

Specific learning difficulties in math can appear as trouble recalling math facts, understanding concepts, understanding the language of mathematics, or planning. **Some things that look like disabilities** in learning math are emotional blocks from years of failure. **Other learning disabilities** can affect math performance: difficulty in reading memory, in processing language, with visual-spatial relationships, or trouble following a sequence of steps. To learn more, read:

- <http://www.ldonline.org/indepth/math>
- Brock and Fernette Eide, *The Mislabeled Child*, New York: Hyperion, 2006.

Attitude

- Work on your own attitude first.
- Work on your child's attitude: praise perseverance, choose best time of day, limit math facts drill to 5-10 minutes, daily, consider modest rewards, use untimed drills, large print, give the context of the lessons.
- Why study math? Merely to meet a requirement or to learn, be creative, see patterns, solve problems? Read Denise Gaskins' new book, *Let's Play Math*.

Multisensory Structured Language Math (MS Math)

Teaching strategies:

- "Build it, draw it, write it;"
- Teach language of math.
- Structured language.
- Student makes math manual.
- Make rule memorable.
- Keep it simple: teach new concepts with simple calculations.
- Never teach a concept with a problem you haven't already solved.
- Instruct explicitly (tiny steps)
- Use graphic organizers
- Coding: Use color, parentheses and acronyms to keep track of processes
- Build on familiar concepts

Learn how to apply these Multisensory Math principles:

- Marilyn Zecher multisensorymath.com/ Online or in Rockville, MD, parents can take her Multisensory Math courses at <http://www.asdec.org/>
- Chris Woodin tips, handouts, and videos: cwoodinmathfacts.tripod.com/sitebuildercontent/sitebuilderfiles/2xfactlearning.pdf
www.landmarkschool.org/resources/woodinmath *Multiplication and Division Facts for the Whole to Part Visual Learner* available from Landmark School.

Mastering Math Facts

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E-mail kathy@learndifferently.com

- Drilling: Give the child several options each day: flash cards, 100 chart board game with 10-sided dice, Wrap-Ups, bouncing on mini-trampoline.
- Look at DianneCraft.com flashcards or *Addition the Fun Way* and *Multiplication the Fun Way* from www.citycreek.com.
- Better yet, you and your children can make up your own stories to recall the facts.
- Skip-counting is good preparation and review for multiplication. Skip-counting tapes: *Rap with the Facts*, *Audio Memory*, *Math-U-See*, *Multiplication Rock*.
- *FlashMaster* is a handheld electronic tool for math drill. See sonlightcurriculum.com
- See Marilyn Zecher's and Christopher Woodin's materials above.

General Resources for Basic Math

- Denise Gaskins, *Let's Play Math*.
- Marilyn Zecher and Chris Woodin, above
- Dyslexia, creativity and Woodin's book at dyslexia.yale.edu/math.html
Teaching math concepts dyslexia.yale.edu/Edu_mathnamingproblems.html
- Use fraction circles <http://donnayoung.org/math/fraction.htm> and fraction bars www.fractionbars.com/OrderInfo.html
- Use memory aids, also called mnemonics, e.g., www.onlinemathlearning.com/math-mnemonics.html www.ldonline.org/article/13717 explains principles behind them.
- Cindy Neuschwander's stories teach math concepts: *Sir Cumference & the First Round Table*, *Sir Cumference & the Dragon of Pi*, etc.
- Build reasoning skills with *Critical Thinking Books and Software* criticalthinking.com
- M.C. Escher's drawings are fun to see, try to copy, or take inspiration from.
- Games and pattern blocks are available from Timberdoodle, www.timberdoodle.com

Hands-on math curricula

- *RightStart Mathematics*, makes K-3 curriculum. www.ALabacus.com
- *Math-U-See*, Steve Demme's K-12 series, mathusee.com
- Moving With Math is a K-8 curriculum, with lots of review using manipulatives. They sell Unifix Cubes, Base 10 Blocks, Fraction Circles. movingwithmath.com
- *Making Math Meaningful*, by David Quine, Cornerstone Curriculum, K-6, plus algebra, geometry. www.cornerstonecurriculum.com/Curriculum/MMM/MMM.htm

Resources for Consumer Math

Boy Scouts Personal Management merit badge pamphlet

Larry Burkett books: *Money Matters for Kids* and *Money Matters for Teens*.

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E-mail kathy@learndifferently.com

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Christine Field, *Life Skills For Kids*, chapter 8.

www.mymoney.gov, choosetosave.org, irs.gov

By Kathy Kuhl

LearnDifferently.com

High School Math

- Harold Jacobs, *Mathematics: A Human Endeavor*. Also *Elementary Algebra*, and *Geometry*, 3rd edition. Reviewed at www.pahomeschoolers.com/jacobs.html
- *Geometer's Sketchpad*. Software lets students “construct objects, figures, & diagrams and explore their mathematical properties by dragging objects with the mouse.”
Curricula for algebra 1 & 2, geometry, pre-calculus, www.dynamicgeometry.com/

Video/computer classes:

- ALEKS online self-paced classes. Free 2 month trial www.aleks.com/webform/c240
- Watch demos on websites such as www.videotext.com/ and mathusee.com/
- Teaching Textbooks covers Math 4 through Pre-Calculus. Teaches use of graphing calculators in its Algebra course. TeachingTextbooks.com (don't forget the 's')

For those with more severe difficulties

Semple Math, www.semplemath.com

Learning Palette: math facts review with less fine motor skill required

DeAnna Horstmeier's book series and related materials, *Teaching Math to People with Down Syndrome and Other Hands-On Learners*, woodbinehouse.com

See Chris Woodin, above.