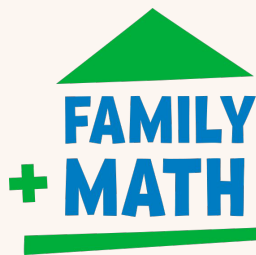


Welcome to Family Math!



Family Math was created and is distributed by PBS SoCal.
For additional information, please contact familymath@pmgsocal.org.

We're so glad you're here!

Thank you for your partnership in bringing Family Math to your community and families. We created this guide to give you a brief overview of the program and inspire you to engage in this important work.

Why is early math so important?

Early math development is essential for school readiness and success. Young children (ages 2–5) exposed to the following early math skills have the foundation to learn school math successfully:

- Number sense and counting
- Patterns
- Shapes
- Sorting and collecting
- Spatial sense
- Measurement

Equally as important, having opportunities to develop foundational math skills can have a positive impact on math beliefs and attitudes.

According to many studies from over the past 12 years, mathematics achievement at school entry was the strongest predictor of later success in mathematics and, in some cases, reading, even when all other characteristics tested were controlled (Duncan et al., 2007; Claessens, Duncan, & Engel, 2009; Claessens & Engel, 2013; Foster, 2010; Watts et al., 2014). And, children from marginalized communities tend to underperform on kindergarten readiness tests—not because of inability, but because of unequal access to opportunity.

That means early math skills predict later academic performance, including in:

- Mathematics
- Reading abilities
- Socioemotional development

What is Family Math?

Family Math is a research-based, multiplatform, bilingual program, in English and Spanish, that focuses on building math positivity, confidence and knowledge of foundational math skills for families with children ages 2–5. Family Math equips parents and caregivers with strategies and resources to facilitate meaningful math experiences at home through playful learning and hands-on activities.

Family Math enables stations and community-based organizations to partner with parents and caregivers to support children’s early math development through play. We emphasize how learning and teaching math can be simple, fun and embedded in everyday contexts. Some families are unsure of where to start, and we aim to help families realize that many of the daily routines and activities they are already doing are the perfect place to introduce early math concepts. We work to build a math community, expand ideas of math and develop informal ways to engage in positive math activities with children.



What are the components of Family Math?

To meet the needs of all families, we provide different experiences and ways to engage in Family Math:

- Workshop guides and slides
- Printable materials
- Digital activities
- Instructional videos
- Broadcast promos



I learned that mathematics can easily be kept in mind in daily life as when eating a cookie, when preparing a sandwich, or by looking at the shapes of our entire home, and I had not thought of putting mathematics into practice that way.

—Parent participant

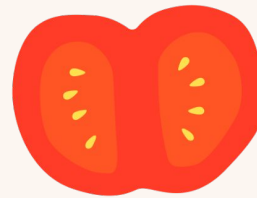
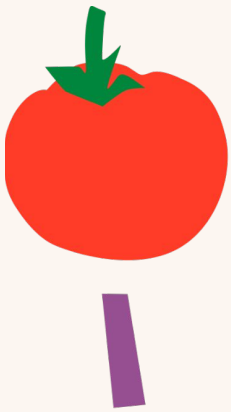
How do we know Family Math works?

Data collected over the course of four years from 7,000 caregivers shows Family Math successfully grew caregivers' knowledge of foundational math skills by 10% while increasing caregivers' confidence by 14% and math positivity by 12%. Through surveys and interviews, we assessed how parent beliefs and attitudes develop as a result of Family Math participation. We learned that families are having more conversations that include math during everyday activities such as cooking, baking or laundry. Families are more likely to create opportunities for their children to learn math at home, including talking about sorting clothes by type or color or counting out the number of cups of sugar needed in a cake recipe.

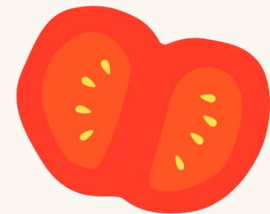
Parents also experience growth in their enjoyment in helping their children with math, and as a result their children express excitement about engaging in these types of activities at home. Parents feel more confident in their ability to recognize early math learning opportunities at home. They are also equipped with the skills to seamlessly weave math into their everyday activities, like discussing shapes they see on their way to the grocery store.

In 2022, we partnered with the Stanford Center on Early Childhood to conduct an impact evaluation of Family Math. The attached Theory of Impact model reflects the culmination of those evaluation efforts.

We are excited and grateful for your partnership in providing families in your community with the strategies and resources they need to feel confident nurturing their children's math development!



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Thank you to our generous supporters.



FAMILY MATH THEORY OF IMPACT

VALUES

Family Empowerment

Co-Creation With Families

Playful Learning

Celebrating Family Strengths

Transformative Thinking Around Math

Strong Community Partnerships

STRATEGIES

LISTEN

- Engage in co-design and listening with families (surveys, needs assessment, etc.).
 - Create a safe space for parents and caregivers to share about math insecurities.
- Highlight parents' strengths and what they're already doing to support child's math learning.

EMPOWER

- Model how parents can encourage curiosity, problem-solving and "math talk" during everyday activities.
- Give families equitable access to resources and engagement opportunities.
- Provide leadership opportunities and trajectories to parents.

ENGAGE

- Provide families with multiple modes of shareable engagement (in-person and virtual workshops; free digital and printable resources).
- Partner with community-based organizations.
- Provide free, fun, enticing, "star power" experiences for families.

TARGETS

MATH ATTITUDES

- Increase parent and child math positivity and confidence.
- Increase parent motivation to engage in child's learning.
- Support parent growth mindset throughout life.

MATH KNOWLEDGE

- Enhance community partners' knowledge of importance of early math.
- Increase parent knowledge of early foundational math skills.
- Strengthen connections to increase parent recognition that math is everywhere.

MATH BEHAVIORS

- Encourage more math talk between parent and child.
- Boost parental creativity and innovation around math activities.

REPRESENTATION

- Enrich parent feelings of ownership over the program.
 - Foster parent comfort engaging in workshops.
- Strengthen families' feeling of being represented in program elements.

SUSTAINABILITY

- Increase family participation/retention in program.
- Build up family excitement and motivation to share about the program.
 - Advance leadership through parent facilitator program.

OUTCOMES

IMPROVE CHILDREN'S EARLY MATH SKILLS

- Improve Children's Math Skills
- Enhance kindergarten readiness and success in school.

NURTURE A FAMILY MATH CULTURE AT HOME

- Support parents' confident modeling and innovating of math learning opportunities and activities.
- Develop parent and child's identity as mathematical thinkers and doers.
 - Understand parents' unique journey in their transformation of thinking about math.

BUILD A SUSTAINABLE FAMILY MATH COMMUNITY

- Develop commitment from community partners to host.
- Connect partners in early learning space.
- Foster parent leadership to become facilitators.
- Build awareness of program and content in extended family and community.