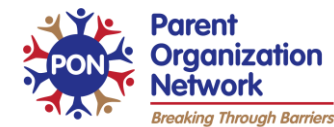




# TEACHER – FAMILY PARTNERSHIPS EMPOWER MATH STUDENTS

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**STEM<sup>54</sup>**



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# THE ROLE OF PARENTS AND FAMILIES IN SUPPORTING MATH

Family Math Implementation Roadmap Project's family math definition:

Activities that happen outside the classroom and within the context of family relationships, the community, and everyday life that supports young children and families to:

- Strengthen their math awareness and concepts
- Feel enthusiastic and confident about their math abilities and develop strong math identities; and
- Understand and use resources to help improve understanding of math concepts.

# PARENT ROLES IN STUDENT MATH LEARNING

(All Ages and Grade Levels)



CO-CREATORS



SUPPORTERS



ENCOURAGERS



MONITORS



ADVOCATES



MODELS



# PARENT ROLES IN STUDENT MATH LEARNING: EARLY YEARS



**SUPPORTERS:** In the early years, parents may play more of a “co-teacher” or “supporter” role in helping children learn concepts of numeracy, spatial reasoning and patterning, so children can be better prepared for kindergarten. Parents also play a key role in:

- Establishing home learning environments;
- Talking math to children and playing fun activities with them;
- Exposing children to math as a natural part of everyday tasks; and
- Using online tools to support their children’s learning at home.



**MONITORS:** Ensure their child is reaching developmental and kindergarten-readiness milestones



# PARENT ROLES IN STUDENT MATH LEARNING: EARLY YEARS (Continued)



**ENCOURAGERS:** Parents also play a critical role in developing growth mindsets, which refers to the idea that intelligence is not fixed, and the brain can become more intelligent. How parents praise their toddlers matters.



**MODELS:** Parents need to be self-aware and reflect on their comfort level with math. If parents had negative math experiences in school, they must make a conscious decision to avoid transferring their own fear or anxiety to their child.



**ADVOCATES:** Parents ensure that their early childhood provider has a math and science curriculum that prepares children for those subject matters in kindergarten.





# TIME TO CONNECT

How do you support your  
children to learn math at  
this stage?



# PARENT ROLES IN STUDENT MATH LEARNING: ELEMENTARY



## **CO-CREATORS:**

- Share successful strategies that work for their families at home so the school can consider families' funds of knowledge and culture, while highlighting practical information that can be used by other parents.
- Request programming that will support parents in helping their children.



**MONITORS:** Fully nine out of 10 parents, regardless of geography, income or race, assume that having good grades (i.e., A's and B's) indicates proficiency, when this is often not the case (Learning Heroes, 2018). Monitor proficiency in English language arts, math, and English Language Development (ELD).





# PARENT ROLES IN STUDENT MATH LEARNING: ELEMENTARY

## (Continued)

### SUPPORTERS:



- **Talk to children about what they are learning in math.** Ask questions, such as, “What did you learn today?” or “If you made a mistake, what did you learn from it?”
- **Have children teach family members what they are learning in class.**
- **Ensure children know basic math facts:** multiplication, division, addition and subtraction. Playing family games with children to master these skills is helpful and effective in establishing a strong arithmetic foundation.
- **Create family math nights at home** with neighbors and friends so math and science become a part of family life, not an add-on.
- **Visit local museums** to expose children to what math and science can do.





# TIME TO CONNECT

How do you monitor your children's learning at this stage?



# PARENT ROLES IN STUDENT MATH LEARNING: MIDDLE & HIGH SCHOOL



**ENCOURAGERS:** In middle school and high school, the family's role is related to “improving or increasing children’s interest, academic persistence and success, standardized test outcomes, [and] career choices,” which include planning for the future and in “brokering their participation in activities that build STEM competencies” (STEM Next Opportunity Fund, 2019).



**MONITORS:** Parents need to make sure their child is successfully completing college preparatory, “A-G” math courses.



**MODELS:** It is recommended that parents:

- Show children how failure is an opportunity to learn and grow.
- Surround their children with role models who excel in math.
- Become strategists and coaches for their children.





# PARENT ROLES IN STUDENT MATH LEARNING: MIDDLE & HIGH SCHOOL



## ADVOCATES:

Learn about **math pathway programs** available at their school or district; **how to navigate the school system** to access programs and supports; and **advocating for their children with academic counselors** when they transition from elementary to middle school, and then from middle school to high school.

This advocacy ensures students are given access to advanced or accelerated “honors” classes in math and other subjects so they can meet high school graduation and college admission requirements.





# TIME TO CONNECT

How do you encourage and advocate for your children's learning at this stage?



# THANK YOU!

## CONTACT INFORMATION



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