) | X | X | | X | | | | |
| | | | | | | | | | |
| **Everyday Math Aids - Measurement** | | | | | | | | | |
| Adapted Rulers | Master Ruler (Onion Mountain Technology) | X | X | X | | X | | | |
| | Finger Grip Ruler (Onion Mountain Technology) | X | X | X | | X | | | |
| | Large Number Rulers (Fiskars, office supply) | X | X | X | | X | | | |
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| Adapted Tape Measure | Fractional tape measure (Lufkin, StanleyTools) | X | X | X | | X | | | |
| | Laser/ Digital, tapeless measures  (StanleyTools) | X | X | X | | X | | | |
| | Talking Tape Measure (LLS Group, MaxiAids) | X | X | X | | X | | | |
| | | | | | | | | | |
| Adapted Measuring Supports | Talking Measuring Jug (Independent Living Aids) | X | X | X | | X | | | |
| | Teaspoon Measuring Syringe (Independent Living Aids) | X | X | X | | X | | | |
| | Color Coded Measuring Cups (MaxiAids) | X | X | X | | X | | | |
| | Big Number Funnel Set (MaxiAids) | X | X | X | | X | | | |
| | | | | | | | | | |
| **Everyday Math Aids - Time** | | | | | | | | | |
| Manipulatives | TimeWheel 2 (Attainment) | X | X | | | X | | | |
| | Master Clock (Onion Mountain Technology) | X | X | | | X | | | |
| | | | | | | | | | |
| Adapted Watches | Teaching watches (Timex, Zoobee) | X | | | | X | | | |
| | | | | | | | | | |