

5 TIPS FOR HELPING YOUR CHILD WITH MATH AT HOME

By Mathease Tutoring

The definitive guide to help you and your child conquer math with less stress.

CHEAT SHEET INCLUDED!

702-436-6964

mathease@me.com

www.matheasetutoring.com



5 TIPS FOR HELPING YOUR CHILD WITH MATH AT HOME

Math is complicated, so is being a parent. It's even harder when you are called upon to do both- to teach your child math. We've seen so many parents and kids struggling lately, so we've put together our best and most effective math teaching tips. Read on to find out how to make math learning easy as 1, 2, 3.



BREAK DOWN VOCABULARY & SIMPLIFY

Make sure your child understands what any given problem is asking of them. Make sure they understand any and all language being used and simplify concepts.



Math language has gotten more complicated. With the introduction of common core, it seems like many publishing companies have a very unrealistic idea of the words and concepts kids and teens actually understand at any given age. On top of that, as adults, parents and educators sometimes forget how new everything is when you are young, and kids don't always ask. **The first step to helping your child unpack common core math is to make sure they actually understand all the words being used.** Put yourself in their shoes and ask yourself some questions.

"What words would confuse me?"

"Which sentences or concepts are unclear or hard to understand?"

"Is this problem easy to picture?"

Take a moment and ask your child about those words, concepts, and ideas. Listen carefully and kindly to their answers. It will tell you a lot about what they are "not getting." Now you can fill in gaps in their understanding, explain unfamiliar words or concepts, and break things down to a level they understand. This can be very daunting to people who have never really had to teach before, so below are some questions to guide you in this process.

"Is there a simple synonym or easy example I can use to explain this word?"

"Is there a way I could ask this problem in simpler language?"

"Is there an easier example of the concepts involved (including simple numbers) that I could use to help my child understand the basics of this problem?"

"Can I draw a simple diagram or quickly find a photo that would easily illustrate my point?"

Once you get in the habit of looking at math problems from your child's eyes, breaking down the vocabulary and ideas will come naturally. Your math communication will really improve and so will your child's skills.

Extra Tip: It's very important to reinforce this new vocabulary, so it really sticks! Math is always building on itself. To ensure your child really succeeds, especially with common core, make sure they remember this new vocabulary for the long haul.



REFRESH, RELATE, & CHUNK

Divide new concepts into small pieces. Refresh all related old skills. Relate old concepts to the new ones. Break down new skills into smaller, manageable chunks before combining them..

When teaching a new topic many people often forget that human memory is not perfect and it's not the best at learning a lot of new material at once. Even if a student has seen a concept before or mastered a relevant skill, they might not always remember it immediately or know when to apply it. Thus, parents can avoid frustrating themselves and their kids by not expecting their child to perfectly recall skills that they haven't had to use recently or learn many interwoven skills at once. In fact, we suggest the opposite- assume your child needs to review or refresh all relevant prerequisite skills before jumping into a new topic or helping them with a concept they are struggling with. You also shouldn't overwhelm them by going over too much at once.

You might be asking "How am I supposed to do all of that? I'm not a teacher." We've got a simple 3 step solution that will help you teach with ease: refresh, relate, and chunk.

Start by looking at a problem, concept, or worksheet and create a list of all the skills your child will need to conquer it.

REFRESH: Looking at the list of skills and concepts that are required to master this topic or problem, decide which skills your child has seen before and should know. Talk to them about these skills, then have them do an example problem or two to fresh their memory and to work out any kinks before starting new material. This will prime them so they can effortlessly remember and integrate them while working on their new topic.

RELATE: Now that your child is thinking about the related skills and concepts, talk to them about how they relate to this new problem or skill. Our brains learn best by making connections to previous knowledge. Making these connections is important because it really helps them remember these skills for the long term. This will also help them if they get lost in a problem, because they can relate the hard problem to an easier one that they understand better.

CHUNK: This last step is extremely important when learning a new skill that has many parts where your child can get confused or overwhelmed. Never attack a large problem all at once. Instead have your child individually master smaller chunks or skills before putting it altogether. If you take the time to break a new skill into smaller chunks, you make the task much more manageable for your child. They understand their math problems better and will be better equipped to take on complex problems alone.

We've broken down the example problem below to give you a better idea of what we mean.

(Imagine your 7th grade child was struggling with the following problem.)

Jennifer drove 455 miles to her grandfather's house. The trip took her $7\frac{1}{2}$ hours. What was her average speed in miles per hour? Leave your answer as a mixed number.

This problem might seem simple to an adult who is used to working with driving speed, but it actually encompasses a lot of skills that can be overwhelming to a newcomer.

Here are the skills needed:

1. Solving for complex unit rates
2. Solving for basic unit rates
3. Dividing fractions
4. Converting mixed numbers to improper fractions
5. Converting improper fractions to mixed numbers
6. Long division
7. Simplifying fractions or cross canceling

Now we need to decide what we need to refresh, what we need to relate, and what we need to chunk.

REFRESH: All 7th grade students should have covered skills 3 through 7 before. Give your student a refresher problem on each of these. Discuss and reteach any of these skills they do not have mastered before moving on. Additionally most students at this level will have covered unit rates, but they are more likely to have forgotten about them. Spend more time discussing and reviewing this concept.

RELATE: Discuss how basic unit rate problems relate to the new skill- complex unit rates. Consider converting the original problem to one with easy whole numbers, so your child will more easily understand the underlying concept.

CHUNK: If your child quickly remembers all of the prerequisite skills, this problem does not need much chunking. They should be able to tackle it in one chunk. However, if any of these skills are missing they will need to learn these skills in smaller chunks before tackling their new problem. For example, they might need to practice simply identifying which number is the divisor and which will be dividing. Then they can jump into all of the fraction work.

BRING IT TO THE REAL WORLD

Don't let math be abstract. Relate every concept with something that is familiar to your child. Get creative and make math concrete.



The whole reason kids learn math in school is because it is incredibly useful and fundamental in real life. Yet, too often, kids find themselves confused because they can't relate any of the math concepts they are learning in school to things they actually see and use in the world. Most importantly, many kids can't understand abstract concepts. Concrete ideas just work better for them. Therefore, you need to relate the math concepts and problems they are solving to their actual life to help them learn.

The most effective way to bring math into the concrete world for a child is to **create examples or translate problems that involve subjects or items that they are interested in** or deal with regularly. Maybe your child is obsessed with a particular toy or food item. (For now let's say they love Legos.) You can easily relate division with remainders to purchasing Lego sets with a set, monetary budget. "If each Lego set is \$6 and I have only \$20 to spend, then I can buy 3 sets, and I'll have \$2 to save for next time." By relating it to concepts they know and care about, your child will be interested and it will be much, much easier for them to picture.

Bringing math concepts to the real world, especially physical objects can even work with more abstract concepts that kids learn in later math. A great example of this is combining like terms.

Instead of getting caught up in x's and y's at first, talk about cats and dogs. The expression $2x + 8y + 3x - 5y$ becomes much easier to understand if you say, "If I have 2 cats and 8 dogs, do I have 10 cat-dogs? No! Ok so what if I have 2 cats and 8 dogs and then I get 3 more cats and lose 5 of my dogs?" That is so much simpler for most students and it gives them something easy that they can physically picture instead of getting mixed up with coefficients, variables, and exponents.

No matter what age your child is, there is a way to bring back their math to the real world. **Get creative.** Get silly. Draw a diagram. Find a good picture or illustration. Make a physical example. Change problems to include objects that are easier to understand. Do whatever it takes to give your child a concrete picture of what their math looks like in the real world and we guarantee they'll learn it



FACTS AND PROPERTIES

*Make sure your child has their basic math facts and properties.
Be creative, but disciplined. Practice every day and learning all
aspects of math will be easier.*

The facts are simple, **kids need to know their math facts to succeed in math.** Way too often basic math facts and properties are neglected in school and even at home because it feels like there isn't enough time to practice facts and learn everything else. However, not having the basic facts memorized is a huge detriment to any child's learning whether they are 6 or 16, and will have severe negative consequences. Your child will struggle that much more on every concept and problem because they have to stop and think about facts and properties that should be automatic. Thus, it is more than worth it to spend time every day memorizing these facts and will pay major dividends in the long run.

Below is a list of all the math facts and properties that are fundamentally important. They are arranged in the order in that schools usually teach them throughout the years.

- Addition facts
- Subtraction facts
- Multiplication facts
- Division facts
- The associative, commutative, distributive, and identity properties
- The order of operations
- The perfect squares and cubes of 0-13
- Exponent rules
- Factoring

To help your child learn their facts and properties, there are a few principals to keep in mind.

- Brute memorization only works once your child has a reliable technique to find the answer on their own. If they can't figure out 3×7 by skip counting, they are not ready for multiplication drills or flash cards.
- A little practice every day reviewing the same concepts is much more effective for the long term than long memorization sessions with no follow up.
- Learning 3 new facts a day and reviewing older facts is a good way to make sure your child is not overwhelmed and avoids the cycle of learning and then forgetting.
- Flashcards are great tools but they are not the only ones. There are plenty of games you can find online and create in your own home. Do what works for your child.

PRACTICE, PRACTICE, PRACTICE

Giving your child enough opportunity to master their skills through practice ensures they learn math well and for the long haul.



When learning anything new, it's important to practice. **The ah-ha moment isn't the end of the learning process, it is the beginning.** If you are working with your child, you need to make sure they have enough opportunities to reinforce their new understanding and skills through duplication. This step is essential for long term retention. It also allows students to master the skill so what was once difficult becomes easy. If you want to help your child learn math, you need to make sure they have plenty of opportunities to practice their new skills both when they first learn them and in the days following.

If your child's homework or classwork do not provide enough material to practice, there are plenty of free resources that you can use online.

- math-drills.com
- kutasoftware.com
- engageny.org
- commoncoresheets.com
- math-aids.com

There are some general guidelines for practice that should make it most effective and enjoyable.

1. **Independent practice should always be at an attainable level.** It should never be so challenging that they are struggling, lost, or frustrated.
2. Doing a small amount of practice each day yields better results than one long practice session.
3. **Practice is not punishment.** It is a tool that will help your child achieve better results in math. Make sure they understand why you are asking them to do math that is not directly from school.

5 TIPS FOR HELPING YOUR CHILD WITH MATH AT HOME

Use these Mathease proven methods to make teaching at home more effective and less stressful.

BREAK DOWN VOCABULARY & SIMPLIFY

Make sure your child understands what any given problem is asking of them. Make sure they understand any and all language being used and simplify concepts.



REFRESH, RELATE, & CHUNK

Divide new concepts into smaller pieces. Refresh all related old skills. Relate old concepts to the new ones. Break down new skills into smaller, manageable chunks before combining them.

BRING IT TO THE REAL WORLD

Don't let math be abstract. Relate every concept with something that is familiar to your child. Get creative and make math concrete.



FACTS AND PROPERTIES

Make sure your child has their math facts and properties. Be creative, but disciplined. Practice every day and learning all aspects of math will be easier.

PRACTICE, PRACTICE, PRACTICE

Giving your child enough opportunity to master their skills through practice ensures they learn math well and for the long haul.





Mathease Tutoring

WE'RE HERE TO HELP



Expert Teachers

Empowering Students

Effective Virtual Math Tutoring for
Every Need

For more information,
visit www.matheasetutoring.com

702-436-6964
mathease@me.com
matheasetutoring.com