COMMENTS, QUESTIONS, & CONVERSATIONS

STRUCTURE

- Activity Overview & Preparation (15-20) MIN)
- Introduction (3-5 MIN)
- Activity & Discussion (20-25 MIN)
- Closing (5-10 MIN)

OBJECTIVES

At the end of this activity, participants will be able to:

- Recognize that the way they talk about math can help their child develop a positive attitude about math
- Use the examples in the cqc guides to come up with their own ideas for conversations about math that fit their family's routines

MATERIALS

- Printout of (or link to) the activity
- Hyperlink to the text cqcs and videos

TIME

35-45

MINUTES

NOTE

Review the comments, questions, & conversations (CQCs) Guides with caregivers to launch a discussion about how math conversations between caregivers and their children can promote a positive attitude about math, promoting a positive attitude about math includes conveying that math is useful, nonthreatening, and meaningful. It also includes incorporating math naturally into everyday life in a fun and playful way;

ACTIVITY 1.5

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COMMENTS, QUESTIONS, & CONVERSATIONS

GETTING READY

FACILITATOR NOTES

BUILDING CAPACITY

This activity builds on the **Attitudes and Dispositions** module, but does not require module completion. (Module 1, Segment 2)

ADAPTATIONS

Use these ideas to modify the activity based on:

- child age,
- time and resources available for implementation
- caregiver needs.

TIPS

Blue text indicates something that facilitators might say (e.g.,"Today we are going to review the Comments, Questions, & conversations guide"). Standard text is information for facilitation.

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GETTING READY

FACILITATOR NOTES

ACTIVITY OVERVIEW

In this activity, participants first review the Comments, Questions & Conversations (CQCs) guides available on the "Bookmarks" resources included at the end of Activity 1.5. The CQC bookmarks provide examples of math conversations embedded in everyday family life. They also model how adults can convey positive attitudes about math in informal interactions with their children. The goal is not for caregivers to try to engage in conversation in the CQC as a script, but to use these examples to generate ones that would fit in their own routines.

Engaging caregivers in discussions about math CQCs may heighten their awareness of their own math attitudes and may help them identify opportunities in everyday life it talk about math with their children. As they discuss the CQCs and share ideas with each other, caregivers have the opportunity to build confidence in their own ability to embed math in their everyday routines.

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GETTING READY

PREPARATION

15-20 Minutes

Ensure you have printed handouts or the digital version of the caregiver materials.

Arrange caregiver seats in a way that they can see a screen or wall if you intend to project one of the CQC bookmarks. Ensure caregivers have space to engage in pair or small group discussion.

Review the following reference materials to build your own knowledge about math attitudes:

- You can learn about stereotypes in the DREME Family Support Professional modules, and by reviewing the DREME short guides on positive math attitudes and resources about positive math attitudes.
- https://dreme.stanford.edu/news/how-can-we-help-both-girls-and-boys-succeed-math
- https://familymath.stanford.edu/for-educators/positive-math-attitudes-definitions-and-tips/

You can also consult Module 1 of our Professional Development course for Family Support Professionals.

Review the "Notice the Math" portion of the CQCs bookmarks which describes key skills used across each CQC.

Select and review the CQCs that you think will be most relevant to your participants. Keep in mind the following guidelines:

- Select one CQC per every two to three caregivers if you plan to have participants read the CQCs themselves (see adaptations if you do not plan to have caregivers read the CQCs)
- Be prepared to show caregivers how to access the CQCs via smartphone or another device.

ACTIVITY

INTRODUCTION

3-5 Minutes

Introduce the activity. For example, you might say: **"Today we are going to review the Comments, Questions & Conversation guides from the DREME Family Math website and talk about how they might help out model positive math attitudes."**

ACTIVITY & DISCUSSION

Part 1: 20-25 Minutes

Read your selected CQCs out loud and have a whole group discussion about how the conversations features in the CQCs may promote positive math attitudes and what children might pick up from these interactions. Alternatively, distribute the CQCs so that there is one CQC for every two or three caregivers, and have them review and discuss in their small groups or pairs.

During large or small group discussion, have caregivers identify the positive math attitudes that they see in the conversation examples. Ask caregivers to discuss what their children may pick up on in these interactions.

As a large group, discuss what the caregivers noticed in the CQCs using questions like:

- How might conversations like those in the CQCs best fit for your family routine? How do you see yourself using these examples to show a positive math attitude?
- If you typically have conversations with your children in your daily routine like the examples in the CQCs, what has been your child's response? How do you think informal conversations can convey to children a positive math attitude?
- The CQCs have examples of "Finding the Math" in everyday routines and "revealing" the math to your child. How does talking about "Math Revealed" help a child learn about math in a positive way?
- Think about what happens if the math in the conversation remains "hidden" instead of "revealed'. How might that affect what your child learns about math and the attitudes they have about it?

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ACTIVITY

CLOSING
(5-10 Min)

Incorporate these key takeaways in how you close the session with caregivers. You can state them as written, or paraphrase based on the caregivers experiences.

- A positive math attitude can be incorporated into comments, questions, and conversations between caregivers and children
- There are many opportunities to model and build positive math attitudes in everyday routines

To help solidify learning, ask families to share one thing they learned about early math from this activity.

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COMMENTS, QUESTIONS, & CONVERSATIONS

ADAPTATIONS

CHILD AGE

Consider the ages of the children in the families you work with. If the children are very young, select the CQCs that are most likely to reflect their caregiver's lives. If caregivers have older children, consider using the CQCs that includes activities that are more aligned with skills that can also include older children

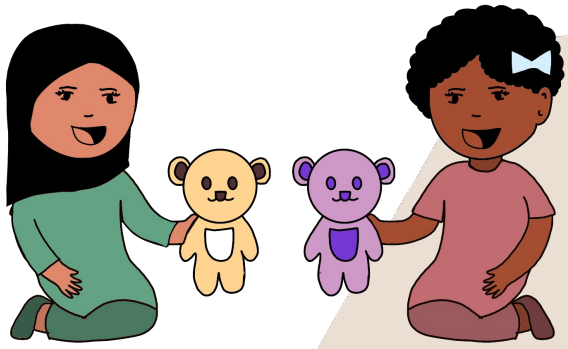
TIME AND RESOURCES

If you have limited time to share the activity with caregivers, consider selecting just one or two CQCs that will have the most impact with the caregivers you work with.

CAREGIVER NEED

If the caregivers you work with require accommodations to participate be sure to support their needs by:

- Offering closed captioning
- Providing all materials in caregivers' native language {with translations when relevant)
- For caregivers who prefer to engage in ways other than reading the materials or who have limited literacy skills, select one or two CPCs to go over as a group. Prepare a group discussion that does not require the caregivers to read. Instead, you can read the CQC out loud, paraphrase content on a whiteboard in bullets, or use a digital space like a jamboard to discuss key takeaways for an identified topic. Be sure to prepare these bullets in advance.



COMMENTS, QUESTIONS, & CONVERSATIONS

CAREGIVER MATERIALS

GUIDELINES FOR CONVERSATIONS ABOUT MATH IN FAMILY ROUTINES

- https://dreme.stanford.edu/news/expand-childrens-math-thinking-through-comments-questions-and-conversations
- Resource printed in English and Spanish: https://familymath.stanford.edu/for-educators/reveal-the-hidden-math/

FAMILY MATH VIDEO CLIPS

- Bedtime Routines: https://familymath.stanford.edu/for-educators/math-conversations-while-getting-ready-for-bed/
- Grocery Shopping: https://familymath.stanford.edu/for-educators/math-conversations-while-grocery-shopping/

FAMILY MATH BOOKMARKS (Two-sided)

- Examples of early math comments, questions, and conversations
- Included at the end of Activity 1.5

ACTIVITY 1.5

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ACTIVITIES FOR FAMILY SUPPORT PROFESSIONALS:
EXPLORING EARLY MATHEMATICS

"Everyone Succeeds" was developed for Family Support Professionals to use with the families they serve. All activities are available at no cost, on the Institute of Child Development Math and Numeracy Lab website, for private use with families and caregivers. These materials may not be reproduced or distributed for any for-profit effort without explicit permission from lead developers, Drs. Wackerle-Hollman and Mazzocco.

Module 1: How Attitudes and Dispositions May Affect Early Math

- Activity 1.1 Everyone Succeeds
- Activity 1.2 Flipping the Script
- Activity 1.3 Mathitudes
- Activity 1.4 Learning from Math Mistakes
- Activity 1.5 Comments, Questions, and Conversations (CQC's)
- Activity 1.6 Attitude Adjustments
- Activity 1.7 We Are All Math People

Module 2: Math is Numbers and More: Exploring Early Math Topics

- Activity 2.1 Math Kaleidoscope
- Activity 2.2 Early Math Topics
- Activity 2.3 Picturing Math
- Activity 2.4 Measuring Up!
- Activity 2.5 Toddlers Under Construction

Module 3: Finding Math in Everyday Life

- Activity 3.1 Early Math Success Stories
- Activity 3.2 Math Snacks
- Activity 3.3 Becoming a Math Detective
- Activity 3.4 Make a Statement with Math
- Activity 3.5 Everyday Math in Action
- Activity 3.6 Routines Roadmap

These activities were developed by the Math and Numeracy Lab, directed by Michèle Mazzocco, Institute of Child Development (ICD), in collaboration with Alisha Wackerle-Hollman, Director of the IGDIlab, Department of Educational Psychology, both at the University of Minnesota. Contributors include ICD doctoral students Sarah E. Pan and Jasmine R. Ernst. This work was supported by Heising-Simons Foundation DREME Network Awards 2018-0670 and 2020-1777. We thank members of the Math and Numeracy Lab that contributed to this work, family support professionals who provided feedback or welcomed us (and our activities) into their classrooms, and our community partner consultants who provided insight on language selection and delivered illustrations to make this work meaningful to the Latine and Somali communities.

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