RAISING A SUCCESSFUL STUDENT
Middle school
Middle school presents a myriad of new challenges

New classes, tougher homework, and so many teachers... succeeding in middle school presents a whole new set of challenges. It stands to reason that supporting your child through this new landscape is more complicated, too. From taking notes to tackling math and reining reading, here are a few ways you can help your child step up to these new challenges at school.

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Teach your child how to take great notes

Taking clear, complete notes is a survival skill your child will need in every class. The ability to evaluate, organize, and summarize important information — from class lectures, reading assignments, and research materials — will help your child forever. Here are some tips to help your child become an A+ note taker.

Taking notes in class

• Start a new page each day and date it. Leave space between topics or ideas so you can easily scan the page later.

• Write down key words and concepts rather than full sentences. Develop your own system of abbreviations or symbols (such as w/ for with or math symbols such as > or =) to quickly take down key points.

• Listen for word clues from the teacher. Teachers often signal what’s important to note, using introductory phrases such as, “The three incidents that led to the War of 1812 were...”

• Review notes after class to make sure they’re accurate and complete. Then, before starting homework, review the relevant class notes again.

Taking notes from reading or research

• Pre-read a textbook chapter to get an idea of what it’s about: read the intro text, subheads, graphics, photo captions, summary paragraphs, and study questions at the end. Then read the chapter.

• Pay attention to anything the textbook publisher has used typographical features (bolded or italicized words, for example) to emphasize.

• Summarize information in your own words, rather than copying the textbook. Put quotation marks around passages that are direct quotes from an author and note the page number where you found the quote so you can easily find and attribute words that aren’t your own.

• Remember: Accuracy and attribution are essential skills when preparing to write a research paper or take a test.
Stop math madness!
If math wasn’t your favorite subject, then diving back in may raise that old urge to run into your room, slam the door, and play guitar badly. The good news is, if you can remember how you felt then, you can appreciate how your child feels now — and do your best to keep your child from getting muddled by math.

1. Watch your attitude
If you say, ”I was never good at math,” you’re making a powerful statement. Your child may pick up the widely held — and entirely erroneous — view that some people can do math and others can’t, and that luck and genetics (rather than effort) are key to math success.

2. Apply math to real-life problems
Consumers need math skills to make smart choices about cell phone service — or to calculate how much it’ll really cost to pay a 30-year, $500,000 mortgage with a 4% fixed interest rate. Examples like these help show your child that math is more than memorizing a set of rules disconnected from real life.

3. Develop math-oriented traits
To succeed in math, your child needs to persevere when tasks are time-consuming and complicated. Your child can start by practicing these key math skills:
   • Working independently
   • Learning to read — and understand — math textbooks
   • Reviewing and correcting her own work
   • Using resources — class time, tutoring, study groups, math websites — and seeking help when necessary.
   • Trying a variety of approaches to solve multistep problems

4. Discuss math-related careers
City planner, baseball writer, cancer researcher — believe it or not, all of these professions require math. Investigate a career your child’s interested in and see what math is needed on the job. Or browse through a college catalog, where you’ll see that math’s a prerequisite for many classes and degrees in non-technical fields. Social workers, for example, need to take statistics. Business majors need college calculus.

5. Look into tutoring
If your child is struggling, talk to your child’s teacher, counselor, or principal. Ask about after school or community tutoring. Or get together with other families and share the costs of hiring a private tutor. Don’t delay in hopes that the problem will resolve itself: math is cumulative, and the further behind your student falls, the harder it’ll be to catch up.
A math cheat sheet for parents

Remember this stuff? Not to worry, we’ve all forgotten some math lessons from long ago. Use this refresher to feel more comfortable helping your child with increasingly complex math homework.

Figuring out fractions:
- A fraction is a number written in the form: N/D where N is the numerator and D is the denominator.
- A proper fraction has a numerator that is less than the denominator: \( \frac{4}{9} \)
- An improper fraction has a numerator greater than or equal to the denominator: \( \frac{9}{4} \)
- A mixed number is a whole number and a fraction: 1 \( \frac{3}{4} \)
- The reciprocal is the inverse of a number. For a fraction, it’s obtained by “turning the fraction upside down.”

\[
\text{Fraction: } \frac{2}{3} \quad \text{Reciprocal: } \frac{3}{2} \quad \text{Fraction \times Reciprocal = 1} \quad \frac{2}{3} \times \frac{3}{2} = 1
\]

Equality Rule: \( a/b = c/d \) if and only if \( a \times d = b \times c \)

When the cross products, the results of \( a \times d \) and \( b \times c \), are the same values, the two fractions are equal.

Adding and subtracting fractions:
Like fractions have the same denominator (2/3 and 1/3 are like fractions). You can add and subtract like fractions easily — simply add or subtract the numerators and write the sum over the common denominator.

\[
\frac{1}{3} + \frac{2}{3} = \frac{3}{3}
\]

\[
\frac{5}{7} - \frac{2}{7} = \frac{3}{7}
\]

Before you can add or subtract fractions with different denominators, you must first find equivalent fractions with the same denominator, or the least common denominator (LCD). Here’s how:

1. Find the smallest multiple of both numbers.

2. Rewrite the fractions as equivalent fractions with the LCD as the denominator — just remember to write the new numerators as well.

3. Now add or subtract.

\[
\frac{1}{5} + \frac{1}{3} = \frac{1 \times 3}{5 \times 3} + \frac{1 \times 5}{3 \times 5} = \frac{3}{15} + \frac{5}{15} = \frac{8}{15}
\]
Math cheat sheet for parents continued

Multiplying and dividing fractions
Multiplication rule:

\[
\frac{a}{b} \cdot \frac{c}{d} = \frac{ac}{bd}
\]

Multiply the two numerators over the two denominators.

\[
\frac{1}{3} \cdot \frac{4}{5} = \frac{1 \cdot 4}{3 \cdot 5} = \frac{4}{15}
\]

Division Rule: Multiply the dividend by the reciprocal of the divisor.

\[
\frac{2}{5} \div \frac{3}{4} = \frac{2}{5} \cdot \frac{4}{3} = \frac{8}{15}
\]

Keep it simple!
When a problem can be simplified, you should simplify before substituting numbers for the variables. This will make your job a lot easier. Here’s how:

\[
2(3 + x) + x(1-4x) + 5
\]

1. Simplify the parentheses: \(6 + 2x + x - 4x^2 + 5\)
2. Combine like terms by adding coefficients: \(6 + 3x - 4x^2 + 5\)
3. Combine the constants: \(11 + 3x - 4x^2\)

To keep it clear, remember the order of operations:
1. First, do all operations that lie inside parentheses.
2. Next, do any work with exponents or radicals.
3. Working from left to right, do all multiplication and division.
4. Finally, working from left to right, do all addition and subtraction.
Math cheat sheet for parents continued

Graphing
The coordinate plane is determined by a horizontal number line called the x-axis and a vertical number line called the y-axis; they intersect at a point called the origin (0, 0). Each point in the coordinate plane can be specified by an ordered pair of numbers (x, y), where the first number is the horizontal coordinate and the second is the vertical coordinate.

Plotting straight lines
Every straight line can be represented by an equation: \( y = mx + b \). The coordinates of every point on the line will solve the equation if you substitute them in the equation for \( x \) and \( y \).

The slope (m) of this line — its steepness or slant — can be calculated like this:

\[
m = \frac{\text{change in } y\text{-value}}{\text{change in } x\text{-value}}
\]

The equation of any straight line, called a linear equation, can be written as: \( y = mx + b \), where \( m \) is the slope of the line and \( b \) is the y-intercept. The y-intercept of this line is the value of \( y \) at the point where the line crosses the y axis.
What strong middle school reading looks like

With increasingly difficult reading assignments, here’s how you can help your middle schooler keep up, stay organized, and process the onslaught of information without going into overload.

1. Create an organization system at home
Help your child keep track of homework and reading assignments using a planner. Break larger assignments into daily tasks by using a calendar, marking the due date, and working backward to determine how much your child needs to do each night. At the end of each reading assignment, have your child spend at least five minutes writing a summary of what he read. Keep binders neat and have separate files for work to be turned in and work that’s been returned. These are great ways to avoid late nights, missed due dates, and getting overwhelmed.

2. Practice reading
Get your child to read every day, even during the summer. It doesn’t matter what genre your child reads, just make sure your child’s reading.

3. Tips for textbooks
Encourage your child to read questions at the end of the chapter first, so she knows what info to be on the lookout for. Encourage her to use headings and subheadings as cues, too.

4. Deciphering tough texts
When your child reads something she doesn’t quite get, teach her to try solving the problem with one of these methods before asking for help. First, try reading on to see if it becomes clear. If not, then go back and reread the unclear part. Still not getting it? Go back further and reread the sentences before the confusing part. See if your child can connect the confusing part to something she already knows. By persevering, rereading, and using context for clues, your child will build essential reading comprehension skills.