Joyful Math: Play With a Purpose

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#NCTMSD2019

#MathPlay

Thank You!

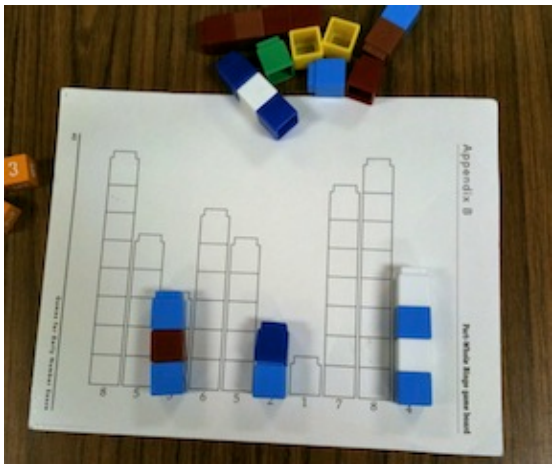
Manipulatives for this session were kindly provided by:

Booth #427

https://tinyurl.com/JoyfulMath

Joyful Math: Play With a Purpose

For young children, doing math is often best situated in play. However, play is just the start of intentional teaching for lasting learning.



Joyful Math: Play With a Purpose

The Mathematical Practices in the Common Core State Standards reflect what it means to "do mathematics" and provide a purpose for math games in the classroom.

In this workshop, participants will play joyful, engaging, yet challenging, math games that highlight the Base Ten system and explore strategies associated with fluent computation and the development of childrens' number sense.

Learning Targets

Participants will recognize:

1. The importance of supporting the development of mathematical practices through play, and

2. That playing math games can bring joy to classrooms and teaching.

Role of Context

- Play is a characteristic of children in all cultures
- Games provide children an opportunity to develop executive function
- Anchoring experiences set a context for intentional teaching

Fosnot, K. T., & Cameron, A. (2007). *Games for Early Number Sense: A Yearlong Resource.* Heinemann
Lahey, J. (2014). How family game night makes kids into better students. *The Atlantic*

How Important are Games??

Games are to math as books are to reading

What if math were a verb?

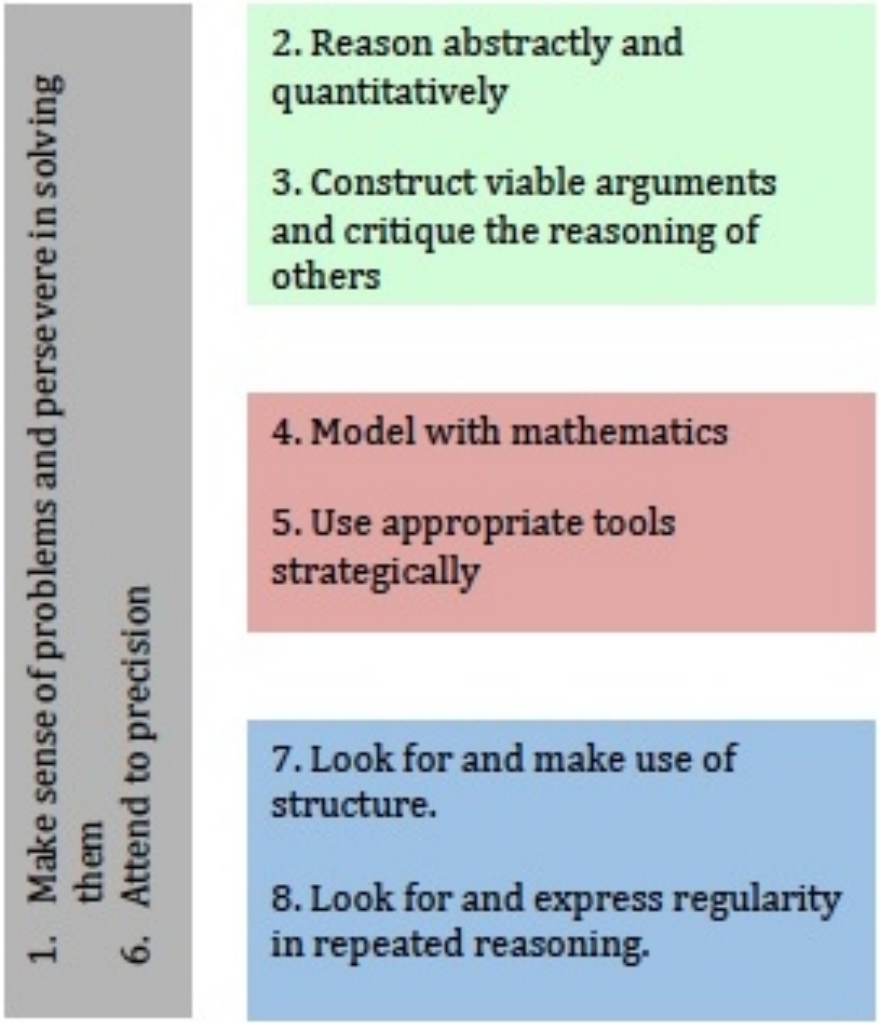
Math Practice Pairs

Consider the following similes:

Ideally	doing math is	like…
climbing a mountain	conducting an experiment	cooking a meal
reading a book	working a puzzle	playing a game

In your opinion, which simile best reflects your perspective of what it means to do mathematics?

Mathematical Practices



http://static.pdesas.org/content/documents/M3-grouping_mathematical_practices.pdf

Game Centers

Number & Operations – Addition & Subtraction [K-2]

- Play the games
- Do the work of teaching:
  - Break the rules, if necessary, to improve the game
  - Anticipate issues and possible highlights

Game Centers

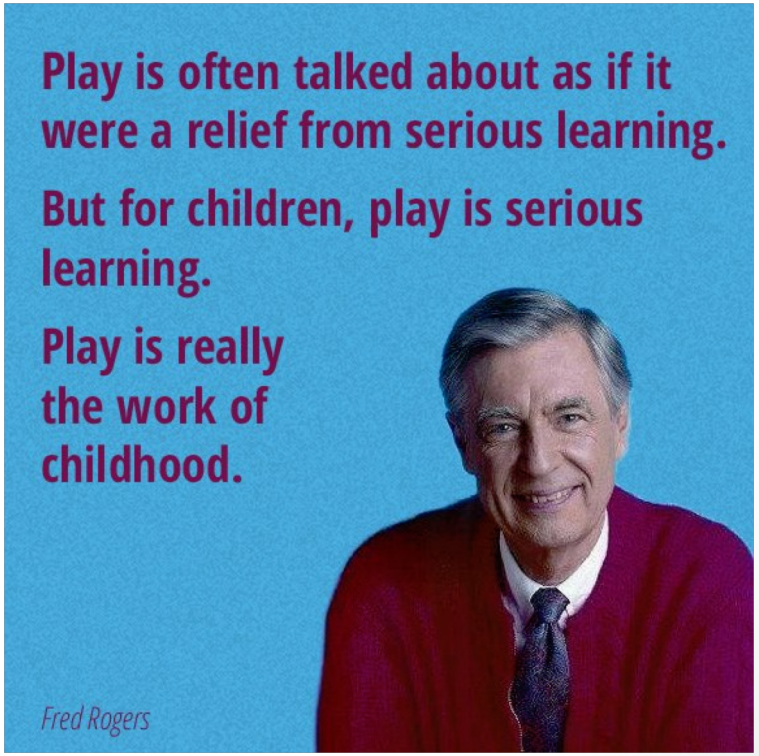
• Race to 100	K – 2 *
• Part-Whole Bingo	K – 1*
• Roll-A-Square	2*
• Tens Go Fish	K – 2*
• How Many More to 10?	K – 1*

*can be modified for K-3

Mathematician's Chair

- What did you do?
- So what did you learn?
- Now what will you do with what you learned?


In play a child always behaves beyond his average age, above his daily behavior. In play it is as though he were a head taller than himself.
- Lev Vygotsky
notimeforflashcards.com


Play is often talked about as if it were a relief from serious learning.
But for children, play is serious learning.
Play is really the work of childhood.
Fred Rogers

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Link to Presentation and Resources:

https://tinyurl.com/JoyfulMath

References & Resources

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Materials

Roll-a-Square:
100s board
Unifix Cubes
Roll-a-Square directions
Dice

Race to 100:
Recording Sheet
Slim Expo Markers
Tissue for erasing
Dice (1 or 2 dep. on grade level)
Rekenreks

Part-Whole Bingo:
Bingo Boards
Unifix cubes
Dice (1 or 2 dep. on grade level)
Recording Sheet (optional)

Tens Go Fish:
Playing Cards, 2 decks, Ace though 9
(Uno cards, Ten Frame cards, or other
Cards 1 – 9 or 0 – 10)

How Many More to 10 or 20?
How Many More to 10? Cards
Ten frames
slim expo markers
dice—6-sided &/or 20-sided