Family Guide for Student SUCCESS

Elementary MATH

AMSTI
Alabama Math, Science, and Technology Initiative

FAMILIES + SCHOOLS = STUDENT SUCCESS

These are just a few examples of how you can incorporate math into daily life.

Ask your child to help you:

- estimate the cost of groceries in your cart.
- determine how many gallons of gas you can buy with a certain amount of money.
- figure out how many calories you need to burn to work off snacks you ate during the day.
- calculate the cost of school lunch for the week or month.
- determine how long your child will have to save their allowance to buy a new toy.
- compare the costs of different cell phone plans.
- determine how much paint you need to paint your child's room.
- measure your garden or window box to determine how many plants and vegetables you can fit.

Show how math is all around us!

Point out uses for math whenever you can...at home, in the store, in the car, or on vacation.

Growth Mindset in Math

In general, a growth mindset is the belief that intelligence and 'smartness' can also be learned and that the brain grows from experience and effort. The opposite, a fixed mindset, is the idea that you are smart, or you are not. In math, that translates into "some people are good at math, and some are not." Did you know that praising efforts rather than intelligence or results can impact your child's ability to persevere in challenges?! The goal is to have children thrive on challenges and see failures, not as a sign of low intelligence, but as a learning opportunity. Brain research tells us that making mistakes actually wires more connections into the brain! When a person has a growth mindset, they accept challenges, see their efforts as worthwhile, and are open to learning from mistakes. Students with a growth mindset achieve at higher levels than those with fixed mindsets. How can you help?

Some simple ways:

* Adding "yet" when they claim they are "not good at this" (Respond: "You are not good at this yet.")
* Ask questions that focus on their effort and choices and get them to reflect on satisfaction of that effort (e.g. What did you learn today? What mistake did you make that taught you something? What did you try hard at today?)
* Model this yourself as you share about your day.

Talking About Math

Talking about mathematics with your child – whatever his or her age – helps strengthen his or her mathematical reasoning and understanding. Some ways to keep the talk engaged and focused while you support your child include:

1. **Revoice** – Repeat what you heard your child say, then ask for clarification ("So you are saying it's an odd number?").

2. **Repeat/Restate** – Ask your child to restate your reasoning ("Can you repeat what I said in your own words?").

3. **Reason** – Ask your child to apply his or her own reasoning to someone else's reasoning ("Do you agree or disagree? Tell me why.").

4. **Adding On** – Prompt your child to participate further ("What more would you add to that?").

5. **Think Time** – Wait several seconds (try five) to give your child time to think ("Take some time to think."). You may be surprised by how hard it is to stay silent in that time!

Summer Tips for Parents

You are an important partner in your child's mathematics education. When you find ways to engage your child in thinking and talking about mathematics, you are providing an important key for unlocking his or her future success. Help your child build strong, positive attitudes about math. When children feel positively engaged and successful, they are more likely to stick with an activity or a problem to find a solution. Begin with activities that meet your child's level of mathematical understanding. Early success in solving problems will build your child's confidence. Gradually move to activities that provide more challenge for your child. If you and your child are more comfortable in a language other than English, use it. Your child will understand concepts better in the language that he or she knows best.

> "On average, students lose approximately 2.6 months of learning in math over the summer – and teachers have to give up weeks of class time, or more, to make up for that loss."

6 Summer Strategies for Math + Fun!!

1.) Gardening

Gardening is a great opportunity to teach your children math in an interesting way. They can measure the area of your garden. From picking seeds together, to measuring the space between the plants and the amount of soil required for potting plants.

2.) Shopping for Value

Turn the grocery shopping trip into a fun game. Let your child look for offers and then calculate the savings from each shopping trip. Older kids can also help calculate the cost of the food items per pound or ounce.

3.) Sports Time on TV

If your kids love to watch sports on TV, you can easily improve their mathematical skills and make their sports watching sessions more exciting. You can begin with teaching them how to keep score, count innings, strikeouts, etc.

4.) Road Trips

Are you planning a road trip for your child's summer vacation? You can engage your child in a 'license plate game', which involves adding, subtracting or dividing the numbers on these plates. You can also teach your children how to measure the distance of your trip or how many miles per gallon does your car average.

5.) Collections

A majority of children love collecting coins, stamps, shells and a whole lot of other things. If your child loves collecting shells, he or she can collect a certain number of a single type of shell, or can sort the collection according to size, shape etc.

6.) Daily Chores

Daily chores include activities such as folding clothes, sorting them for washing, setting the dinner table. You can teach your child measuring, sorting and counting through the simple task of doing laundry. Children can help sort clothes, measure the amount of detergent that needs to be added and count the clothes before putting them in the machine.

6 Easy Summer Math Activities Your Kids Will Actually Enjoy
Retrieved from:https://www.mashupmath.com/blog/2017/7/11/6-easy-summer-mathactivities-your-kids-will-actually-enjoy

WHAT IS AMSTI?

The Alabama Math, Science, and Technology Initiative, commonly referred to as AMSTI, is the Alabama Department of Education's initiative to improve STEM teaching & learning statewide. Its mission is to support Alabama educators and students in learning STEM by doing STEM.

Scan the QR code below for Additional Tips for Supporting Your Child's Development in any Learning Setting:

AMSTI

Math Links

Mathwire.com

Math Literature Connections

http://mathwire.com/literature/literature.html

Bookworm For Kids

Math Books for Children

http://www.bookworm4kids.com/

Didax

Virtual Math Manipulatives

https://www.didax.com/math/virtual-manipulatives.

Mathigon

Virtual Manipulatives on Polypad

https://mathigon.org/polypad

Toy Theater

Virtual Manipulatives

https://toytheater.com/category/teacher-tools/virtual-manipulatives/

The Math Learning Center

Free Math Apps

https://www.mathlearningcenter.org/apps