Math at Home

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Introduce yourself! Share your interest in math in the home.

Type any questions/comments in the chat.

An important subset of the major work in grades K–8 is the progression that leads toward middle school algebra.

K	1	2	3	4	5	6	7	8
Know number names and the count sequence Count to tell the number of objects Compare numbers Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from Work with numbers 11-19 to gain foundations for place value	Represent and solve problems involving addition and subtraction Understand and apply properties of operations and the relationship between addition and subtraction Add and subtract within 20 Work with addition and subtraction equations Extend the counting sequence Understand place value Use place value understanding and properties of operations to add and subtract Measure lengths indirectly and by iterating length units	Represent and solve problems involving addition and subtraction Add and subtract within 20 Understand place value Use place value understanding and properties of operations to add and subtract Measure and estimate lengths in standard units Relate addition and subtraction to length	Represent & solve problems involving multiplication and division Understand properties of multiplication and the relationship between multiplication and division Multiply & divide within 100 Solve problems involving the four operations, and identify & explain patterns in arithmetic Develop understanding of fractions as numbers Solve problems involving measurement and estimation of intervals of time, liquid volumes, & masses of objects Geometric measurement: understand concepts of area and relate area to multiplication and to addition	Use the four operations with whole numbers to solve problems Generalize place value understanding for multi-digit whole numbers Use place value understanding and properties of operations to perform multidigit arithmetic Extend understanding of fraction equivalence and ordering Build fractions from unit fractions by applying and extending previous understandings of operations Understand decimal notation for fractions, and compare decimal fractions	Understand the place value system Perform operations with multi-digit whole numbers and decimals to hundredths Use equivalent fractions as a strategy to add and subtract fractions Apply and extend previous understandings of multiplication and division to multiply and divide fractions Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition Graph points in the coordinate plane to solve real-world and mathematical problems*	Apply and extend previous understandings of multiplication and division to divide fractions by fractions Apply and extend previous understandings of numbers to the system of rational numbers Understand ratio concepts and use ratio reasoning to solve problems Apply and extend previous understandings of arithmetic to algebraic expressions Reason about and solve one-variable equations and inequalities Represent and analyze quantitative relationships between dependent and independent variables	Apply and extend previous understanding of operations with fractions to add, subtract, multiply, and divide rational numbers Analyze proportional relationships and use them to solve real-world and mathematical problems Use properties of operations to generate equivalent expressions Solve real-life and mathematical problems using numerical and algebraic expressions and equations	Work with radical and integer exponents Understand the connections between proportional relationships, lines, and linear equations** Analyze and solve linear equations and pairs of simultaneous linear equations Define, evaluate, and compare functions Use functions to model relationships between quantities

https://achievethecore.org/category/774/mathematics-focus-by-grade-level

Games and activities

Books

Virtual tools

Addition	Subtraction
Multiplication	Division

Counting

Comparing numbers

Counting coins

Telling time

Identifying equivalent fractions

Knowing multiples

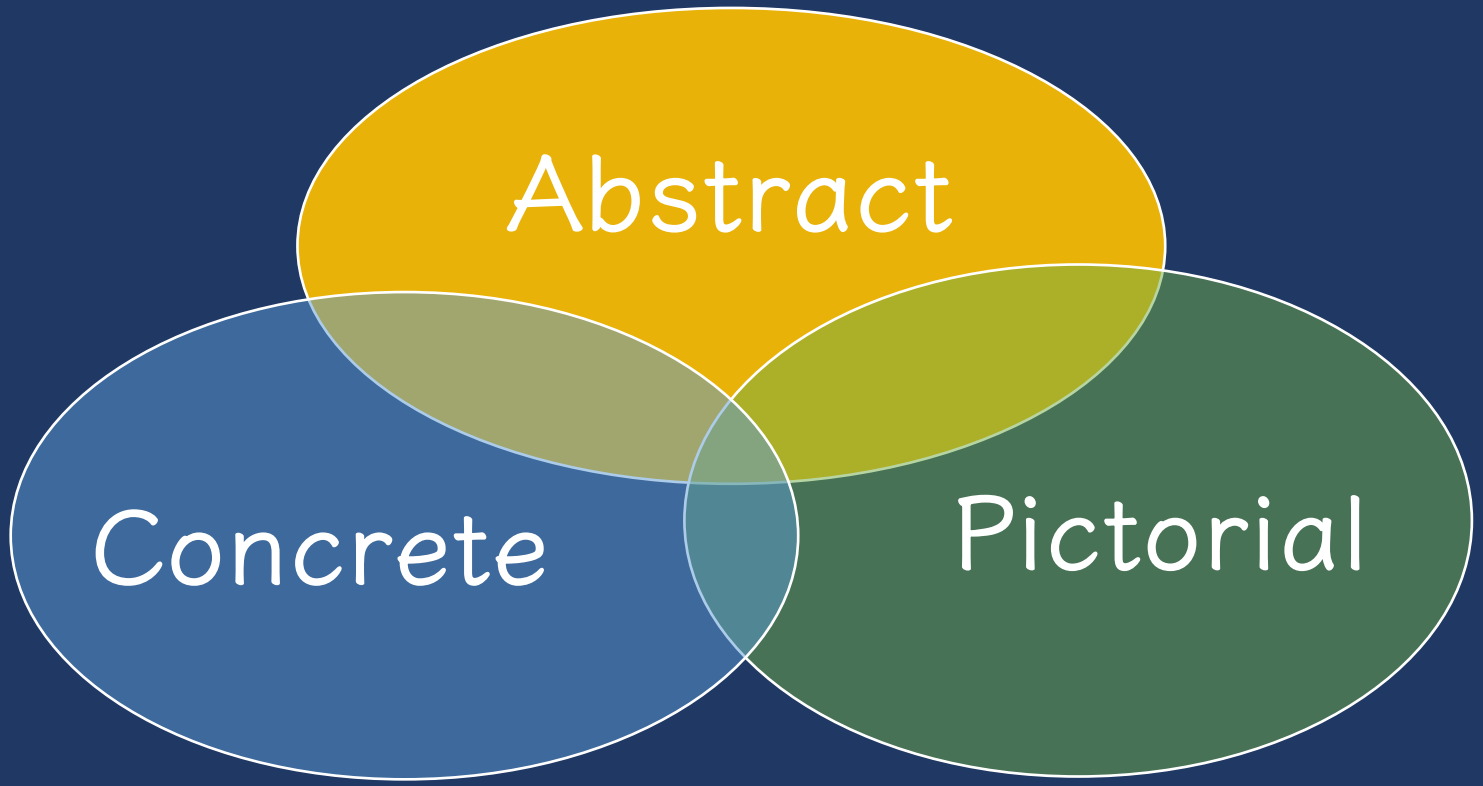
Identifying shapes

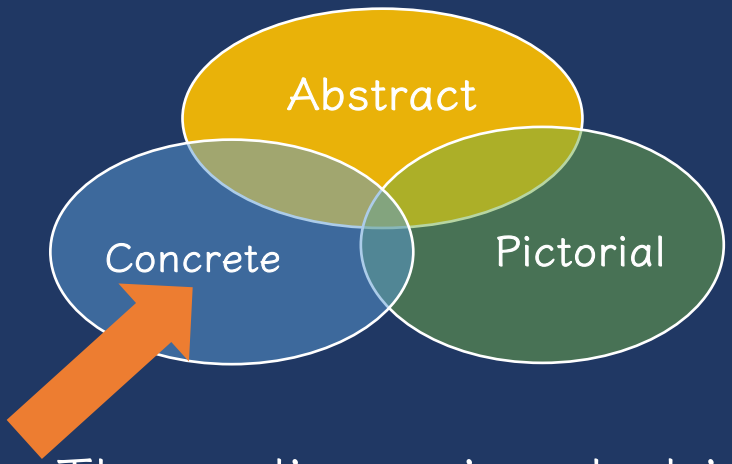
Knowing formulas

Addition	Subtraction
Multiplication	Division

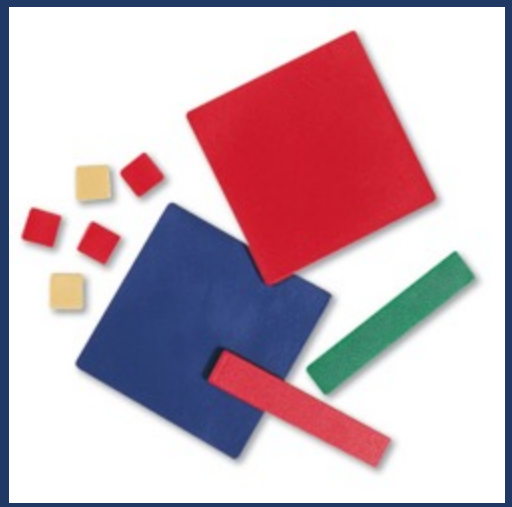
memorization
automaticity

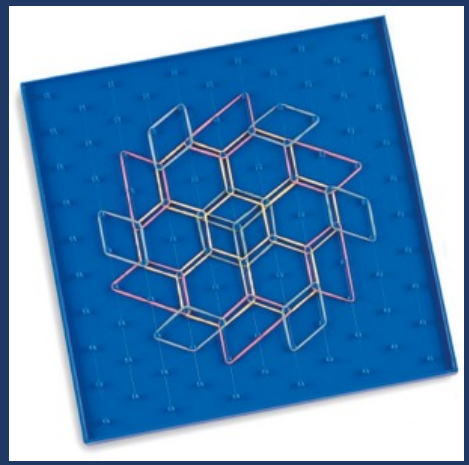
easy use of strategies
accuracy

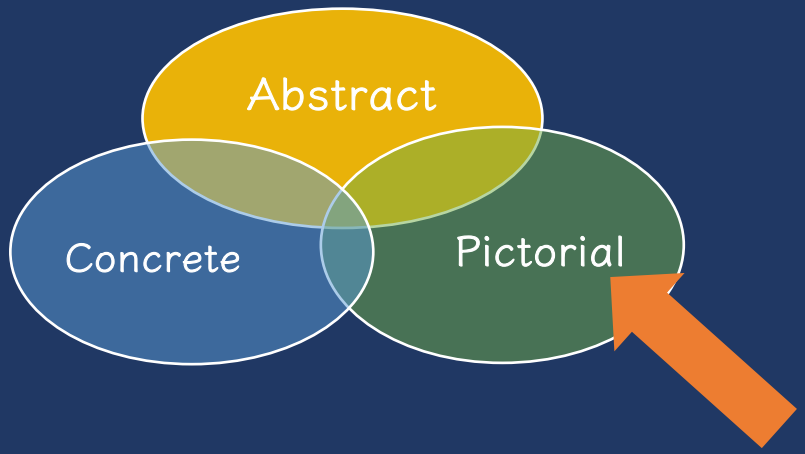




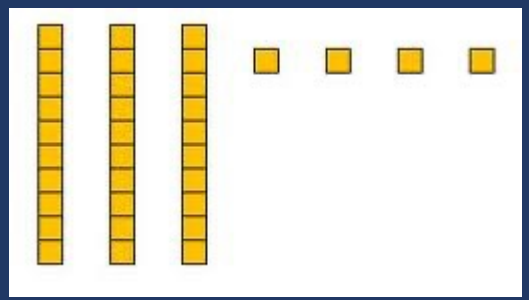
Three-dimensional objects

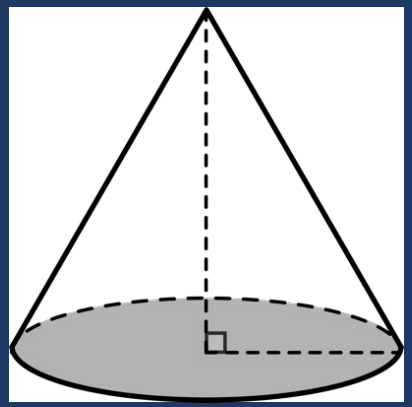


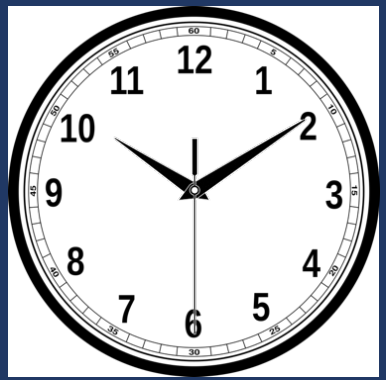


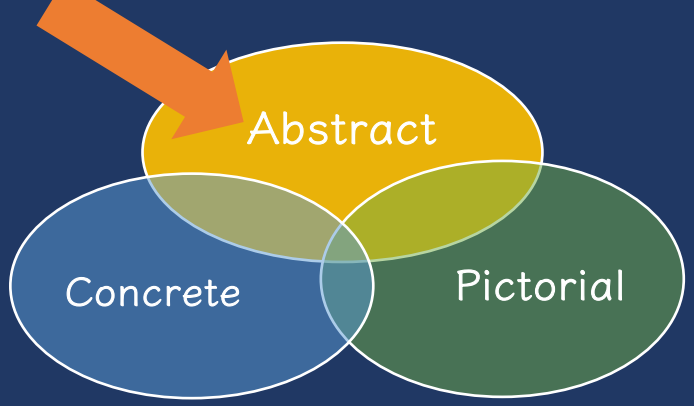


Two-dimensional images









Numerals and symbols and words

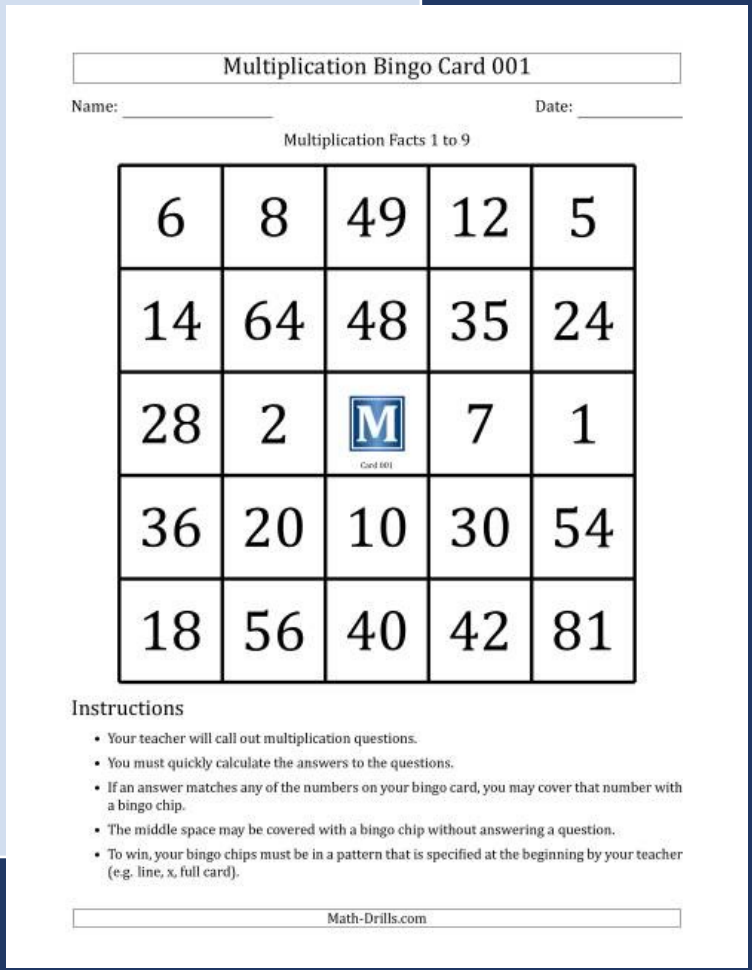
$2 + 8 = 10$

34 = 3 tens and 4 ones

$x - 6 = 8$

$$\begin{array}{r} 4{,}179 \\ +\quad 569 \\ \hline \end{array}$$

ACTIVITY	INSTRUCTIONS	PICTURE
Beach Ball Math *Group Activity*	**BEFORE** 1. Write sums, differences, products, or quotients on a beach ball. **DURING** 2. A student tosses the beach ball to another student. 3. The student has to add, subtract, multiply, or divide the two numbers closest to each thumb. 3. The student tosses the beach ball to another student.	

ACTIVITY	INSTRUCTIONS	PICTURE
Bingo *Group Activity*	**BEFORE** 1. Create bingo cards with sums, differences, products or quotients or facts. **DURING** 2. Read an addition, subtraction, multiplication, or division fact. 3. Students cover spaces with chips or counters to create a bingo pattern.	

Multiplication Bingo Card 001

Name: _____ Date: _____

Multiplication Facts 1 to 9

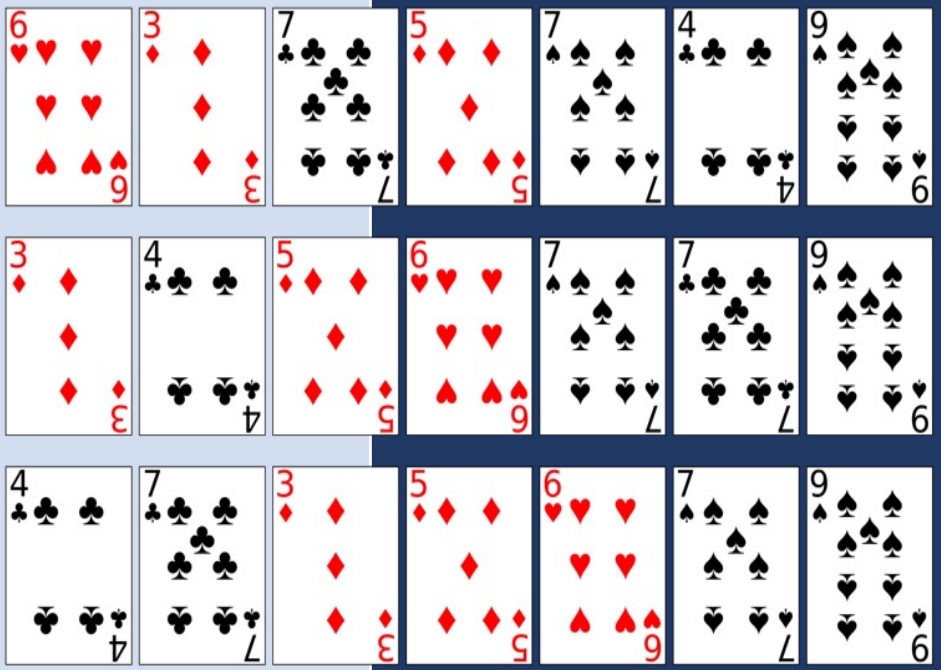
6	8	49	12	5
14	64	48	35	24
28	2	M	7	1
36	20	10	30	54
18	56	40	42	81

Card 001

Instructions

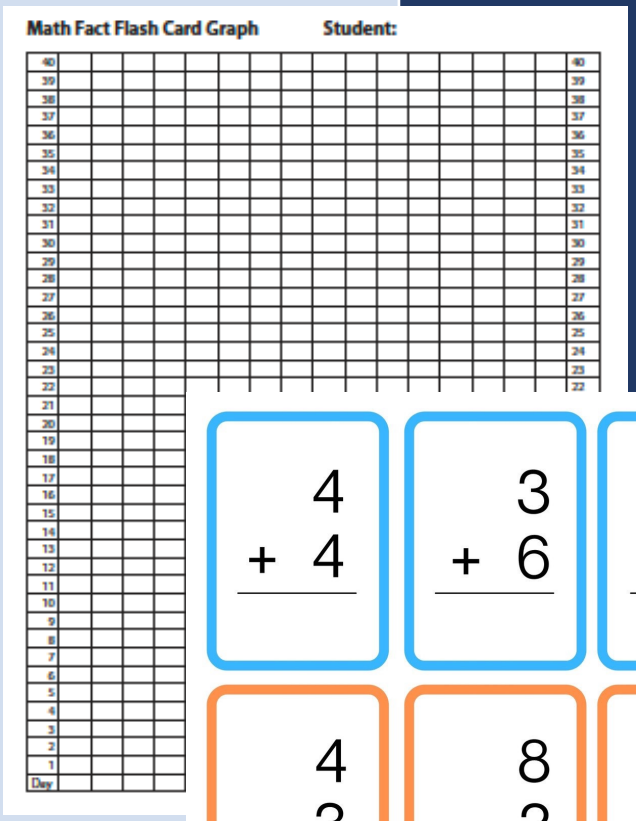
- Your teacher will call out multiplication questions.
- You must quickly calculate the answers to the questions.
- If an answer matches any of the numbers on your bingo card, you may cover that number with a bingo chip.
- The middle space may be covered with a bingo chip without answering a question.
- To win, your bingo chips must be in a pattern that is specified at the beginning by your teacher (e.g. line, x, full card).

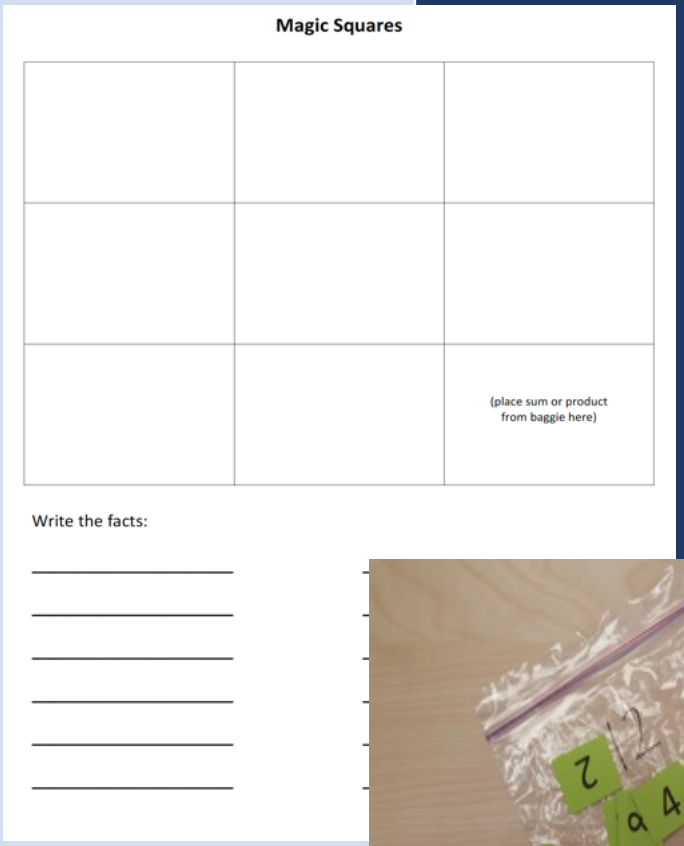
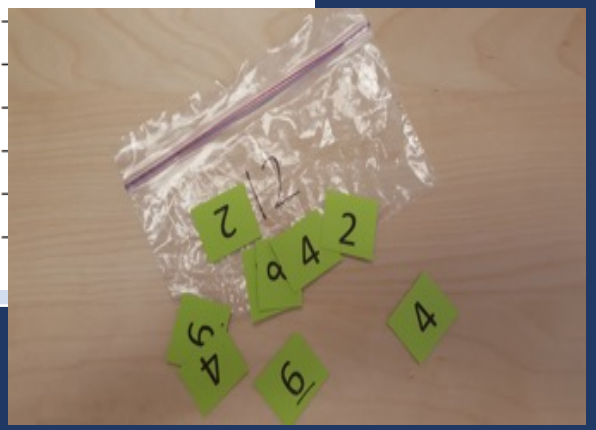
Math-Drills.com

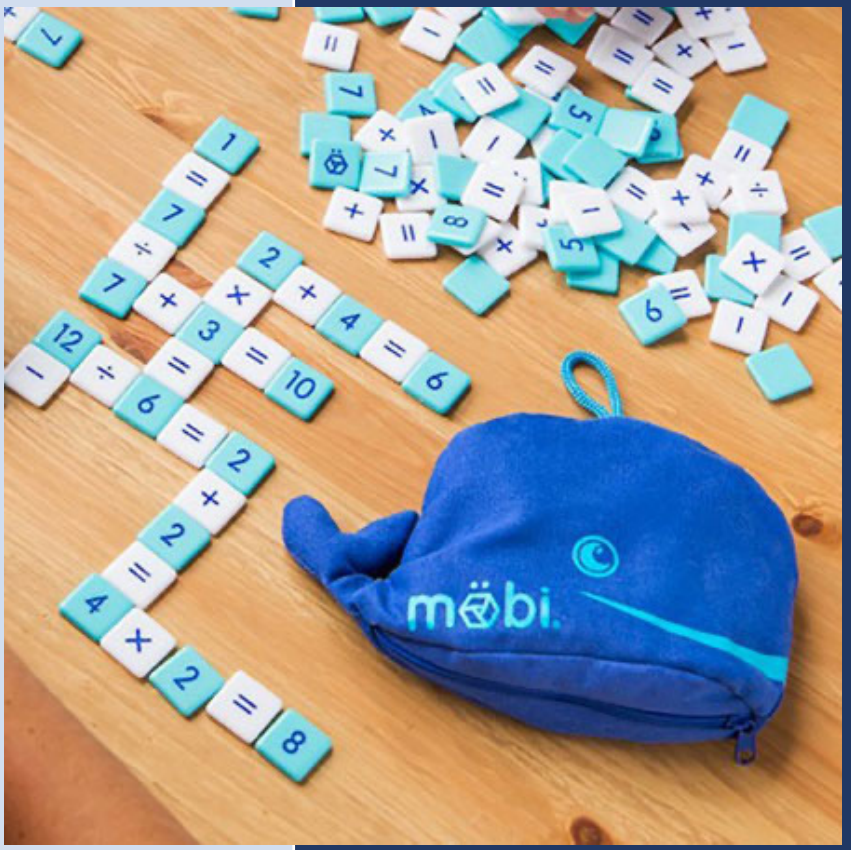
ACTIVITY	INSTRUCTIONS	PICTURE
Cards *Group Activity*	**BEFORE** 1. Select numbered playing cards from a deck of cards. **DURING** 2. Divide the deck in half. 3. Students place the set of cards face down. 4. Each student flips over the top card. 5. The first student to add, subtract, or multiply the cards gets to keep both cards; the cards go back in the student's set. 6. Students continue until one student has all of the cards. (similar to War)	

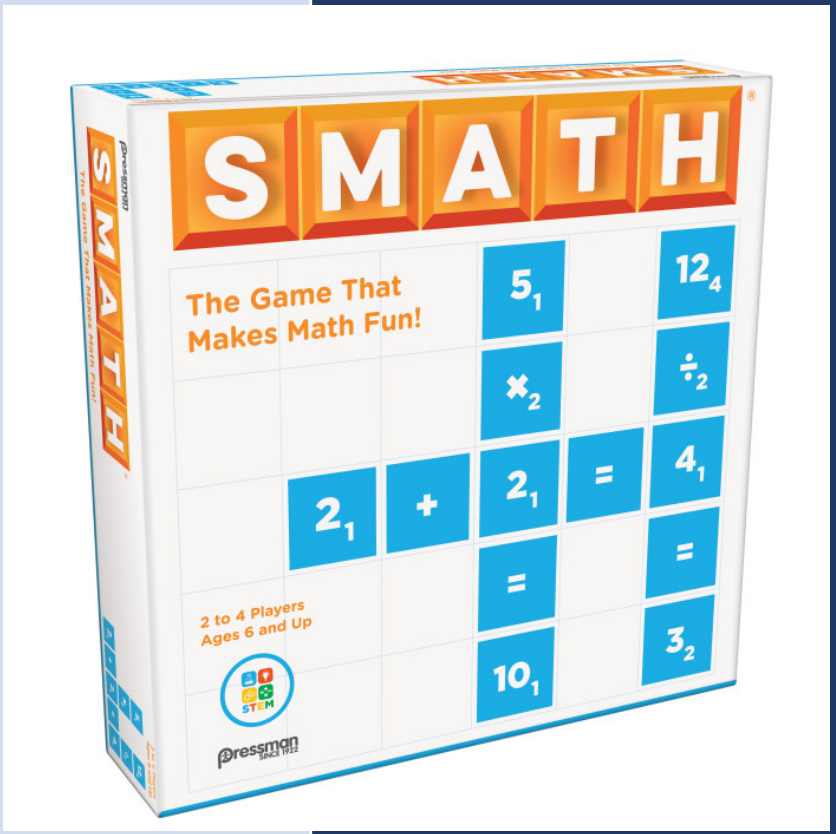
ACTIVITY	INSTRUCTIONS	PICTURE
Dice Roll *Individual or Group Activity*	**DURING** 1. Student rolls two die. 2. Student adds, subtracts, or multiplies. 3. Student writes facts.	Roll the Dice ___ + ___ = ___ ___ + ___ = ___ ___ + ___ = ___ ___ + ___ = ___ ___ - ___ = ___ ___ - ___ = ___ ___ - ___ = ___ ___ - ___ = ___

ACTIVITY	INSTRUCTIONS	PICTURE
Dominoes *Individual or Group Activity*	**DURING** 1. Student selects a domino. 2. Student adds, subtracts, or multiplies. 3. Student writes the fact.	Dominoes ___+___=___ ___+___=___ ___+___=___ ___+___=___ ___-___=___ ___-___=___ ___-___=___ ___-___=___

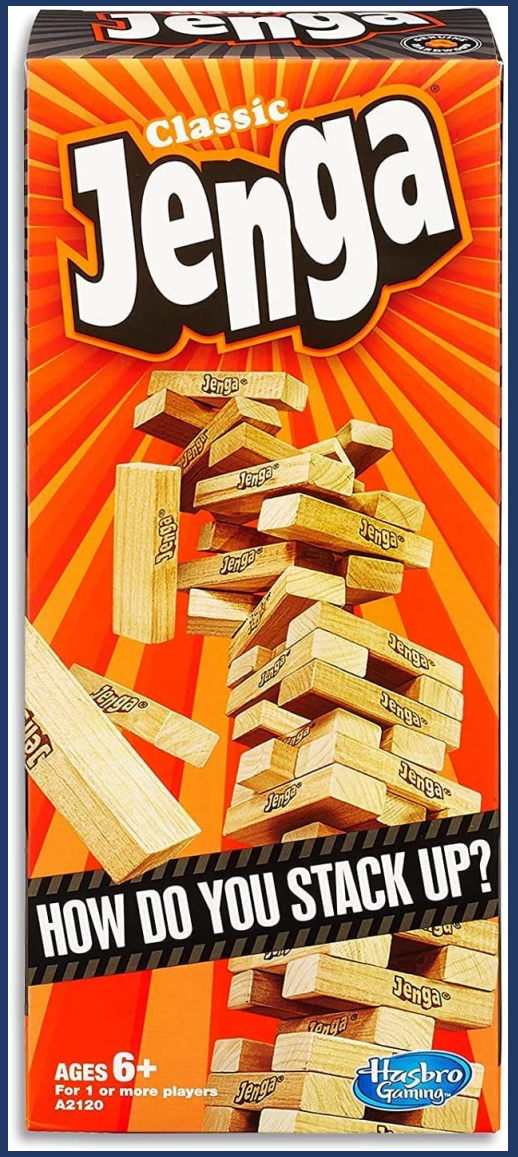
ACTIVITY	INSTRUCTIONS	PICTURE
Flashcards with Graphing *Individual Activity* https://www.amazon.com/math-flash-cards/s?k=math+flash+cards	**DURING** 1. Student answers as many fact flashcards as he/she can in 2, 1-min trials. 2. Student graphs the highest score of day or week from the two trials.	

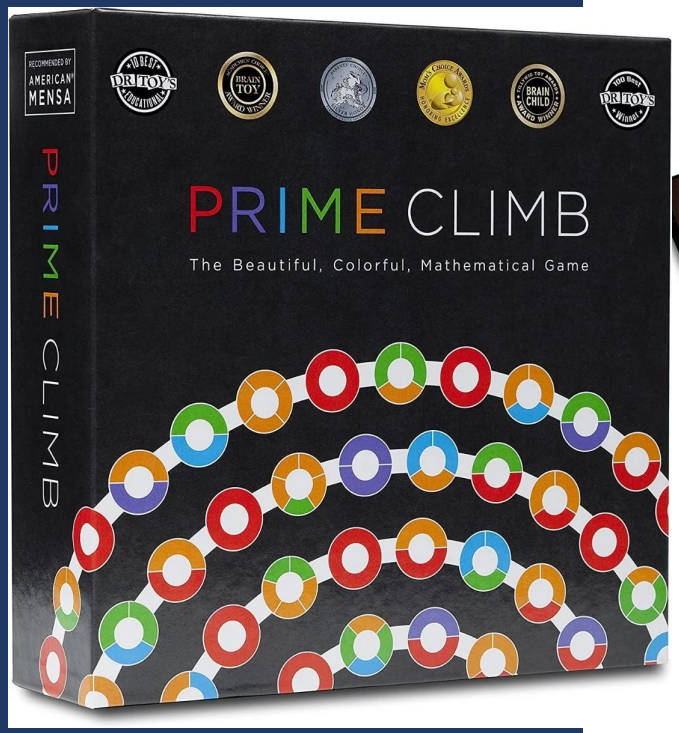
ACTIVITY	INSTRUCTIONS	PICTURE
Magic Squares *Individual or Group Activity*	**BEFORE** 1. Create sets of magic squares. **DURING** 2. Place the sum or product in the bottom right corner. 3. In the bottom row, create a fact with a sum or product of the bottom right corner. 4. In the right column, create a fact with a sum or product of the bottom right corner. 5. Create two columns with a sum or product of the bottom number. 6. Create two rows with a sum or product of the right column number. 7. Write created facts.	 

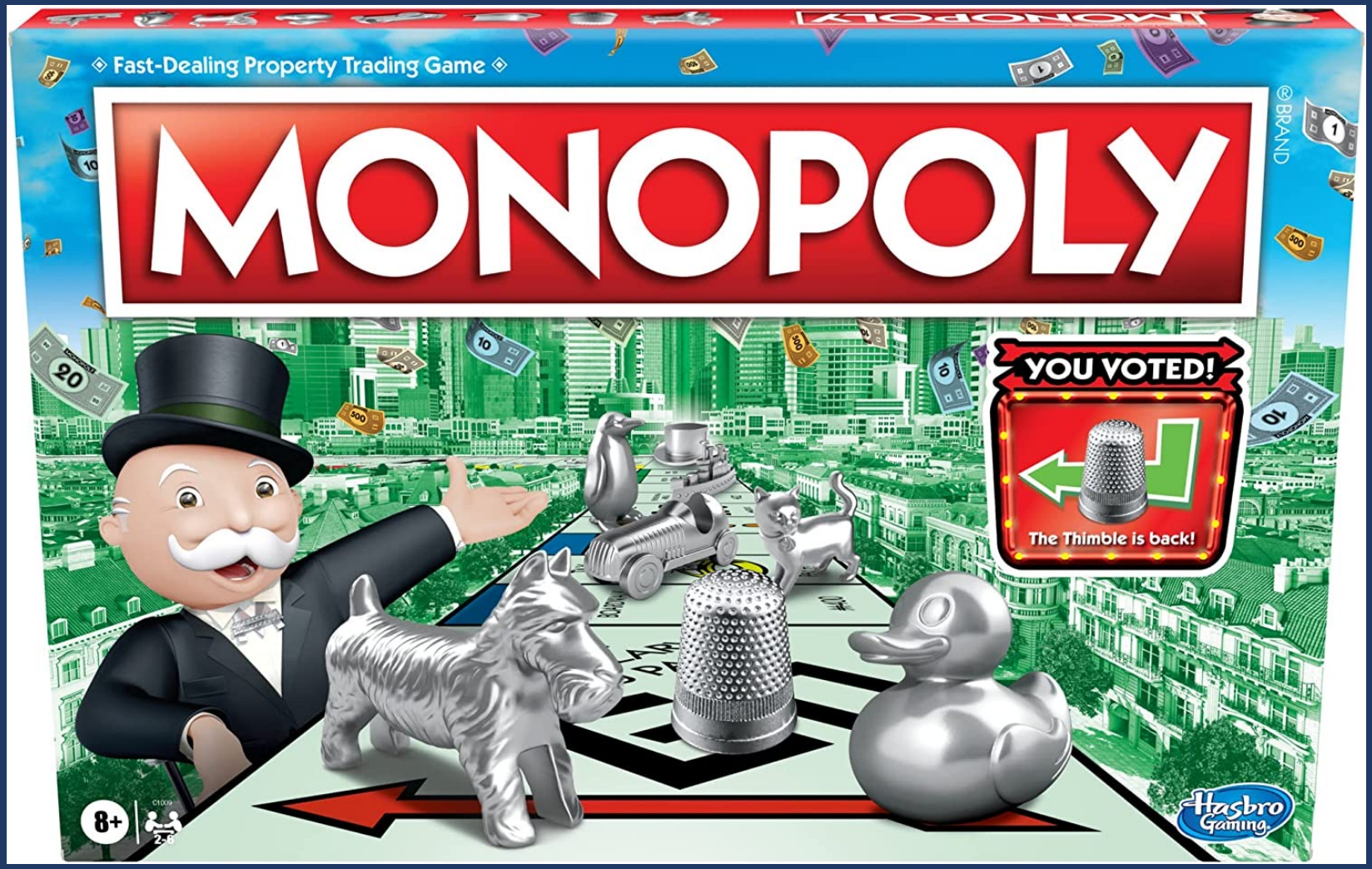
ACTIVITY	INSTRUCTIONS	PICTURE
Mobi *Group Activity* https://www.amazon.com/Mobi-Numerical-Tile-Whale-Pouch/dp/B00XGW433Y	**DURING** 1. Students begin with a specific number of blue tiles; the white tiles can be used at any time. 2. Students create a set of equations that build off of one another (each student makes his/her own set of equations). 3. Students draw more blue tiles after blue tiles are used; students rearrange and add to the equation set. This game is similar to Bananagrams.	

ACTIVITY	INSTRUCTIONS	PICTURE
SMATH *Group Activity* https://www.pressmantoy.com/product/smath/	**DURING** 1. Students begin with a specific number of tiles. 2. Students create equations that build off of one another. This game is similar to Scrabble.	

ACTIVITY	INSTRUCTIONS	PICTURE
Wrap-Ups *Individual Activity*	**DURING** 1. Student wraps the string behind the key and places it around the top left notch. 2. Student answers the fact by wrapping the string in front of the key and around to the answer notch. 3. Student brings the string around the back to the next left notch. 4. Student continues. 5. At the end, the student checks the facts by comparing the string to the raised pattern on back of the key.	







What are some of your favorite games?

Games and activities

Books

Virtual tools

Author	Title	Area
Ball, Buncan	*Jeremy's Tail*	Classification/Patterns
Blood, Charles	*The Goat in the Rug*	Classification/Patterns
Campbell, Sarah	*Growing Patterns*	Classification/Patterns
Carle, Eric	*The Very Busy Spider*	Classification/Patterns
Cleary, Brian P.	*A-B-A-B-A- a Book of Pattern Play*	Classification/Patterns
Danielson, Christopher	*Which One Doesn't Belong?*	Classification/Patterns
Demi	*Demi's Opposites*	Classification/Patterns
Felix, Monique	*The Opposites*	Classification/Patterns
Flatt, Lizann	*Sorting Through Spring*	Classification/Patterns
Hoban, Tana	*Is it Rough? Is it Smooth? Is it Shiny?*	Classification/Patterns
Johnson, Crockett	*Harold and the Purple Caryon*	Classification/Patterns
Mariconda, Barbara	*Sort It Out!*	Classification/Patterns
McGrath, Barbara Barbieri	*Teddy Bear Patterns*	Classification/Patterns
Murphy, Stuart J.	*3 Little Firefighters*	Classification/Patterns
Olson, Nathan	*City Patterns*	Classification/Patterns
Pluckrose, Henry	*Pattern*	Classification/Patterns
Pluckrose, Henry	*Sorting*	Classification/Patterns
Rehm, Karl & Koike, Kay	*Left or Right?*	Classification/Patterns
Reid, Margarette S.	*The Button Box*	Classification/Patterns
Swinburne, Stephen, R.	*Lots and Lots of Zebra Stripes: Patterns in Nature*	Classification/Patterns
Verdick, Elizabeth	*Clean-Up Time*	Classification/Patterns
Wood, Jakki	*Bumper to Bumper*	Classification/Patterns
Hoban, Tana	*More, Fewer, Less*	Comparison
Jenkins, Steve	*Biggest, Strongest, Fastest*	Comparison
Murphy, Stuart J.	*More or Less*	Comparison
Aker, Suzanne	*What Comes in 2's, 3's, and 4's?*	Counting
Anno, Mitsumasa	*Anno's Counting Book*	Counting
Baker, Keith	*1-2-3 Peas*	Counting
Baker, Keith	*Quack and Count*	Counting
Bang, Molly Garett	*Ten, Nine, Eight*	Counting
Becker, John	*Seven Little Rabbits*	Counting
Bogart, Jo Ellen	*Count Your Chickens*	Counting
Brooks, Felicity	*Count to 100*	Counting
Burris, Priscilla	*Five Green and Speckled Frogs: A Count-and-Sing Book*	Counting
Carle, Eric	*1, 2, 3 to the Zoo*	Counting
Clement, Rod	*Counting on Frank*	Counting
Crew, Donald	*Ten Black Dots*	Counting
Dahl, Michael	*Lots of Ladybugs: Counting by Fives*	Counting
Dahl, Michael	*On the Launch Pad: A Counting Book About Rockets*	Counting
Dahl, Michael	*One Big Building: A Counting Book About Construction*	Counting
Danielson, Christopher	*How Many?*	Counting
Dee, Ruby	*Two Ways to Count to Ten*	Counting
dePaola, Tomie	*Pancakes for Breakfast*	Counting
Dr. Seuss	*Ten Apples Up on Top*	Counting
Edwards, Pamela Duncan	*Roar! A Noisy Counting Book*	Counting
Edwards, Roberta	*Five Silly Fishermen*	Counting
Ehlert, Lois	*Fish Eyes: A Book You Can Count On*	Counting

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Weekly Routine Framework

Day 1

- Introduce the target math concept.
- Introduce the book.
- Introduc 3-5 new vocabulary words f m the book.
- Read the book.
- Review the new vocabulary words.
- Mak real-life connections gh discussion.
- Reread the book, stopping at each target vocabulary word a using illustrations to clarify concepts and check for understanding.
- Explore new concepts and build skill with hands-on activity.
- Use the skill as you go through the day.

Day 2

- Review concepts and vocabulary from the previous day's reading.
- Reread the book, stopping at each target vocabulary word and illustration to clarify concepts and check for understanding.
- Reinforce the new skill with another hands-on activity.
- Use the skill as you go through the day.

Day 3

- Review target vocabulary words.
- If desired, reread the book.
- Reinforce new skill with another related math activity.
- Ask students how they used their new math skills throughout the week.

both	inside
next to	move over

The Mitten

Vocabulary Suggestions (select 3 to 5)

1. both - two of them, together	4. move over - make some room
2. inside - (gesture)	5. bigger - grows larger
3. next to - right beside	6. packed in tight - squeezed together

*remember to have a hand gesture, body movement, picture, or object to illustrate

Connecting Questions for Discussion (You will need a child's mitten or glove and a few small items to put into it.)

1. How many of you have some mittens or gloves like Nicki? (Responses.)
2. Why do we sometimes wear mittens? (Responses.)
3. That's right, we wear them to keep our hands warm.
4. Why do you think those animals crawled into Nicki's mitten? (Responses.)
5. That's right, to stay warm!
6. How big are your mittens? (Responses.)
7. I have a mitten (or glove) here. (Show children your mitten.)
8. How big is a bear? (Responses.)
9. Do you think a bear would REALLY fit into your mitten? (Responses.)
10. No, that's silly, bears don't really fit into our mittens, do they?
11. Maybe a mouse would fit, right?
12. Our story about mittens is just pretend, isn't it?
13. What else do you think fits *just right* into your mittens? (Responses.)
14. (Talk about their responses.) Those are some great ideas! Now, we will see how many of these we can fit into our mitten.
15. [Allow children to place the small objects you collected into the mitten.]

Activity Ideas (select 3 for use over the week, or create your own):

1. Mitten Match

- Cut out multiple pairs of mittens (or use real ones if you have them). Each pair must be distinguishable from the others in size, color, shape, or pattern. Here is an online version with small colored mittens (you'll need 2 copies): https://www.prekinders.com/winter/MittenMatching.pdf
- Give everyone one mitten and let children find the matching mates.
- Have them raise their hands (or sit down) when they have located both of their mittens.
- Ask children to describe how they know their mittens match.
- Collect mittens, scramble...and do it again!

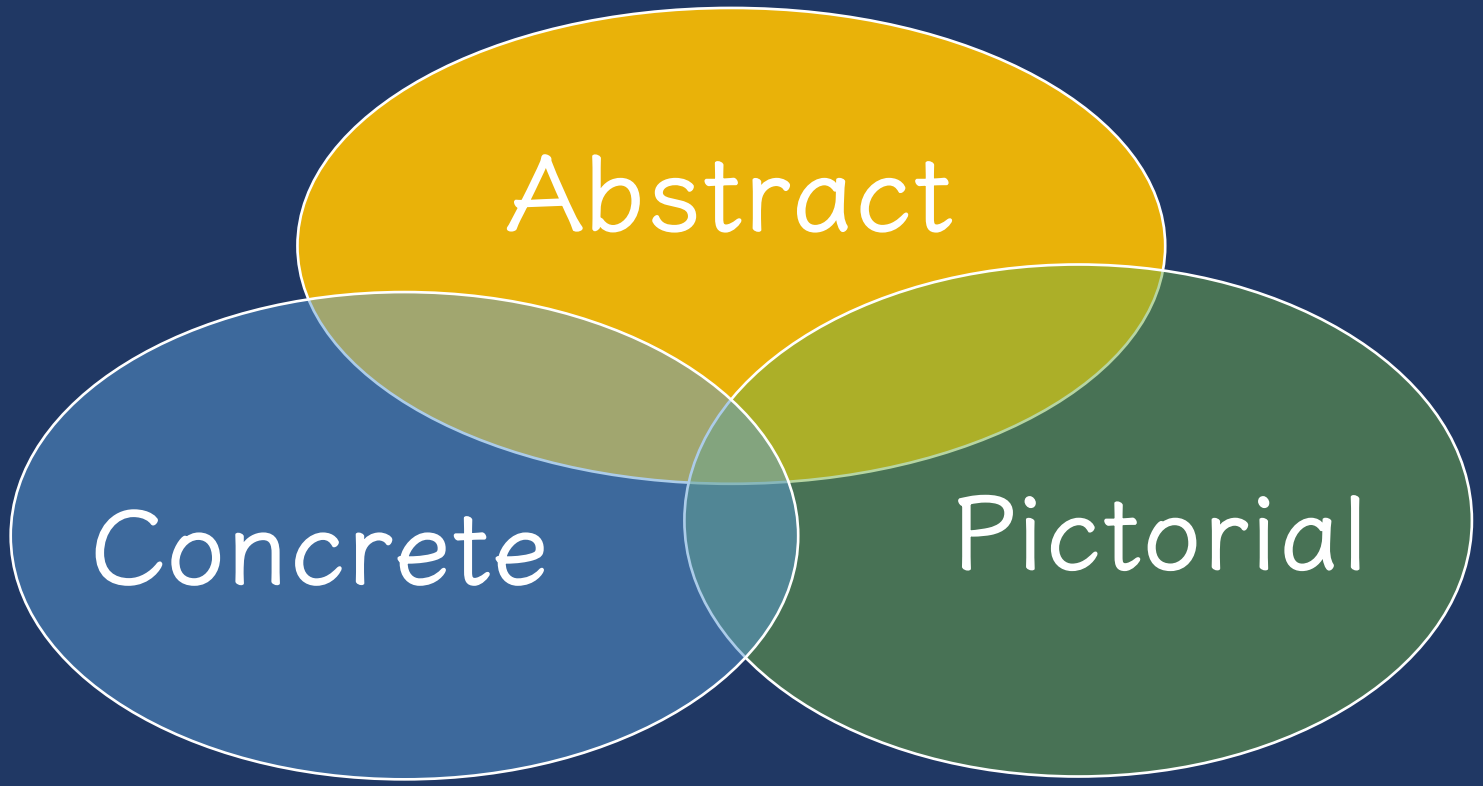
Variation: Here is a more complex mitten-match game (addition): https://drive.google.com/file/d/0Byr_Cmyf5_RybnZ0TENhWU5CS0E/edit

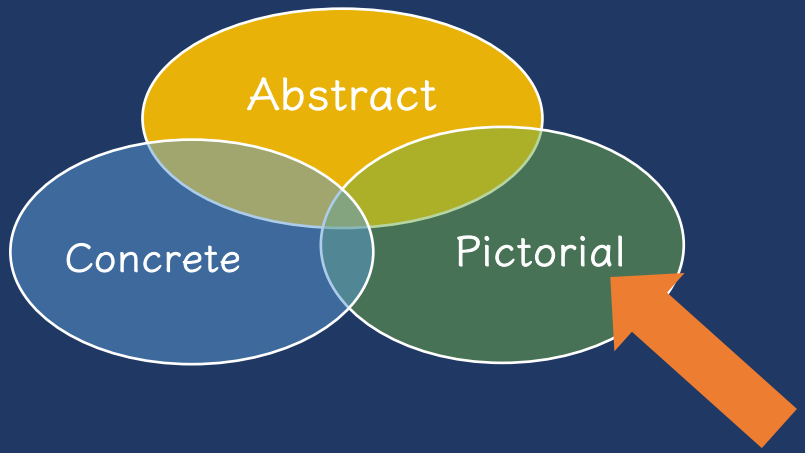
What are some of your favorite books?

Games and activities

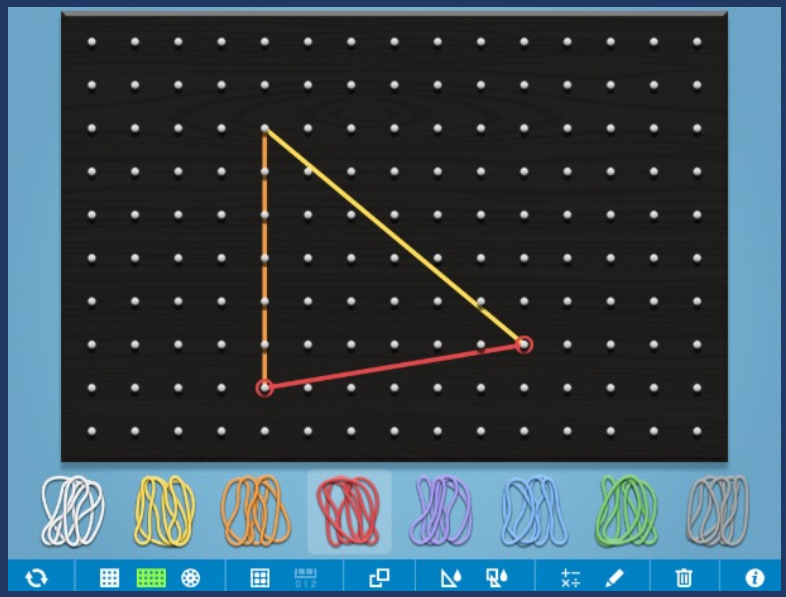
Books

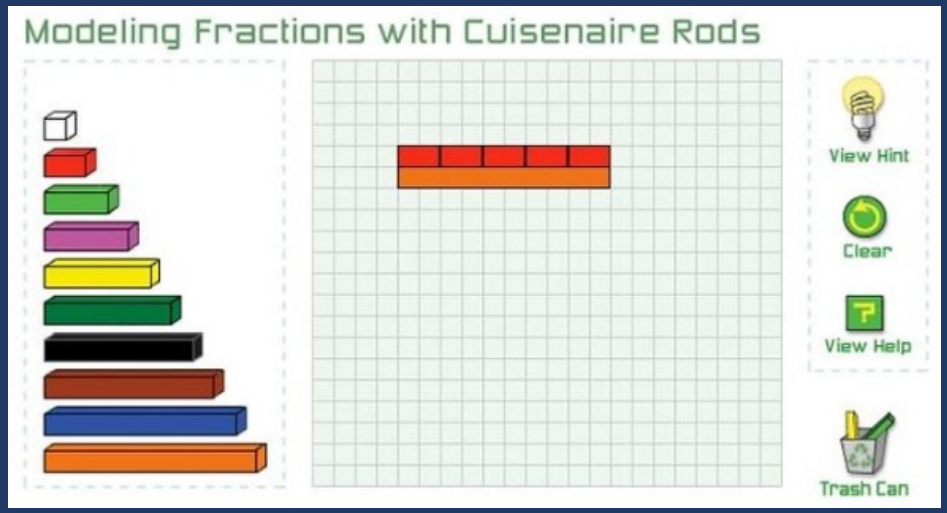
Virtual tools

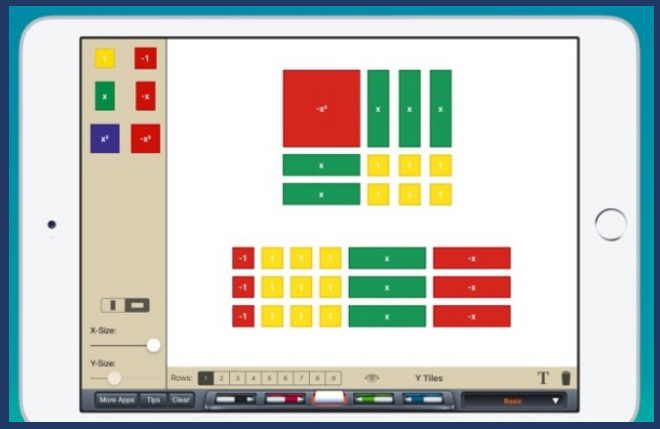


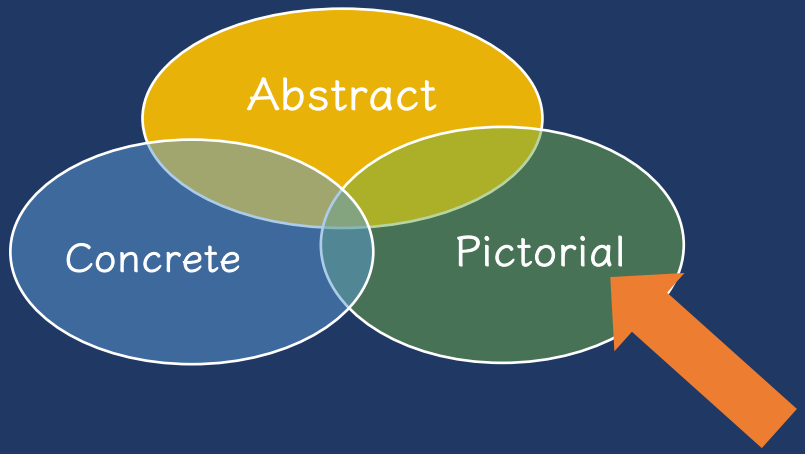


Two-dimensional images









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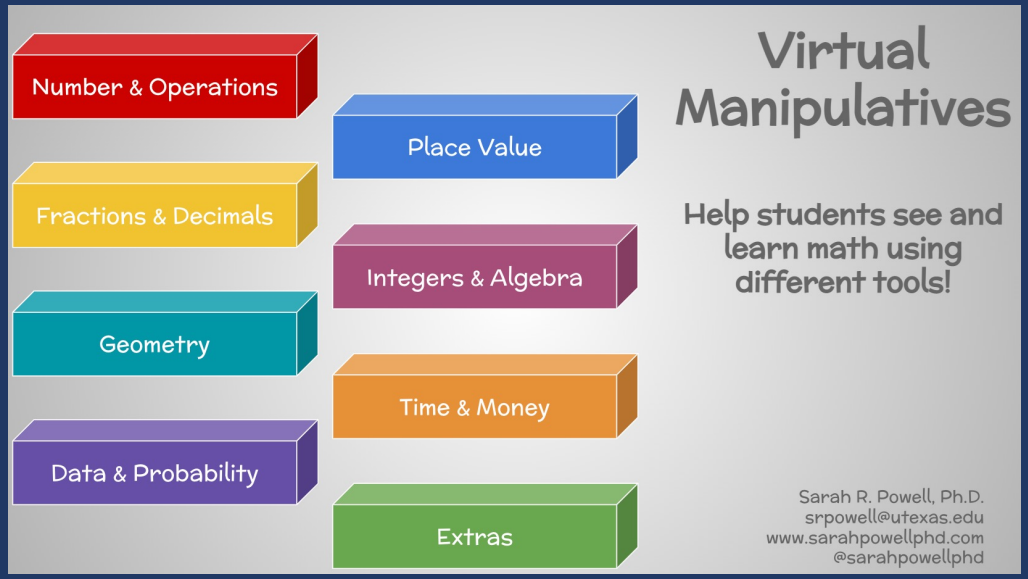

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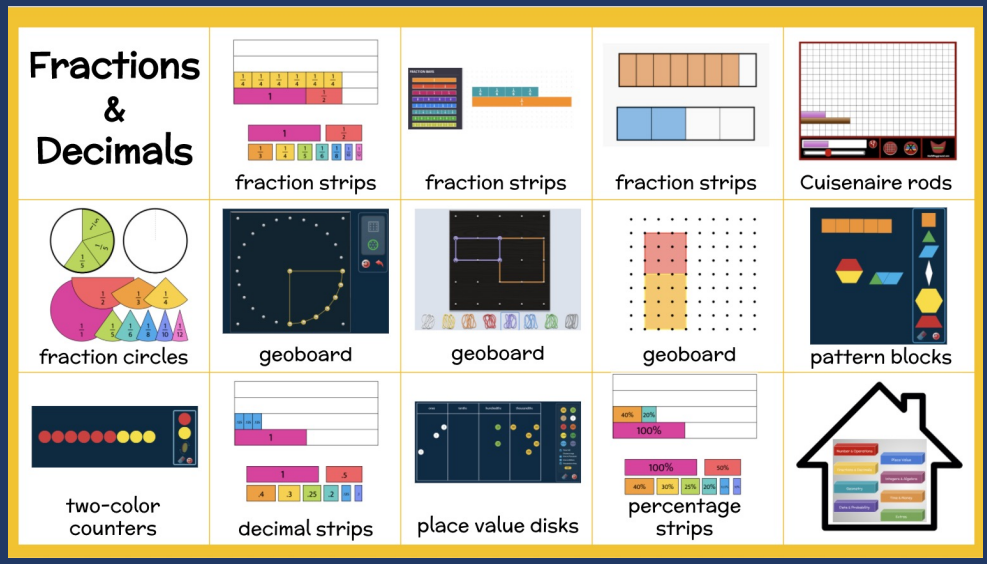
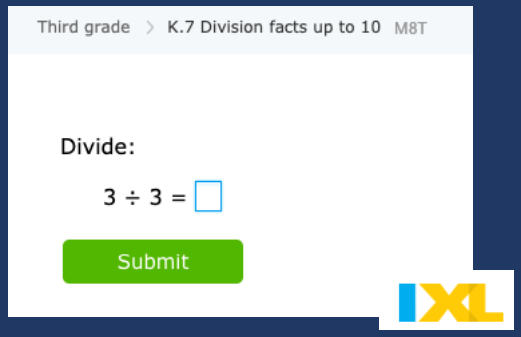
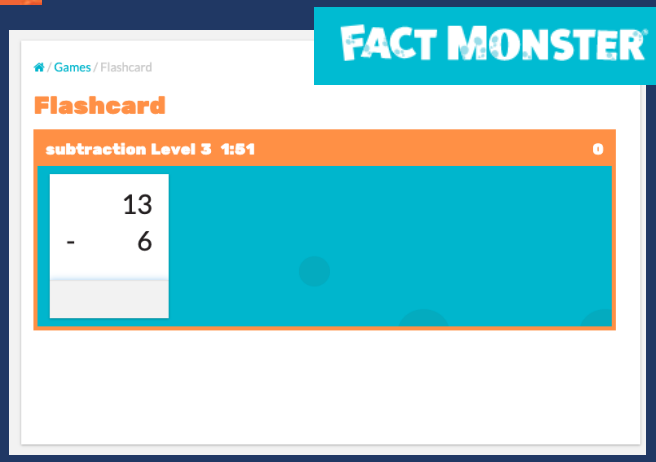
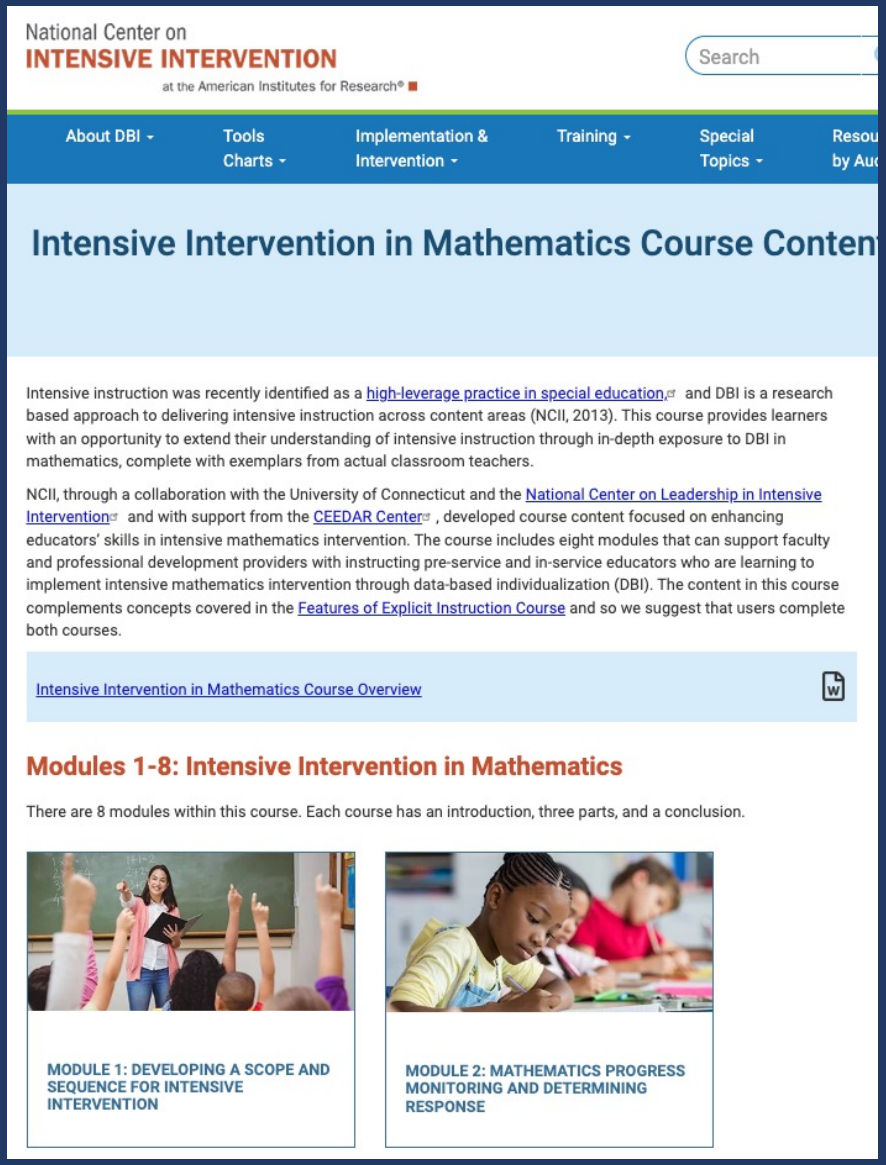






DAILY and BRIEF



https://intensiveintervention.org/training/course-content/intensive-intervention-mathematics

https://www.youtube.com/channel/UCE2puwDtUSNXFONIOhmYmvA

What are some of your favorite virtual tools?

Games and activities

Books

Virtual tools

Questions?

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