



Learning, Cognition, & Development Math Assistive Technology (AT) – the What, When, Who, and Why

AT for Learning, Cognition, and Development helps individuals with "Executive Function" processing skills -- such as learning, thinking, and remembering tasks. AT can help individuals with disabilities to better comprehend reading materials, compose written work, organize thoughts and belongings, store and manipulate information, apply mathematical techniques, and avoid distracting and annoying behaviors. **Reading, Math, Organization, and Writing** are the four major areas impacted by difficulty with executive function.

Who needs AT to help with math?

Some learning and attention issues can cause trouble with math, but AT can be a huge help for students. [Dyscalculia](#) is one of the most common issues. Currently, only a few special education students advance into upper-level mathematics. The inability to grow into upper-level mathematics creates a divide, separating students who struggle with mathematics from their peers. This separation from peers often creates great difficulty in their future education.



What types of Assistive Technology (AT) tools are there for math support?

Common AT tools for math are calculators and graph paper. Graph paper and rulers are considered "low-tech" AT devices for math. Other AT supports include adaptive tools such as manipulatives like blocks and number lines. Manipulatives are real or virtual objects that let kids solve math problems in alternative ways.



More math AT includes:

- Math notation tools
- Digital graphing tools
- Drawing tools
- Equation-solving tools
- Graphic organizers
- Text-to-speech
- Dictation

Why?

Building mathematical skills is easily overlooked but can have lifelong implications for students. Basic life tasks such as paying bills, balancing a checkbook, creating budgets, arriving at work on time, and measuring are independent living skills that we all use. Understanding and thinking critically about numbers is vital for students to operate successfully in the real world.

How?

Teaching mathematics should not focus only on teaching procedures and providing students with the bare minimum knowledge of facts and equations. Students need to know why they are doing what they are doing. Students need to understand the **process of math** and not just the **mechanics of math**. The bigger picture is how to assist students in understanding the language of numbers and applying what they know to their problems.

Where to access AT for math?

You can find traditional "low-tech" classroom items such as large number papers, symbols, and graph paper with large graph squares at school supply stores. Teachers may also have these items at the school. Schools will typically have adaptive tools to use for math issues, such as manipulatives which are blocks and number lines. Math AT tools are also available on desktop and laptop computers with built-in AT options like

- text-to-speech;
- mobile devices like tablets and smartphones with built-in AT; and
- Chromebooks and Chrome browser with math extensions downloaded.

Technology has many advantages, but careful consideration is needed to meet an individual's unmet needs in the community, educational, and employment settings. To learn more about how to navigate the world of Learning, Cognition, and Development AT, visit the area of [Math](#)– Explore AT from AT3 Center. The assistive technology solutions provided on this site are intended as examples to give an idea of the types of Learning, Cognition, and Development AT currently available in today's market. Also, remember to [contact your AT Act Program](#) to learn more and explore services available to help make an informed purchasing decision and obtain the AT needed.

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