

Tips for Helping Your Elementary School Child with Math Homework

For many parents, the subject of math stirs up feelings of worry and fear. While reading often creates images of warmth and fantasy, math and numbers can bring on shivers and chills.

If you think of math as something "other people are good at," or "something we'll never use," your attitude may undermine your ability to "coach" your child. There are many ways to tackle math homework and point out how math concepts are used in your home every day.

General Tips

- Your feelings about math can help your child think positively or feel anxious. If the subject makes you nervous, try not to pass your feelings on to your child. Share only what is helpful not harmful.
- You may want to find a tutor, older sibling, or peer tutor to help your child with math. Check with the school to see if a peer-tutoring program exists.
- Begin each math homework session by asking your child to explain what he's supposed to do. By his response, you'll know if he can do the assignment alone or if you need to help him get started.
- If you're not around when your child completes his homework, let him know that you'll look it over when you get home. Be sure to follow through. Tell him you're doing this to help him, not judge him.
- Encourage him to ask a classmate if he can contact him when he doesn't understand or misses an assignment.

Support at Home

- Explore math in every day life — counting out forks to set the table, pouring from a gallon of milk, telling the time when his favorite TV program begins. When kids realize that math is all around them, they begin to relax and see its meaning in their lives.
- Show how math is more than learning addition, subtraction, multiplication, and division. Math also teaches us to analyze, reason, and plan. These are all useful skills that transfer over to reading and writing as well.
- Model analytical and mathematical thinking. Be a problem solver, explore questions, and find solutions. Talk about likenesses and differences, and explain your reasoning.
- Encourage your child to express his problem solving thoughts out loud so you can understand his reasoning.
- When driving in the car, talk about how numbers help us determine how fast we drive, the distance traveled, mileage the car gets per gallon of gas, and how long it will takes to get home.
- Expose your child to money in his early school years. Have him keep coins in a piggy bank and count them out regularly. If he receives an allowance, have him keep track of the amount or start a bank account.
- Have your child use an analog and digital watch or clock to learn both methods of telling time.
- Incorporate games involving numbers and math into play. There are many types of games — from flash cards for learning basic math facts to games involving money, time, and logic.
- Post a chart of math facts on the wall in his room. Some activities and games can help kids memorize math facts.
- Computer learning games can also be used to reinforce skills. Most kids enjoy working on the computer. There are software programs to fit many skill levels. Older students may want

to use calendars or spreadsheets in their daily or weekly schedule. Doing this will reinforce the many uses of math.

- When helping your child, ask questions to guide him through the process, such as, "Where do you begin?" "What do you need to find out?" "Can you show me in a drawing how you got the answer?"
- It's okay to say that you don't understand a problem. It gives you an opportunity to review the lesson together to see if you've missed some important piece of information.
- Establish a clear understanding with your child's teacher(s) about the frequency and amount of homework he'll receive. Modification of homework may increase his motivation and how much work he does. With his teacher, decide if he needs to do fewer problems, or if he can say the answers out loud and you can write them for him, or if he can check his work with a calculator.

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About the Contributors

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Other Resources

Books

Family Math

www.amazon.com/exec/obidos/ASIN/0912511060/schwabfoundation
By Jean Kerr Stenmark, Virginia Thompson, Ruth Cossey

Teach Your Child Math

www.amazon.com/exec/obidos/ASIN/0737301341/schwabfoundation/
By Arthur Benjamin and Michael Brant Shermer

Children's Mathematical Development: Research & Practical Application
www.amazon.com/exec/obidos/ASIN/1557982589/schwabfoundation/
By David C. Geary

Multicultural Math: Hands-On Math Activities from Around the World
www.amazon.com/exec/obidos/ASIN/0590496468/schwabfoundation/
By Claudia Zaslavsky

Math for Humans: Teaching Math Through 8 Intelligences
www.amazon.com/exec/obidos/ASIN/0965641481/schwabfoundation/
By Mark Wahl

Websites

LD Online

10 Tips for Software Selection for Math Instruction
www.ldonline.org/ld_indepth/technology/babbitt_math_tips.html

U.S. Department of Education
Helping Your Child Learn Math
<http://www.ed.gov/parents/academic/help/math/index.html>

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PARENT TOOLKIT

Introduction | Attention | Mathematics | Writing | Reading | Resources

Difficulties with Mathematics

What Can Stand In The Way Of A Student's Mathematical Development?

Math difficulties can arise at nearly any stage of a child's scholastic development. While very little is known about the neurobiological or environmental causes of these problems, many experts attribute them to deficits in one or more of six different skill types. These deficits can exist independently of one another or can occur in combination. All can impact a child's ability to progress in mathematics.

INCOMPLETE MASTERY OF NUMBER FACTS

Number facts are the basic computations ($9 + 3 = 12$ or $2 \times 4 = 8$) students are required to memorize in the earliest grades of elementary school. Recalling these facts efficiently is critical because it allows a student to approach more advanced mathematical thinking without being bogged down by simple calculations.

COMPUTATIONAL WEAKNESS

Many students, despite a good understanding of mathematical concepts, are inconsistent at computing. They make errors because they misread signs or carry numbers incorrectly, or may not write numerals clearly enough or in the correct column. These students often struggle, especially in primary school, where basic computation and "right answers" are stressed. Often they end up in remedial classes, even though they might have a high level of potential for higher-level mathematical thinking.

DIFFICULTY TRANSFERRING KNOWLEDGE

One fairly common difficulty experienced by people with math problems is the inability to easily connect the abstract or conceptual aspects of math with reality. Understanding what symbols represent in the physical world is important to how well and how easily a child will remember a concept. Holding and inspecting an equilateral triangle, for example, will be much more meaningful to a child than simply being told that the triangle is equilateral because it has three equal sides. And yet children with this problem find connections such as these painstaking at best.

MAKING CONNECTIONS

Some students have difficulty making meaningful connections within and across mathematical experiences. For instance, a student may not readily comprehend the relation between numbers and the quantities they represent. If this kind of connection is not made, math skills may be not anchored in any meaningful or relevant manner. This makes them harder to recall and apply in new situations.

INCOMPLETE UNDERSTANDING OF THE LANGUAGE OF MATH

For some students, struggles with math difficulty may be driven by problems with language. These children may also experience difficulty with reading, writing, and speaking. In math, however, their language problem is confounded by the inherently difficult terminology, some of which they hear nowhere outside of the math classroom. These students may have difficulty understanding written or verbal directions or explanations, and find word problems especially difficult to translate.

DIFFICULTY COMPREHENDING THE VISUAL AND SPATIAL ASPECTS AND PERCEPTUAL DIFFICULTIES

A far less common problem - and probably the most severe - is the inability to effectively visualize math concepts. Students who have this problem may be unable to judge the relative size among three dissimilar objects. This disorder has obvious disadvantages, as it requires that a student rely almost entirely on rote memorization of verbal or written descriptions of math concepts that most people take for granted. Some mathematical problems also require students to combine higher-order cognition with perceptual skills, for instance, to determine what shape will result when a complex 3-D figure is rotated.

Observations At Home

The following are things a parent might see when a child is struggling with math. NOTE: the following is not an exhaustive list of the types of difficulties a student may have with math and should not be used without considering all of the child's strengths and weaknesses. If you are concerned about your child's difficulties with math or other struggles with learning, read more about tips on assessment.

OUTPUT DIFFICULTIES

A student with problems in output may

- > be unable to recall basic math facts, procedures, rules, or formulas
- > be very slow to retrieve facts or pursue procedures
- > have difficulties maintaining precision during mathematical work
- > have difficulties with handwriting that slow down written work or make it hard to read later
- > have difficulty remembering previously encountered patterns
- > forget what he or she is doing in the middle of a math problem

ORGANIZATIONAL DIFFICULTIES

A student with problems in organization may

- > have difficulties sequencing multiple steps
- > become entangled in multiple steps or elements of a problem
- > lose appreciation of the final goal and over emphasize individual elements of a problem
- > not be able to identify salient aspects of a mathematical situation, particularly in word problems or other problem solving situations where some information is not relevant

- > be unable to appreciate the appropriateness or reasonableness of solutions generated

LANGUAGE DIFFICULTIES

A student with language problems in math may

- > have difficulty with the vocabulary of math
- > be confused by language in word problems
- > not know when irrelevant information is included or when information is given out of sequence
- > have trouble learning or recalling abstract terms
- > have difficulty understanding directions
- > have difficulty explaining and communicating about math, including asking and answering questions
- > have difficulty reading texts to direct their own learning
- > have difficulty remembering assigned values or definitions in specific problems

ATTENTION DIFFICULTIES

A student with attention problems in math may

- > be distracted or fidgety during math tasks
- > lose his or her place while working on a math problem
- > appear mentally fatigued or overly tired when doing math

VISUAL SPATIAL OR ORDERING DIFFICULTIES

A student with problems in visual, spatial, or sequential aspects of mathematics may

- > be confused when learning multi-step procedures
- > have trouble ordering the steps used to solve a problem
- > feel overloaded when faced with a worksheet full of math exercises
- > not be able to copy problems correctly
- > have difficulties reading the hands on an analog clock
- > have difficulties interpreting and manipulating geometric configurations
- > have difficulties appreciating changes in objects as they are moved in space

DIFFICULTIES WITH MULTIPLE TASKS

A student with problems managing and/or merging different tasks in math may

- > find it difficult to switch between multiple demands in a complex math problem
- > find it difficult to tell when tasks can be grouped or merged and when they must be separated in a multi-step math problem
- > cannot manage all the demands of a complex problem, such as a word problem, even though he or she may know component facts and procedures