Learning Math at Home

MRH Family Math Night 2011

In reality no one can teach mathematics. Effective teachers are those who can stimulate students to learn mathematics. Educational research offers compelling evidence that students learn mathematics well only when they construct their own mathematical understanding.

-Everybody Counts: A Report to the Nation on the Future of Mathematics Education

We Believe

- Learner-centered
- Active and constructive
- Connected to prior learning and experiences
- Continually practiced
- Differentiated to meet the needs of all learners
- Challenging and scaffolded so that learners are continually progressing

We Believe (ctd)

- Collaborative
- Supported by high quality resources
- Facilitated by teachers who are ongoing learners, knowledgeable about math content, the pedagogy necessary to teach that content and the needs of their students
- *Connected to and supported by students' experiences at home*

Parents as Math Teachers

- Being a Math Cheerleader
- Helping with Homework
- Finding Teachable Math Moments
- Asking Questions
- Playing Games

Be a Math Cheerleader

"I'm not good at math."

"Math is coooooool!"

Asking Questions

- What do I know?
- What is this problem asking me?
- How can I use what I know to help me solve the problem?
- Have I seen a problem like this before?
- What tools can I use?

Asking Questions (ctd)

- How can I model the problem?
- Are there shortcuts that will make this problem easier to solve?
- How can I organize my work to make the problem solving easier?

More questions!

- How can I cope when I get frustrated?
- Can I reverse my thinking?
- Can I figure out where my thinking broke down?
- Do I have flexible strategy use?

Other Homework Tips

- Take a break after school
- Designate a space
- Confirm the assignment
- Practice reading directions
- Encourage *neat* and *complete*
- Praise perseverance!

Teachable Math Moments

- Help children see that math is very much a part of everyday life.
- Point out that many jobs require math.
- Stimulate your child's interest in technology.
- Play games that help children develop decision making and mental math skills.

Practice Those Facts!

1st Grade
addition 0-9

2nd Grade
addition 0-12,
subtraction 0-9

3rd Grade
subtraction 0-12,
multiplication 0-9

4th Grade
multiplication 0-12,
division 0-9

5th Grade
division 0-12

Math Games

- When children believe that math can be fun, they are more likely to engage with problematic (real world) situations.
- Playing math games at home is an easy way to build confidence as well as knowledge about mathematical ideas!
- Children of all ages love to play games!
- Board games, card games, and dice games provide rich contexts for mathematical learning.

During the game

Make the focus of the game be about strategy, reasoning and proof.

Ask questions like:

- What do you think?
- How do you know?
- Why do you think that?
- What do you think about your brother's move/idea?

Teamwork!

Model good cooperative partner behaviors.

- Do you agree? Why or why not?
- Let's check together
- I thought about it the same way!
- I thought about it differently!


HAVE FUN!

Resources

- http://www2.ed.gov/pubs/parents/Math/mathachieve.html
- Payne, Joseph N. (Ed.) 1990. *Mathematics for the Young Child,* NCTM: Reston, VA.
- Slabic, Stephanie. 2011. *Welcome to Family Math Games Night,* Mathematics in the City: New York, NY.