

Session Notes Document

[\(Click here to go to the Add It Up schedule\)](#)

Session Title	A.2: Hands-On Mathematics: Enhancing Understanding through Manipulatives
Discussion Leader(s) Include email/Twitter	Kimberly Meiningner Kimberlymeiningner@claytonschoools.net
Purpose of Session:	Manipulatives! We know they are an important hands-on way to help students progress from the concrete level to the abstract level of mathematical ideas. Manipulatives also help students represent math in ways that make concepts more meaningful. Come learn ways to use various math tools to enhance your math lessons. During this session, we will play and take time to plan for your future students!
Session Presentation	Hands-On Mathematics Slide Deck Link to student resources from Mastering Math Manipulatives (you may need to make an account) Resource Used Mastering Math Manipulatives- Sara Moore and Kimberly Rimbey

Attendees:

Name	Email/Twitter	Role & District
Sarah Mayberry	sarahmayberry@wsdr4.org	1st grade Teacher / Wentzville
Lauren Hofer	Lhofer@bayless.k12.mo.us	Kindergarten -Bayless
Tina Lohmann	lohmanntina@rsdmo.org	2nd Grade- Rockwood
Kelly Hutton	huttonkelly@rsdmo.org	2nd Grade - Rockwood
John Hartmann	hartmannjohn@rsdmo.org	Math Intervention
Teresa Jansen	teresajansen@wsdr4.org @SCEJansen	2nd Grade- Wentzville
Courtney Streicher	courtneystreicher@wsdr4.org @SCEStreicher	2nd Grade- Wentzville
Amanda Canty	amandacanty7@gmail.com @mrsamandacanty	1st grade-Kirkwood

Like this kind of learning? [Check out more!](#)

[Donate to Connected Learning](#)

Notes:

*Remote for slides - will turn your phone into your clicker. Gives you 6 digit code to put into your phone.

Mastering Math Manipulatives Book K-2 Version. - Session is based on this book.

Manipulatives are

- Make math tangible
- Not a crutch
- Physical way for students to visualize concepts
- Support language and social development
- Important for all levels of math instruction
- Allow access and offer challenges
- Allows testing and verification of ideas

Concrete - pictorial - abstract

This is not linear. Students build connections when they move back and forth between representations

How can manipulatives help a student?

- Students who need a literal understanding of the connection between the symbol (abstract - concrete)
- Help to build confidence

*Make sure your manipulatives make sense for the task

Strategies for Making Connections

1. Make a sketch
 - a. Picture/drawing that represents their work with manipulatives (aerial view)
2. Caption your picture
3. Name your model
 - a. Create an equation or abstract representation for their model
4. Create a diagram
5. Build the equation
 - a. Move from abstract to physical - build it with base ten blocks
6. Write a word problem
 - a. Contextualize the math by identifying a corresponding situation
 - b. Use manipulatives to model of the equation

Like this kind of learning? [Check out more!](#)

[Donate to Connected Learning](#)

Number path vs. number line

On number lines, students tend to count tick marks. Lack understanding it is the space inbetween.

Like this kind of learning? [Check out more!](#)

[Donate to Connected Learning](#)