

Making Mathematicians

1 2 3

Daily Routines that Build Number Sense

NCTM Annual Conference, San Francisco

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Presenters: Heidi Hayes, Kate Madura, & Karen Pasiuk

hhayes@oldsaybrookschoools.org

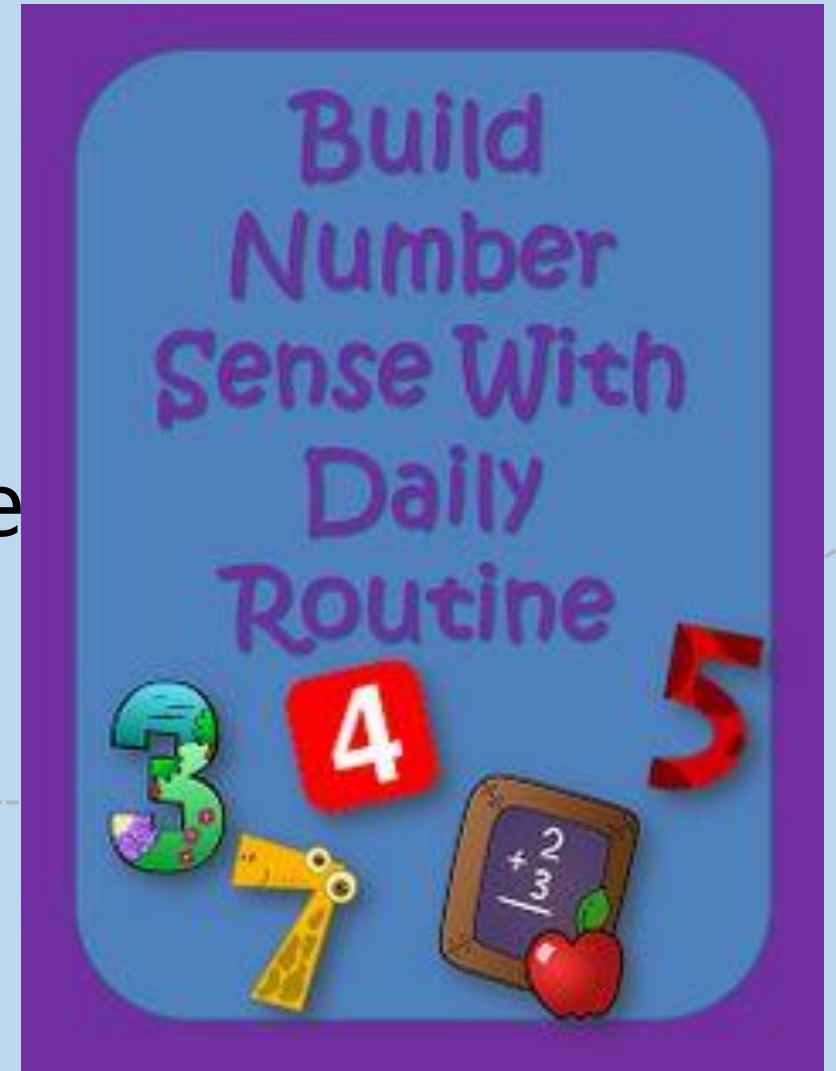
kmadura@clintonpublic.net

pasiukk@region18.org

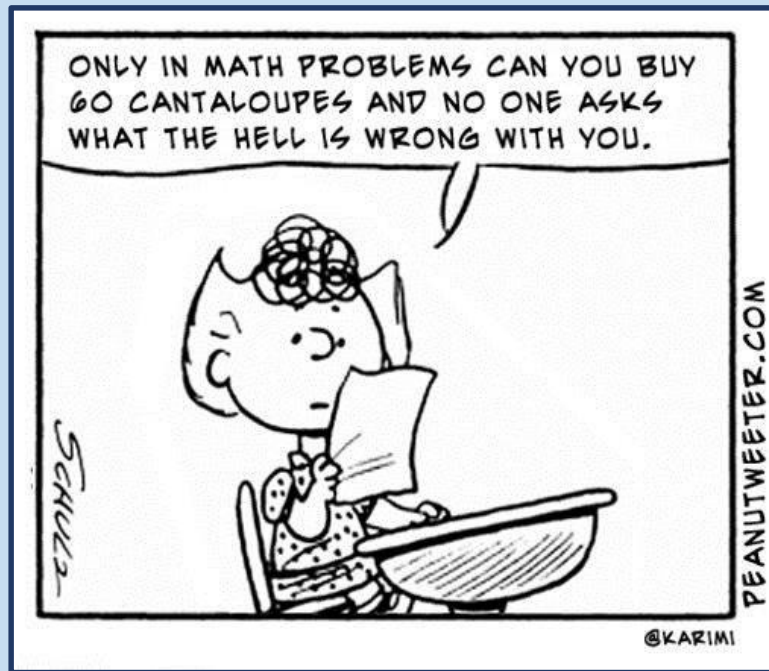
What is a Daily Routine?

A whole-class activity conducted over time, to provide students the opportunity to develop Number Sense, "fluidity and flexibility with numbers" *Gersten & Chard, 2001*

<https://www.youtube.com/watch?v=KdxEAt91D7k>



Number Sense



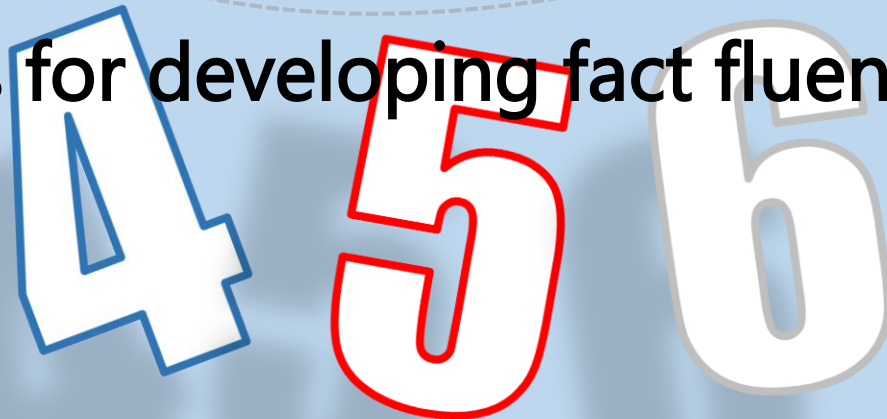
" A sense of number is acquired...it is developed. You don't teach number sense, you teach to nurture its development."

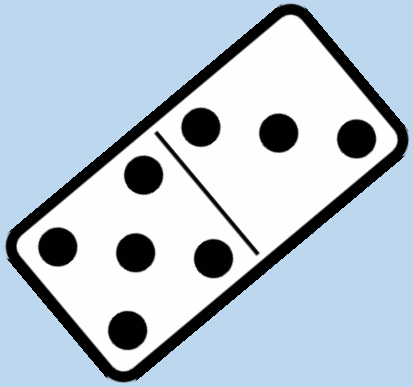
Skip Fennell

Students with **STRONG** Number Sense...

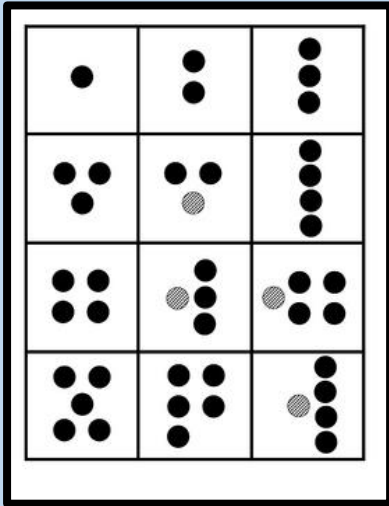
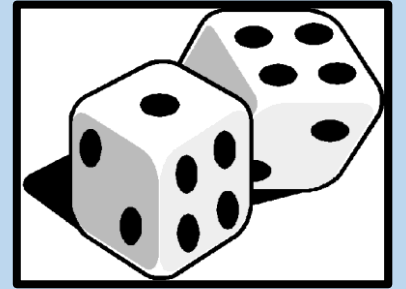
- Mentally compose and decompose numbers,
- Have a good operational sense,
- Estimate a reasonable result for a problem,
- Reason to make sense of numbers, problems, and results,
- Solve problems using relationships between operations and knowledge of the base-ten system.

AND-have the foundational skills for developing fact fluency.

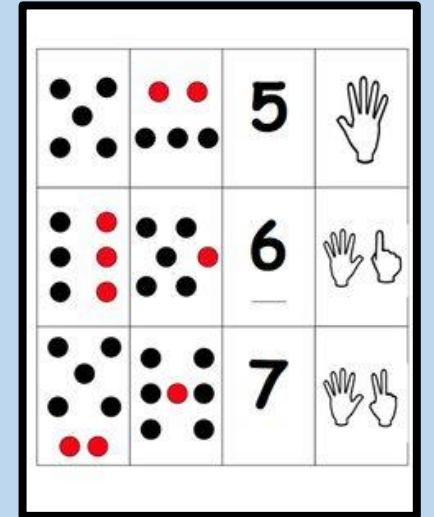




The ability to see numbers without having to count them.



Subitizing

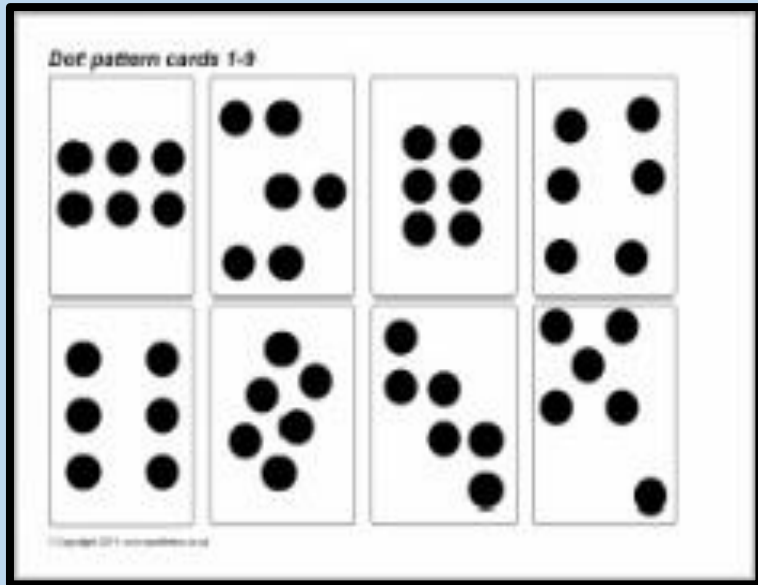


Visualizing quantities lays the foundation for developing number sense.

Arrangements of dots should be purposeful to allow for grouping.

Quick Daily Routines

Dot Cards



Five/Ten Frames



Quick Images

Math Coach's Corner

Quick Flash!

A number sense routine for developing subitizing skills using benchmarks of 5, 10, and 50

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Looking for more of this product and wanting to do the activities every night (even a personal decision to return to elementary school) and a consultant of the "Digital Resources" copyright for all time. These resources are not to be shared with other individuals or groups.

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7 8 9

Composing

Putting numbers or groups together to make larger numbers.

Decomposing

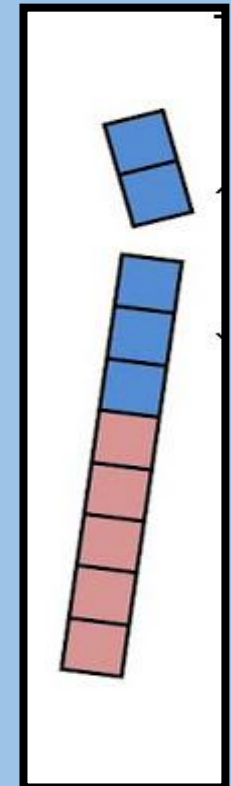
Breaking groups or numbers apart into smaller numbers.

Models for Daily Practice Composing and Decomposing

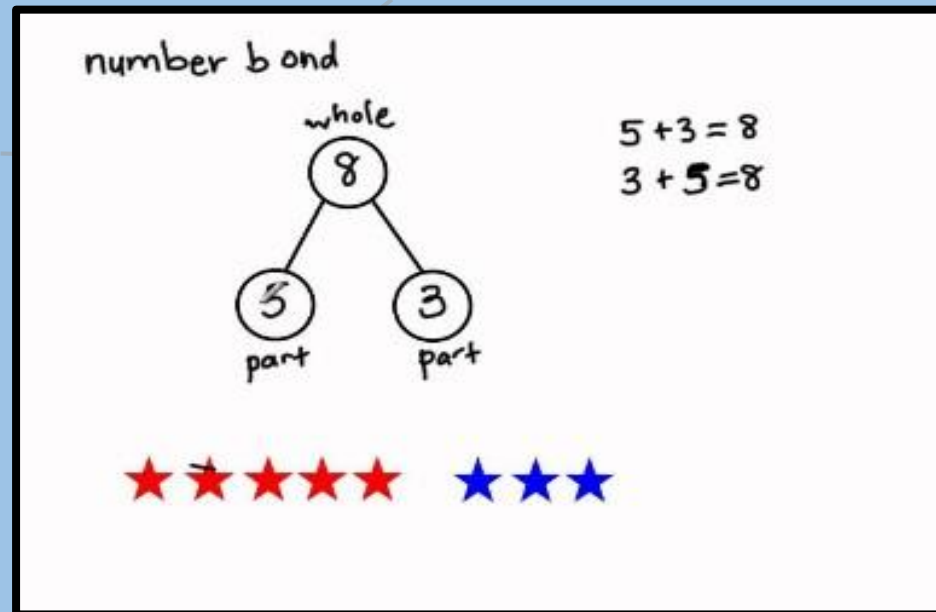
Number Bracelets



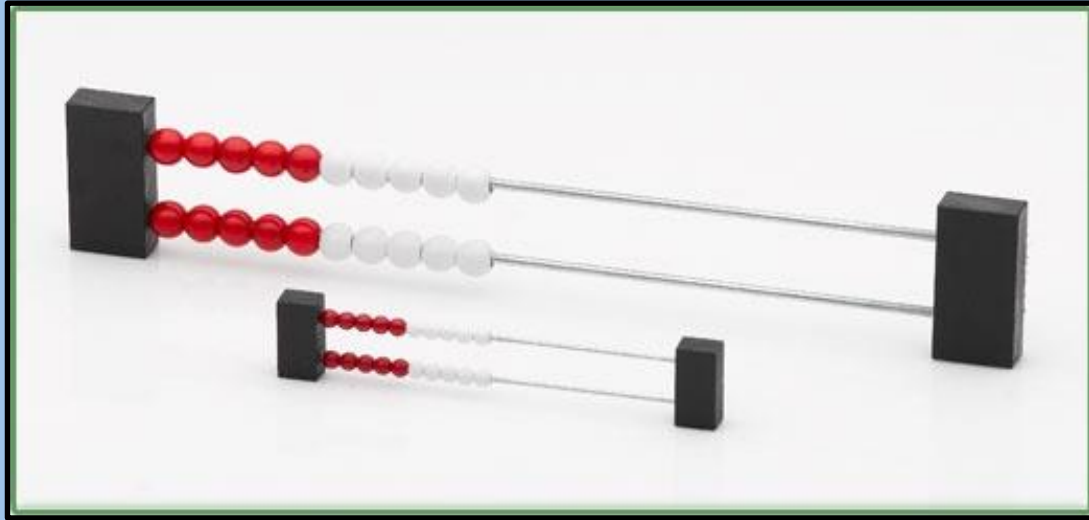
Number Wands



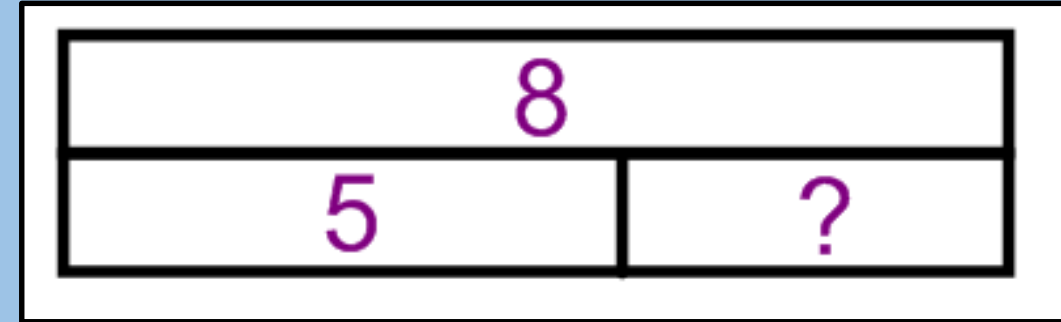
Number Bonds



Rekenreks



Bar Model



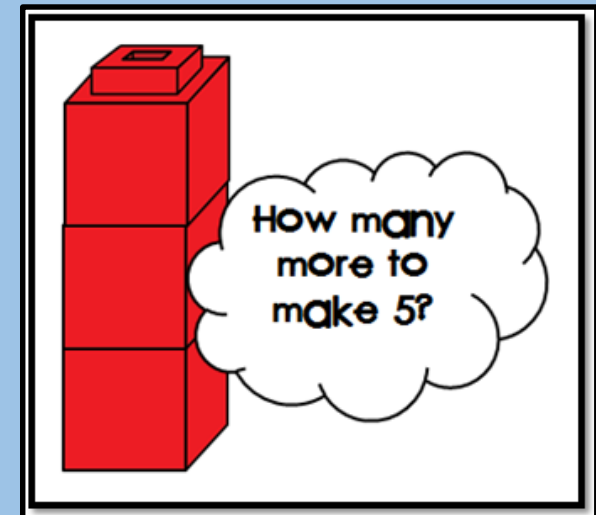
Missing Part Models

4 1 3

Fold this flap over to cover the 3 dots

"1 and *what* make 4?"

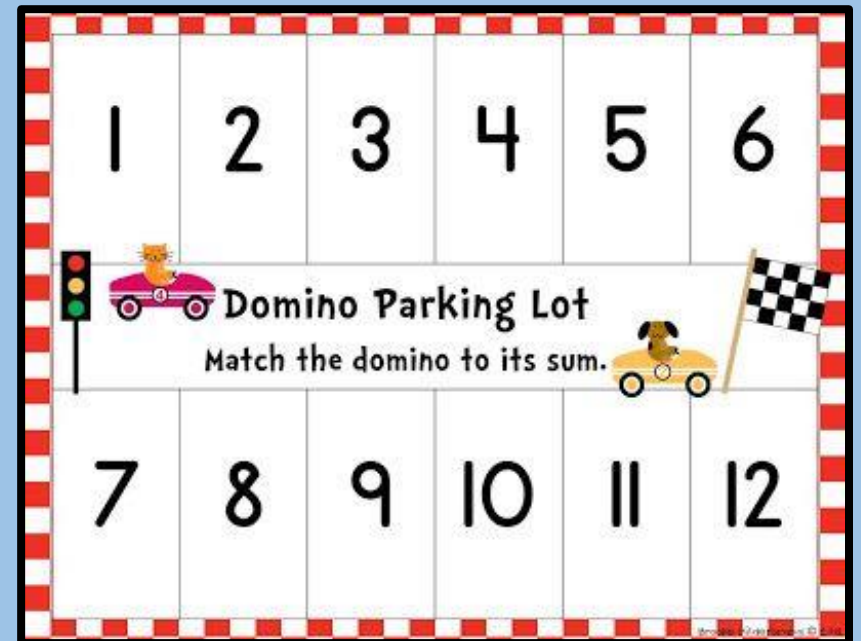
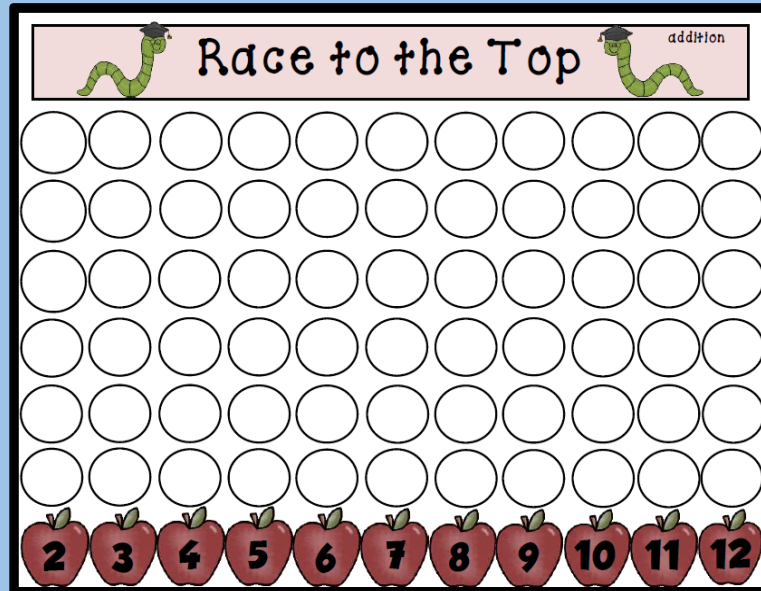
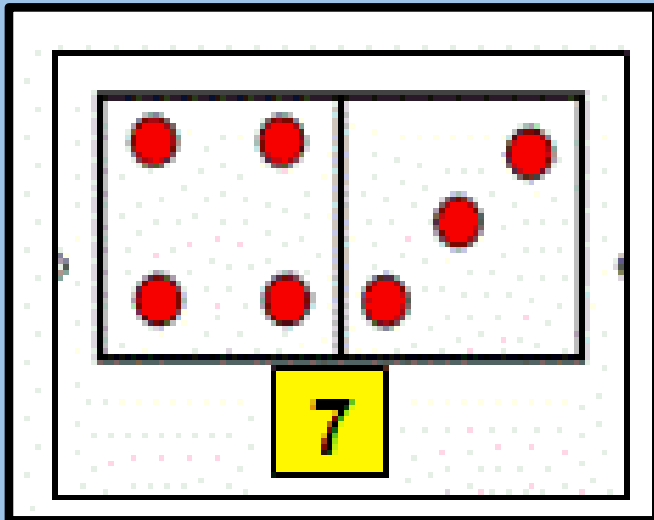
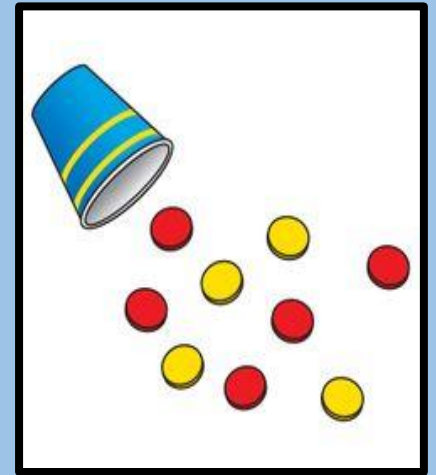
4 1 []





Ideas for Math Stations

Parts of 5 or 10, Shake and Spill,
Dice and Domino Games



More Math Station Ideas

Bump Games, I Have Who Has?,

War, Card and Dice Games



Name _____

One More

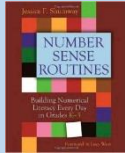
Player 1 rolls the die. The player may cover any square that represents a number one greater than the number rolled. Player 2 rolls. First player to get 4 in a row is the winner.

2	•	••	6	5
••	4	•••	•••	3
7	•••	••••	6	•••
4	••	5	•	7
•••	3	••••	2	•••

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Games to Play with a Deck of Cards

Resources



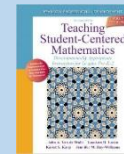
Number Sense Routines
Jessica F. Shumway



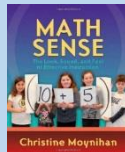
Number Talks Helping Children Build Mental Math and Computation Strategies
Sherry Parrish



It Makes Sense Using Ten Frames to Build Number Sense
Melissa Conklin



Teaching Student-Centered Mathematics K-2
Teaching Student-Centered Mathematics 3-5
John A. Van de Walle



Math Sense: The Look, Sound, and Feel of Effective Instruction
Christine Moynihan



It makes Sense: Using the Hundred Chart to Build Number Sense
Julie Melissa Conklin



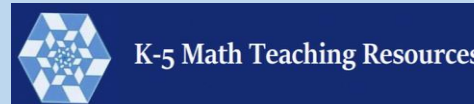
Beyond Pizzas and Pies
Julie McNamara and Meghan Shaughnessy



Rolling into Math, K-2 and 3-5
Jane and John Felling at Boxcars and One Eyed Jacks



<http://mathcoachscorner.blogspot.com/>
Donna Boucher



<http://www.k-5mathteachingresources.com/>



iPads are powerful classroom tools that can be used to reinforce skill development while allowing students to practice at their own level.

The abundance of educational apps can make it overwhelming for teachers to decide which are the best ones to use.



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