



KENTUCKY CENTER
FOR MATHEMATICS

Virtual Make 'n Take

Fluency within 10

Welcome!

Your host

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Kentucky Center for Mathematics

- KCM seeks to advance the knowledge and practice of effective mathematics teaching and learning, encompassing early childhood through adult education.
- KCM provides and develops statewide leadership, facilitate professional learning experiences, and cultivate innovation with the aim of improving mathematics education, practice and policy.

KCM Yearly Numbers

29 math courses taught

73 cohorts of teachers

Over 1000 KY teachers
attending

Over 182 days of
math professional learning

Over \$150,000 of math
materials directly in the hands
of teachers

109 school districts

300 KY schools

100 principals trained

>5000 students impacted

KCM Annual Math Conference
national prominence

Closing the achievement gap
for our KY math students.

Math Achievement Fund
intervention students (3000)
had an average of 10 percentile
points gained as a direct result
of KCM trained math
interventionists.

Visit Our Website

www.kentuckymathematics.org



HOME

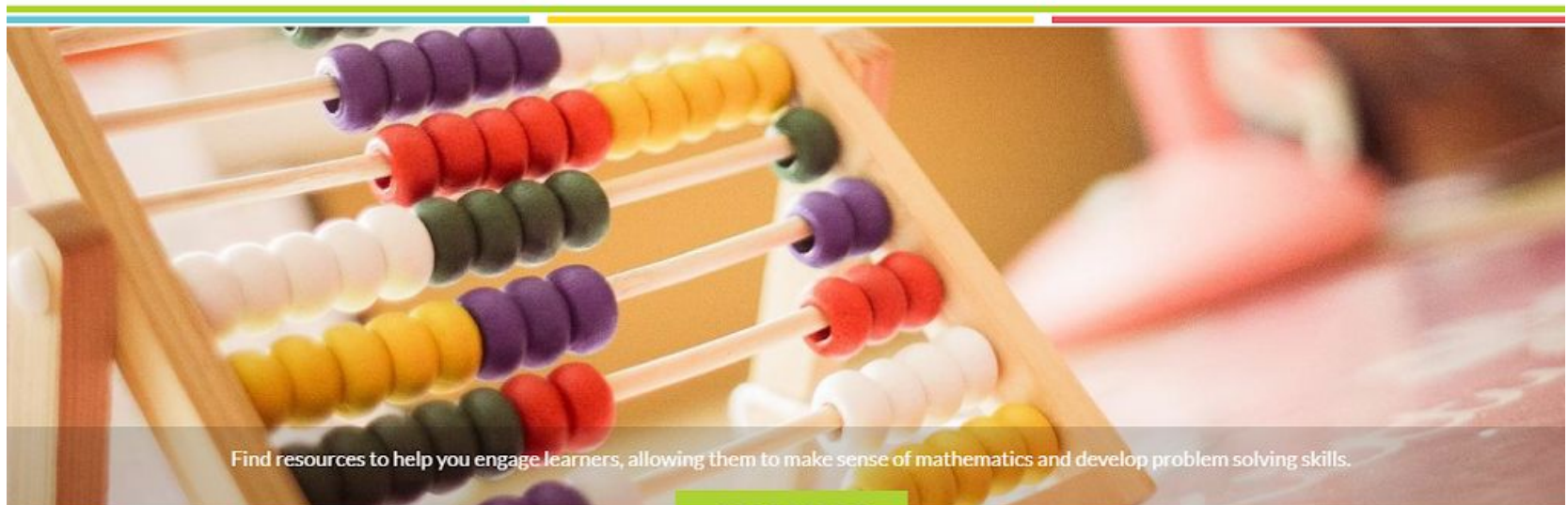
MAF

PROFESSIONAL
LEARNING▼

RESOURCES▼

ANNUAL
CONFERENCE▼

ABOUT US▼



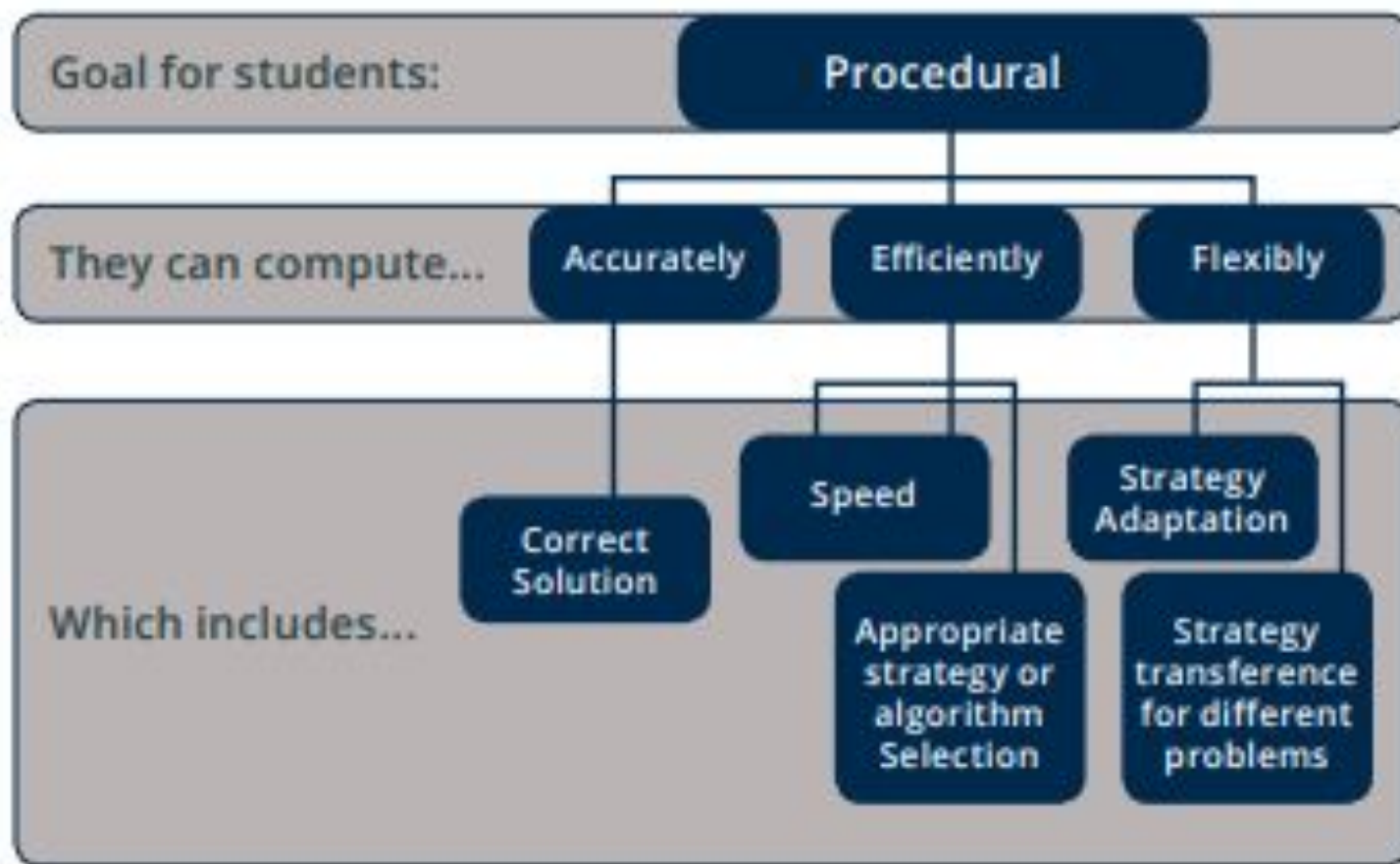
Today's Agenda

- Review content standards
- Math Around the House
- Grab Bag Addition
- Tic Tac Toe
- Math Flips
- Virtual resources
- KCM here to support teachers
- #BetterTogether #TeamKCM

Standards

- Kindergarten – K.K.OA.5 **FLUENTLY** add and subtract **WITHIN 5**.
- First Grade – KY.1.OA.6 Add and subtract within 20, demonstrating **FLUENCY** for addition and subtraction **WITHIN 10**.

Research



Source: Bay-Williams, J. M., & Stokes Levine, A. (2017). *The Role of Concepts and Procedures in Developing Fluency*. In D. Spangler & J. Wanko (Eds.) *Enhancing Professional Practice with Research Behind Principles to Actions*. Reston, VA: NCTM

Math Around the House

Ask the question, How many

- apples in the bowl?
- socks in the drawer?
- pillows on the bed?
- people in the house?
- books in the basket?
- toys in the box?



What if there was 1 more? What if there was 1 less?

Math Around the House

The Junk Drawer:

Use this time to clean out a junk drawer. Your child can help you sort out the *junk*.

After items are sorted, ask those how many questions. How many pens?, pencils? keys? tape? ... What did we have the most of?

Ask math questions throughout the day,
in real settings that make sense.

That is real math. That is meaningful practice.





They might decide 7 is the coolest number today and want

Math Around the House

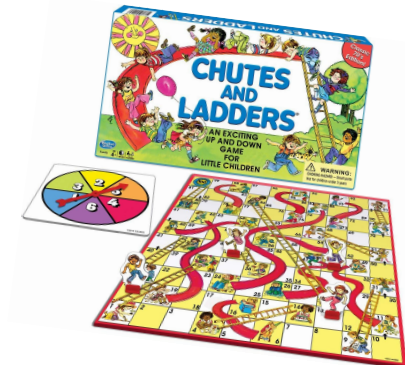
Collections of small objects that can be counted such as:



Playing cards and dice - These can be used as number generators for other math games.



Board Games: Playing games uses math skills and is FUN!



Grab Bag Addition

From: *Developing Number Concepts Book 2 page 144*

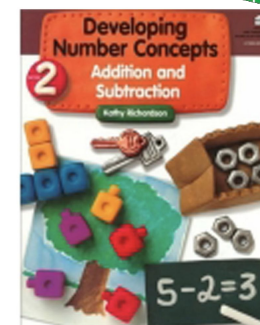
2 players

Materials:

- paper bag or cup
- a collection of 10 - 16 objects such as pennies, paper squares, cereal, pasta or beans, (*can be any like objects that will fit in the bag or cup*)

Directions:

- Each player needs 5 - 8 objects.
- Each player chooses an amount to place in the bag and names the amount. (*Player 1: I put 5 pennies in the bag. Player 2: I put 4 pennies in the bag.*)
- Ask the child, How many are there in the bag altogether?
- Dump and check
- You can then connect to symbolic representations by writing the equations to match the actions. ($5 + 4 = 9$)



Tic Tac Toe

Materials:

- Tic Tac Toe board,
- dot cards,
- number cards or dice
- 2 different colored crayons or markers.

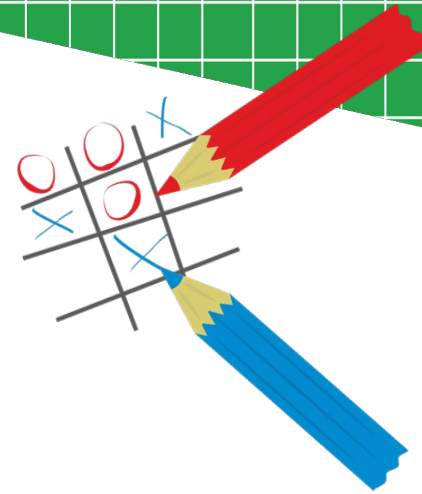
Directions:

Level 1: use dot cards or dot dice

Level 2: use 1 set of number cards and 1 set of dot cards

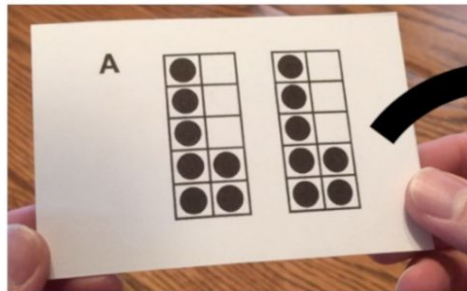
Level 3: use number cards or number dice

Each player draws 2 cards or rolls 2 dice and finds the total. If correct they write their total in a square of their choice. Play continues until a player gets 3 squares in a row.

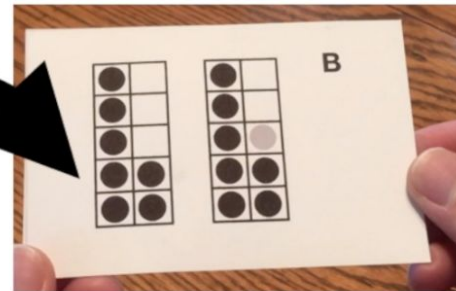


Math Flips

How many?
How do you know?



How many *NOW*?
How do you know?



How does A help you with B?

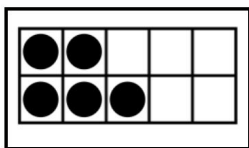
What is the same and different about A and B?

Math Flips routine:

- **Look at side A:** *How many? How do you know?*
- **Look at side B:** *How many NOW? How do you know?*
- **After a while, ask generalizing questions such as:** *How does A help you solve B? What is the same and different about A and B?*

Math Flips

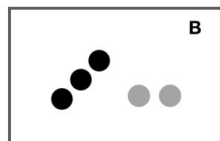
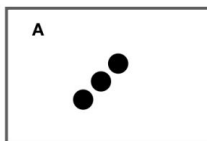
Subitizing Flashcards



(single sided flashcards)

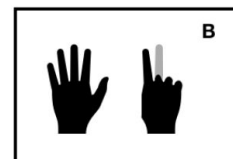
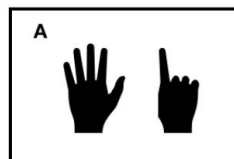
Math Flips: Addition

Count On within 10

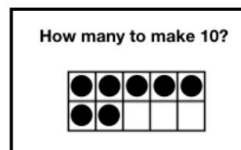


Math Flips: Addition

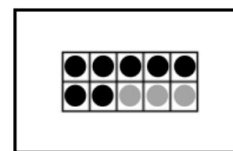
Plus and Minus 1
within 10



Combinations of 10 Flashcards



(front)



(back)

Virtual Manipulatives

Didax Math Virtual Manipulatives

Virtual Manipulatives

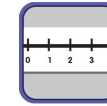
Use these Virtual Manipulatives to enhance classroom instruction. Each one is designed to be projected from your computer or tablet onto a screen or any brand of interactive whiteboard. Drag the manipulatives into position to see math concepts come alive! For help while using each app, look for the "i" symbol for more information.



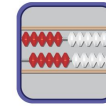
Unifix Cubes



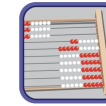
Ten Frames



Number Lines



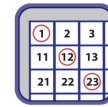
20-Bead
Rekenrek



100-Bead
Rekenrek



Two-Color
Counters



120 Number
Base



Color Tiles



Base Ten
Blocks



Math Balance



Dice



Spinners

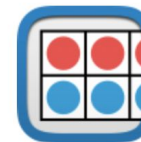
Math Learning Center Apps



[Open Web App](#)
[Apple App Store](#)
[Chrome Store](#)

Number Rack

Number Rack facilitates the natural development of children's number sense. Rows of movable, colored beads encourage learners to think in groups of fives and tens, helping them to explore and discover a variety of addition and subtraction strategies. Free activities and free book available.



[Open Web App](#)
[Apple App Store](#)
[Chrome Store](#)

Number Frames

Number Frames help students structure numbers to 5, 10, 20, and 100. Students use the frames to count, represent, compare, and compute with numbers in a particular range.

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KNP Intervention Guide



KCM-developed respository housing activities designed for math intervention teachers, but usable by any teacher, to support their math instruction. At this time, grade level standards addressed include K-3 with a few for 4.

KY Family Math



Website for parents looking for resources to use with their children to make sense of problems and persevere in solving them while having fun.



Learning Mathematics through Representations

Math Tools



Page listing resources that can

Upcoming Virtual Professional Learning

Week of March 23-27, 2020 2:00 -2:30 pm EST



Virtual Make 'n Take

With KCM Regional Consultants

Monday, March 23rd Fluency within 10
<https://nku.zoom.us/j/557268655>

Tuesday, March 24th Fluency within 20
<https://nku.zoom.us/j/827307599>

Wednesday, March 25th Fluency within 100
<https://nku.zoom.us/j/310467581>

Thursday, March 26th Fluency with x and /
<https://nku.zoom.us/j/290819568>

Friday, March 27th More fluency with x and /
<https://nku.zoom.us/j/311187020>

KCM here to support teachers!

Contact me:

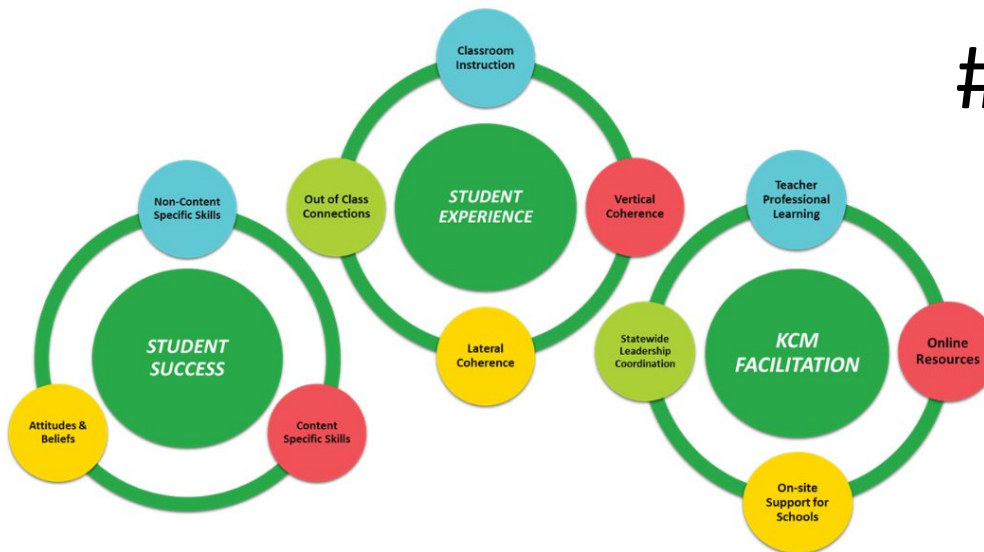
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KCM Support for Educators

- Kentucky Center for Mathematics is here to support our KY educators
- We aspire to be a national leader in mathematics education



#BetterTogether
#TeamKCM