

## Discussion Guide for Module 22

### How Play Helps Math Learning

**Module run time:** 20 minutes

**Estimated time to complete the module with discussion guide:** 45-60 minutes

Below are recommended stopping points and suggested questions to use in your group's discussion. Please feel free to follow your group's lead and discuss topics and questions that are of greatest value to the group!

#### Key points:

- Children's play helps them practice math skills.
- Play behaviors change and facilitate math learning in different ways as a child grows.
- Adults can support children's math learning by encouraging active exploration and gently guiding their play.

#### Module synopsis:

Page 1: *Title Page – How Play Helps Math Learning*

Page 2: *Acknowledgments*

Page 3: *What Is Play?*

Page 4: *Play Supports Math Learning as a Child Grows (video)*

#### ✦ Recommended stopping point

- What does play mean to you? Write down three words that describe play. Keep these in mind throughout the module. We'll revisit them at the end.
- Math is a natural part of children's play. When you first watched the video, did you notice any math learning in the children's play? How about the second time you watched? Can you think of other ways each child was engaged with math that we didn't mention in the video?

Page 5: *Types of Play*

Page 6: *Children Naturally Engage in Math-Related Play*

Page 7: *Block Play*

Page 8: *Encouraging Math Development Through Guided Play*

Page 9: *Supporting Shape Knowledge*

#### ✦ Recommended stopping point

- What are the primary differences between free and guided play? How do each benefit children's math learning?
- Almost half of children's playtime is spent exploring math-related concepts. Have you noticed math-related activities during children's free play? Share some examples of the math-related activities you have seen children engage in during play.
- The next time you are around children, take a moment to observe their play. Think about how their play is supporting the development of math skills. What can you do to guide children's play to encourage math learning?

Page 10: *Spatial Language During Play*

Page 11: *Playful Math*

### ⦿ Recommended stopping point

- Adults highlight math in children's play through their language and reflection. Using spatial language is one way to build math into children's play. What are some other examples of language you can use to bring out the math in children's play?
- Using playful math language can support children's learning anywhere. For example, you could continue your conversation about the ducks in the pond by asking more questions like "Where did the duck go?" and "Why are there four ducks?" It's okay to follow the child's lead! Think of another example of an every day activity where you can add in playful math language. What would you say to get the math conversation going? How would your language differ for an infant, toddler, or preschooler?

Page 12: *Play Tips for Math Learning*

Page 13: *Math and Me: Play (video)*

### ⦿ Final discussion points

- For each Play Tip, create an activity that you can do right away with the materials you have in your classroom, home or outdoors. For example, for *encourage active exploration with hands on activities*, instead of repeating two plus two equals four, use sticks, leaves or rocks to introduce children to addition and subtraction while exploring outside.
- Think about math and play in your own life. What types of math-related activities did you like to do as a child? Can you give an example of how the work you do feels like play? Use your responses to generate ideas about how to make more of children's play mathematical.
- Now that you've completed the module, we'd like you to revisit your definition of play. Has it changed at all? Would you use the same three words to describe it now?

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To learn more about how play helps math learning, take a look at these resources:

Too Small to Fail: Let's Talk About Math

<http://toosmall.org/lets-talk-about-math>

Vroom

<https://www.vroom.org/for-professionals>

High Five Mathematize

<https://eclkc.ohs.acf.hhs.gov/publication/high-five-mathematize>

National Association for the Education of Young Children (NAEYC)

<https://www.naeyc.org/resources/topics/math>

Learning Trajectories

<https://www.learningtrajectories.org/>



Zero to Three – Let's Talk About Math

<https://www.zerotothree.org/resources/2224-let-s-talk-about-math-making-math-language-part-of-everyday-routines>

We are constantly working to improve our materials. Do you have suggestions about topics to add to this guide? Did your group discuss something we didn't suggest? We'd love to hear from you! Please email your thoughts to us at [ilabsout@uw.edu](mailto:ilabsout@uw.edu).