



# Specific Learning Disability in Mathematics



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## What is a Specific Learning Disability in Mathematics?

When a child has been given good opportunities to learn mathematics, but hasn't been able to keep up, he or she may have a Specific Learning Disability in Mathematics (sometimes called "Math LD" or "dyscalculia"). Learning disabilities affect around 2-10% of children in the US. The rates are even higher for children who also have other developmental or medical conditions. This sheet lists resources for Specific Learning Disability in Mathematics. Please also see our *General Learning Disabilities* resource sheet for broader information.

## Where can I find help?

Children in the US who have LDs have the right to special educational assistance through the public school system because of the Individuals with Disabilities Education Act (IDEA). You can find out more about IDEA through the [US Department of Education \(http://idea.ed.gov/\)](http://idea.ed.gov/) or an advocacy site such as [WrightsLaw \(http://www.wrightslaw.com/\)](http://www.wrightslaw.com/). Because of IDEA, learning disabilities specialists should be available at no cost to the families of local students within every public school system in the US. Usually the best starting place is for parents to write a brief but formal letter to their child's school principal requesting an evaluation by an LD specialist. By law the school then has 100 days to respond.

Although IDEA is a federal law, it is interpreted a bit differently in different parts of the country. Sometimes, an independent evaluator from outside of the school is needed. In those cases, it can be helpful to contact an independent psychologist in the community who works with children. At the bottom of the next page is a link to locate a board-certified clinical neuropsychologist. Even if that psychologist does not specialize in working with kids who have a Math LD, they can direct you to the appropriate resources.

## How does an LD specialist help a child?

Most specialists focus on evaluating children and providing recommendations to teachers and other school staff. The evaluations help to clarify whether an LD is present and guide interventions. What happens during the evaluations can vary, but typically children are given one-on-one assessments that are designed to better understand his or her strengths and weaknesses. Here are some tests that include good measures of mathematics:

- Bateria III Woodcock-Muñoz Pruebas de Aprovechamiento (Spanish)
- Kaufman Test of Educational Achievement – Second Edition
- Key Math – Third Edition
- Wechsler Individual Achievement Test – Third Edition
- Wide Range Achievement Test – Fourth Edition
- Woodcock Johnson Tests of Achievement – Third Edition

Some specialists provide tutoring or other interventions themselves. This can be a good thing, if they do high-quality work and don't have ulterior motives. Be cautious about specialists who both conduct evaluations and sell specific treatment "packages", because their recommendations for treatment may be motivated by money, rather than a child's needs.

## Where can I find resources online?

Here is a good starting point. Also, please see our *General Learning Disabilities* sheet for broader LD resources.

Resource	Link
<b>Pirate Math</b> Helps children learn to solve word problems	<a href="http://www.cec.sped.org/">www.cec.sped.org/</a>
<b>Math Flash</b> Helps children learn math facts.	<a href="http://tech.aph.org/mf_info.htm">http://tech.aph.org/mf_info.htm</a>
<b>Singapore Math</b> Shifts from concrete to pictorial to abstract concepts.	<a href="http://www.SingaporeMath.com">www.SingaporeMath.com</a>
<b>Jump Math</b> A program that is based on a scaffolding of concepts.	This program is divided by grade level and commercially available at online resellers, including <a href="http://www.amazon.com">www.amazon.com</a> (search for "Jump Math")
<b>Building Blocks for Math (SRA Real Math)</b> A math program focused on foundation skills.	<a href="http://www.mcgraw-hill.com.sg/school/catalog/preK-12_math-sci_08-09/Maths/8_Real_Math.pdf">http://www.mcgraw-hill.com.sg/school/catalog/preK-12_math-sci_08-09/Maths/8_Real_Math.pdf</a>
<b>I CAN Learn® Pre-Algebra and Algebra</b> A math program focused on middle school skills.	<a href="http://www.icanlearnonline.com">www.icanlearnonline.com</a>
<b>Khan Academy</b> Web-based instruction on all levels of math.	<a href="http://www.khanacademy.org">www.khanacademy.org</a>

## What are some good articles and books?

It is impossible to list everything, but here is a good starting list. Also, please see our *General LD* sheet for more.

Barnes, M., Stubbs, A., Raghubar K., Agostino, A., & colleagues. (2011). Mathematical skills in 3- and 5-year-olds with spina bifida and their typically developing peers: A longitudinal approach. <i>Journal of the International Neuropsychological Society</i> , 17, 431-444.
Bull, R., Epsy, K. & Wiebe, S. (2008). Short-term memory, working memory, and executive functioning in preschoolers: Longitudinal predictors of mathematical achievement at age 7 Years. <i>Developmental Neuropsychology</i> , 33 (3), 205-228.
Fiefer, S.G. (2005). <i>The neuropsychology of mathematics: Diagnosis and Intervention</i> . School Psychology Press.
Fuchs, L., Fuchs, D., Powell, S., Seethaler, P., Cirino, P., & Fletcher, J. (2008) Intensive intervention for students with mathematics disabilities: Seven principles of effective practice. <i>Learn Disabil Q.</i> 31(2): 79–92.
Henik, A, Rubinsten, O, & Ashkenazi, S. (2011). The “where” and “what” in developmental dyscalculia. <i>The Clinical Neuropsychologist</i> , 25, 989–1008.
Jordan, N., Hanich, L. & Kaplan, D. (2003). A longitudinal study of mathematical competencies in children with specific mathematics difficulties versus children with comorbid mathematics and reading difficulties. <i>Child Development</i> , 74(3), 834-850.

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## Additional Information:

### What is board certification in clinical neuropsychology?

Believe it or not, most states allow licensed psychologists to call themselves neuropsychologists without showing they have any special training on how to care for people who have neurological or neurodevelopmental disorders. Clinicians who are board-certified in clinical neuropsychology have proven, through a rigorous evaluation, that they are fully competent. That evaluation is conducted by the largest certification group in psychology, [the American Board of Professional Psychology \(ABPP; http://www.abpp.org\)](http://www.abpp.org), and its subspecialty board, The American Board of Clinical Neuropsychology. The goal of ABPP is to protect the public by examining and certifying psychologists who demonstrate competence in approved specialty areas.

### How do I find a board-certified clinical neuropsychologist?

These are listed by name and by location on the web site of the [American Academy of Clinical Neuropsychology \(AACN; http://theaacn.org\)](http://theaacn.org). Once you find a neuropsychologist near you, click on their name for more information, including the kinds of people they work with and how to contact them.

### What is pediatric neuropsychology?

[Click here \(http://www.div40.org/resources.htm\)](http://www.div40.org/resources.htm) to download a pamphlet that explains what makes pediatric neuropsychology unique, and what to expect from an evaluation by a pediatric neuropsychologist.



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