Guided Math

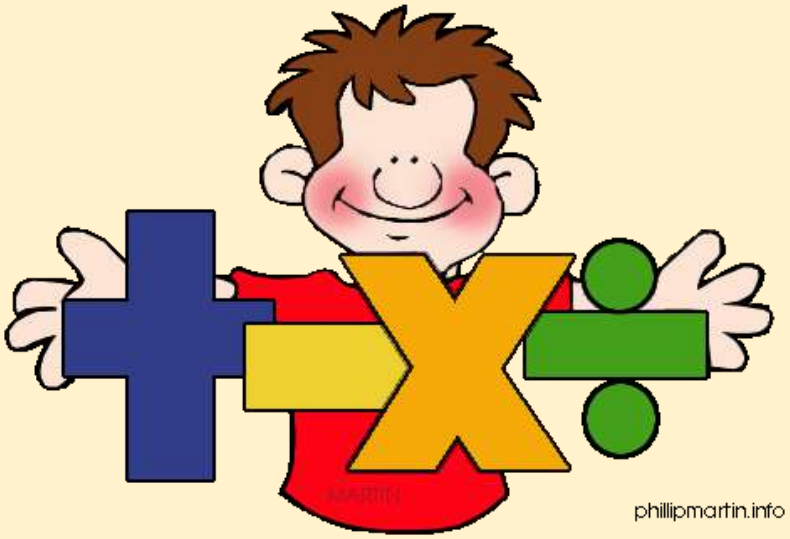
by Tracy Lee
tracy.lee@abileneisd.org

Children don’t hate math. What they hate is being confused, intimidated, and embarrassed by math. With understanding comes passion, and with passion comes growth- a treasure is unlocked.

Larry Martinek


Mistakes
Allow
Thinking to
Happen!
Author's Purpose

What is Guided Math?



Why Guided Math?

- The small groups allow you to see mistakes or misconceptions and help you to address them before they become habit.
- You are better able to see problem areas and teach to those areas within your group.
- Students interact with others in your group to show mastery of the concept. (Turn and teach)

- Station time gives students time to practice the skills you have already taught and reinforce those skills in a game/station activity.
- Very structured and kids love and learn better when there is structure.
- Having students in front of you allows you to see if the students understands and if they don’t, you get to see when the light bulb comes on!

How do I get started

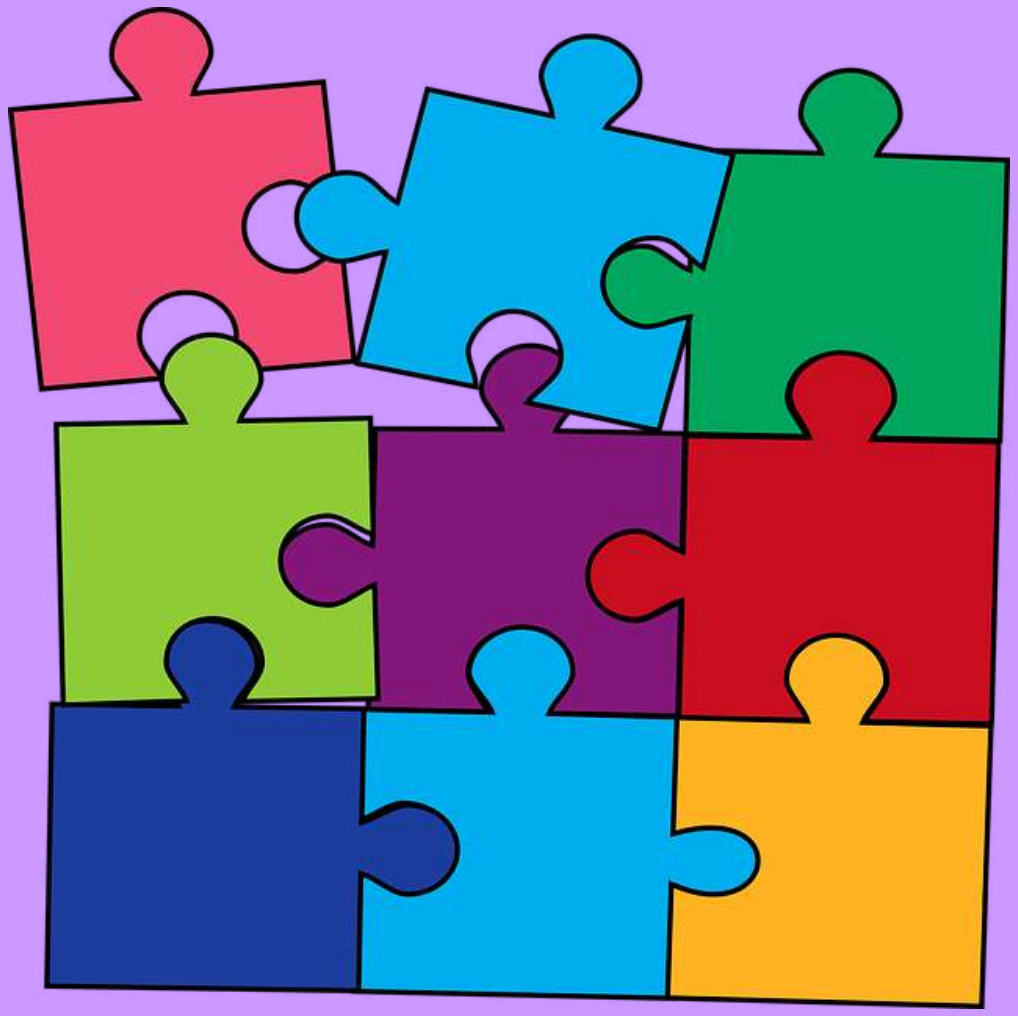
Sample Schedule

(based on 90 minute block)

- 10 minutes number sense
- 10 minutes problem solving
- 10 minutes spiral review
- 15 minutes mini-lesson
- 15 minute group
- 15 minute group
- 15 minute group

If students aren't in small group with teacher, they are in station time.

Number Sense



What is Number Sense?

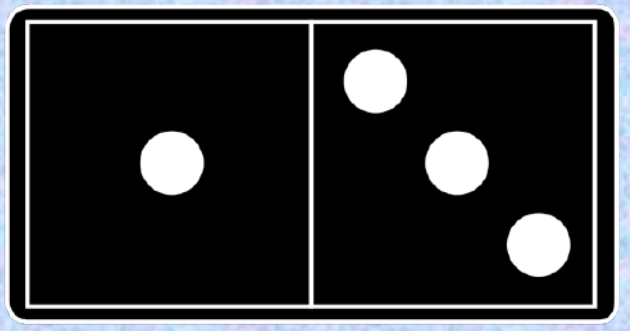
A person's ability to use and understand numbers:

· knowing their relative values,
· how to use them to make judgments,
· how to use them in flexible ways when adding, subtracting, multiplying or dividing
· how to develop useful strategies when counting, measuring or estimating.

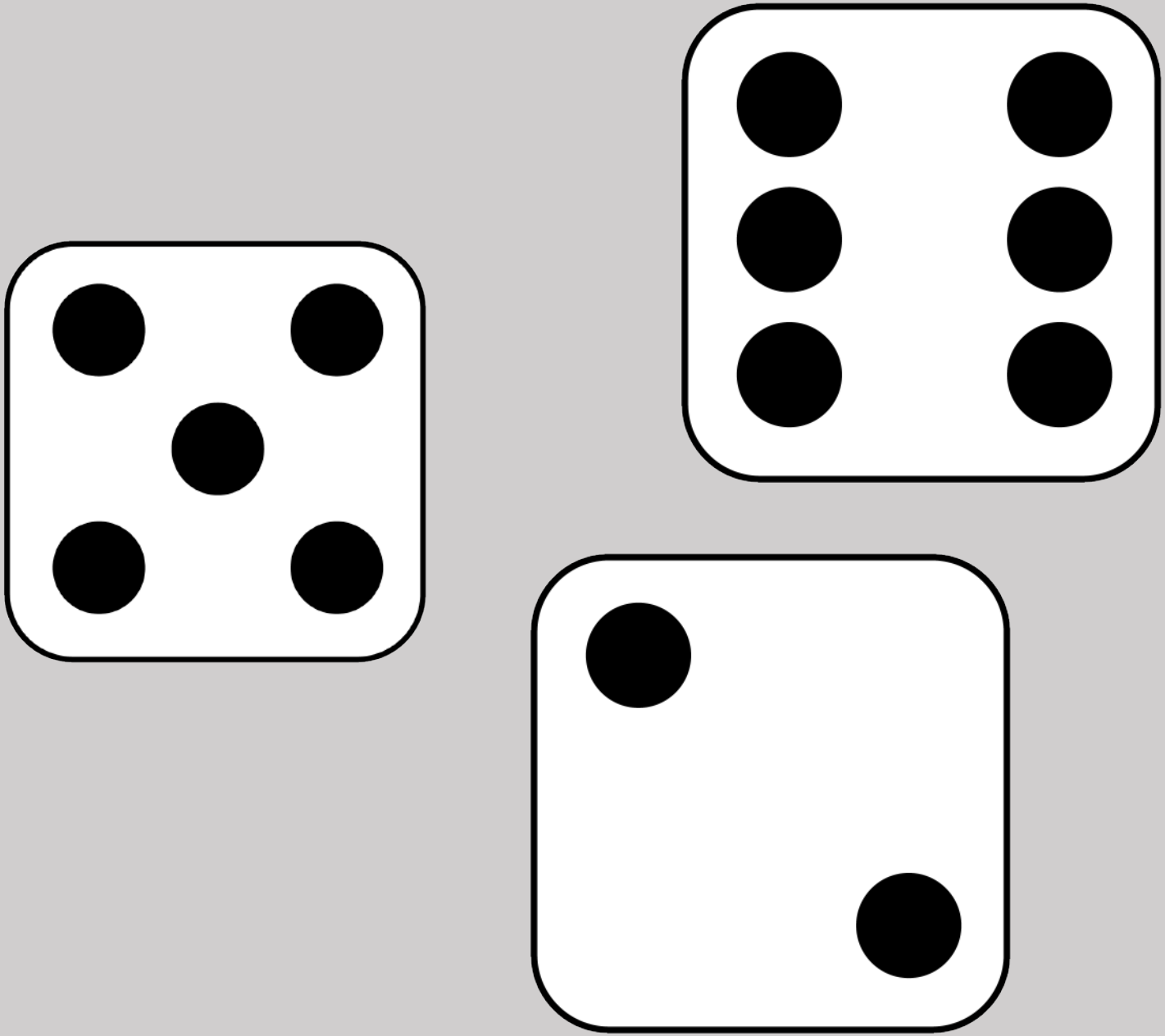
ABC to 123

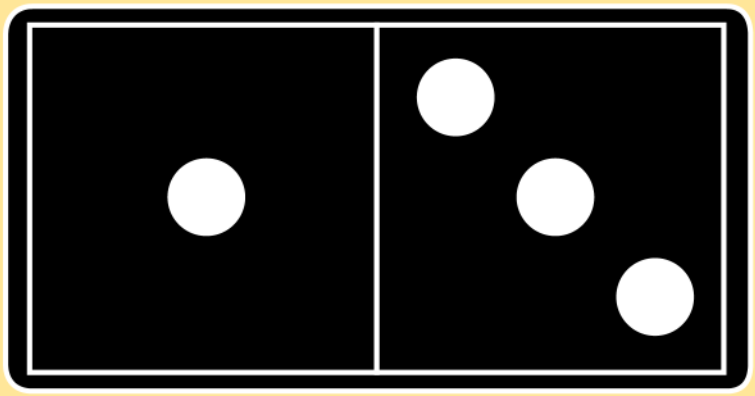
Subitize!

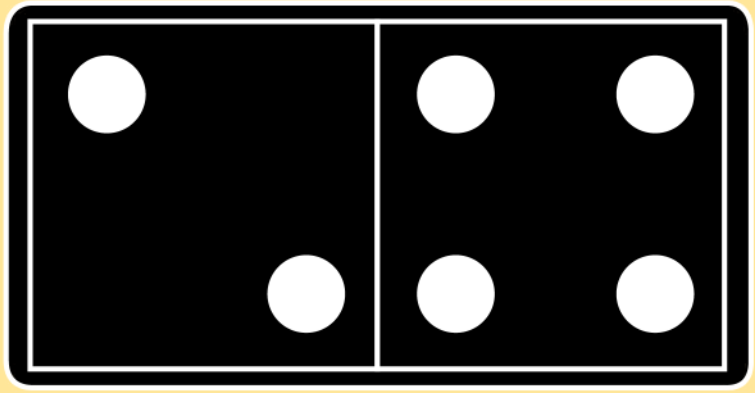
1

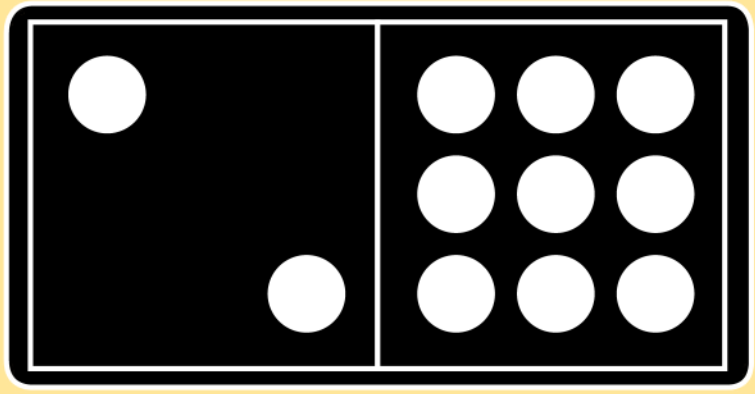


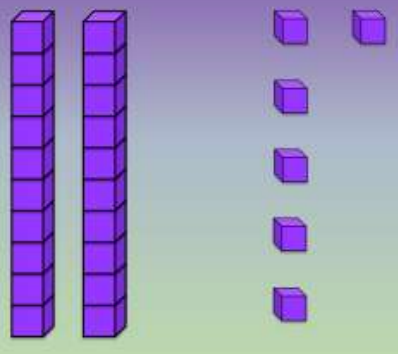
2



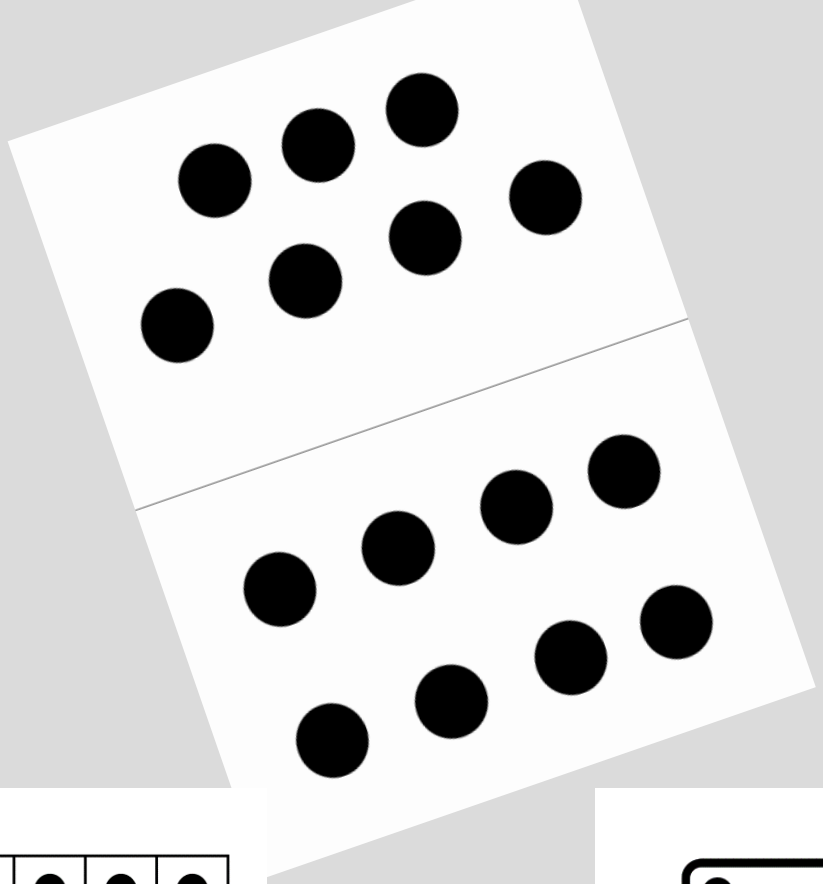


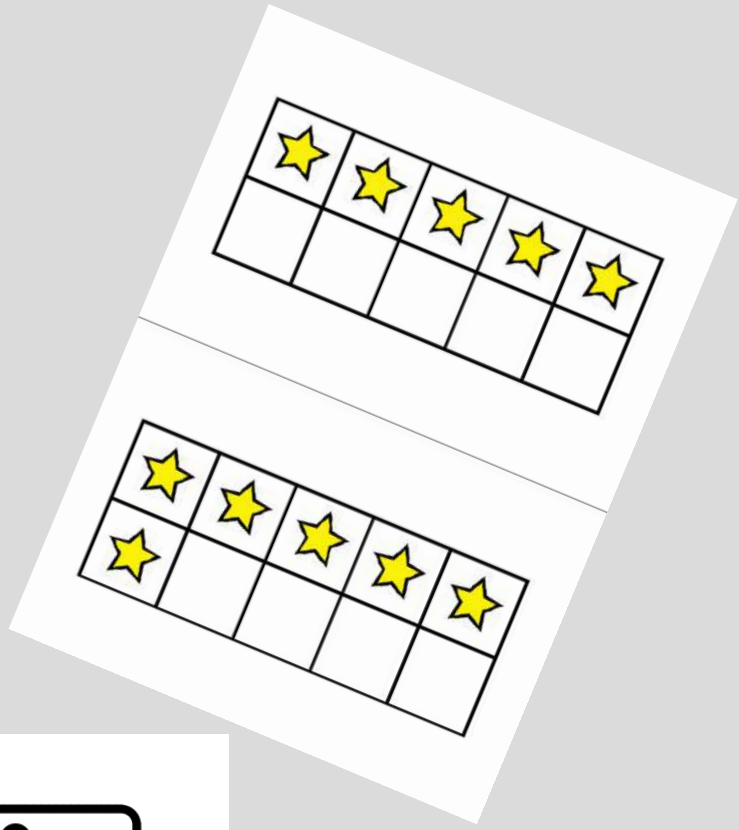


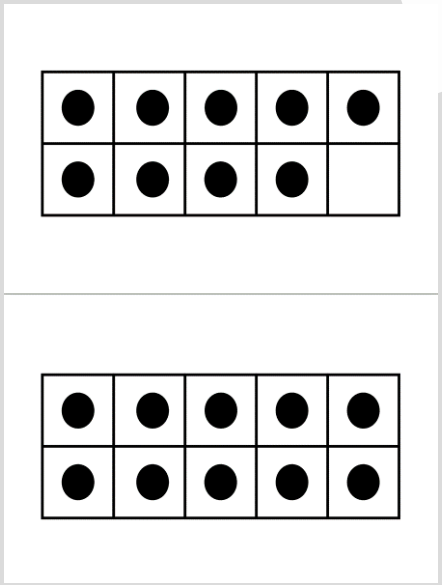


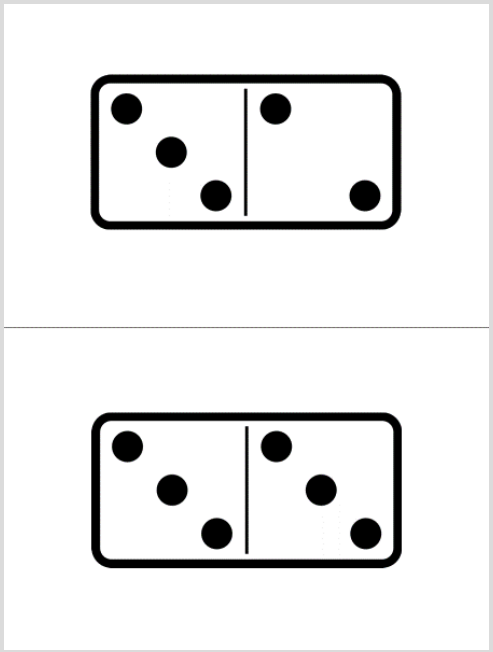


60 + 9 =










city girl gone coastal

Videos

https://www.youtube.com/channel/UCsXRpvDatOujlCf4LiOxgsQ

Greg Tang

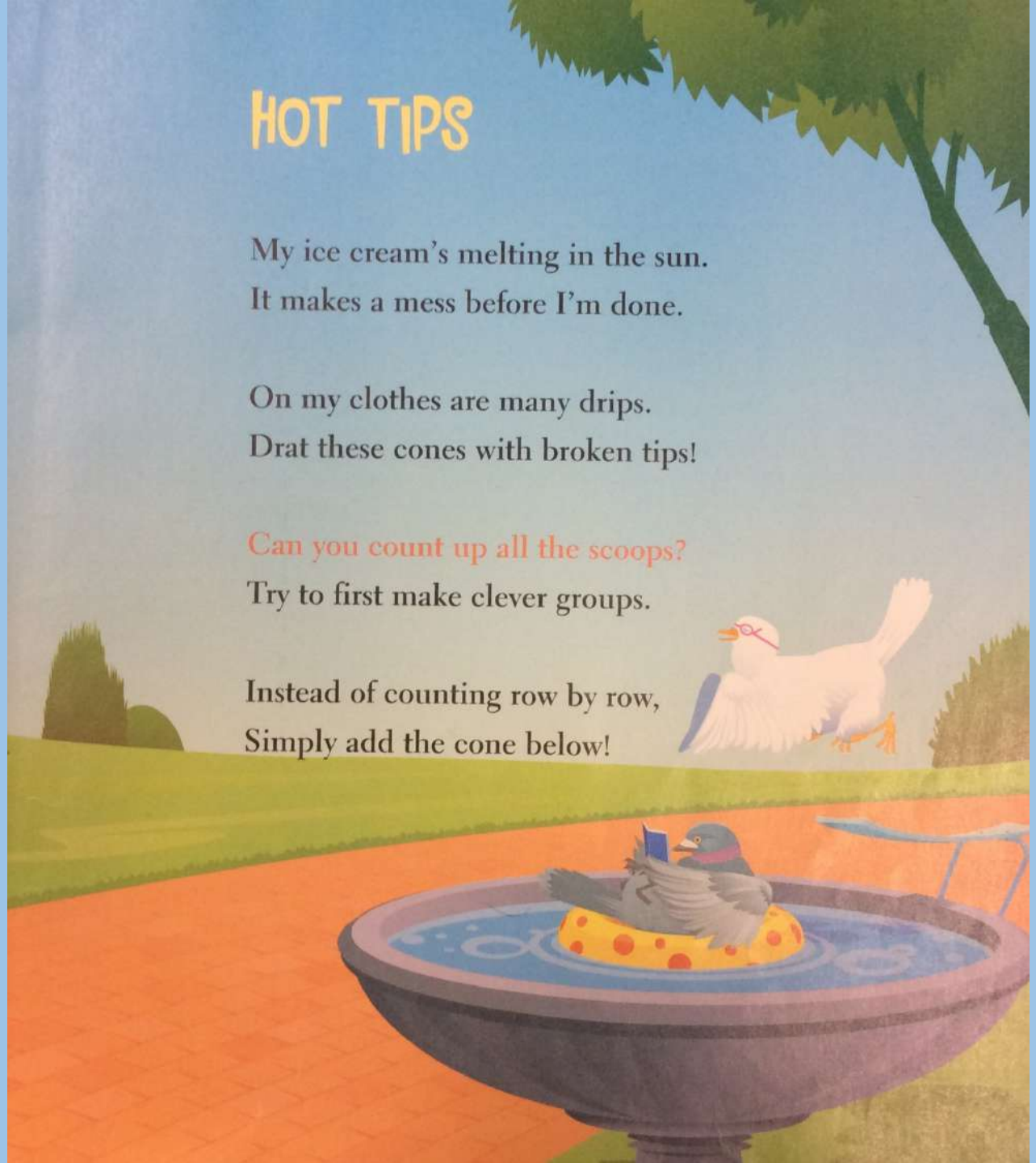
HOT TIPS

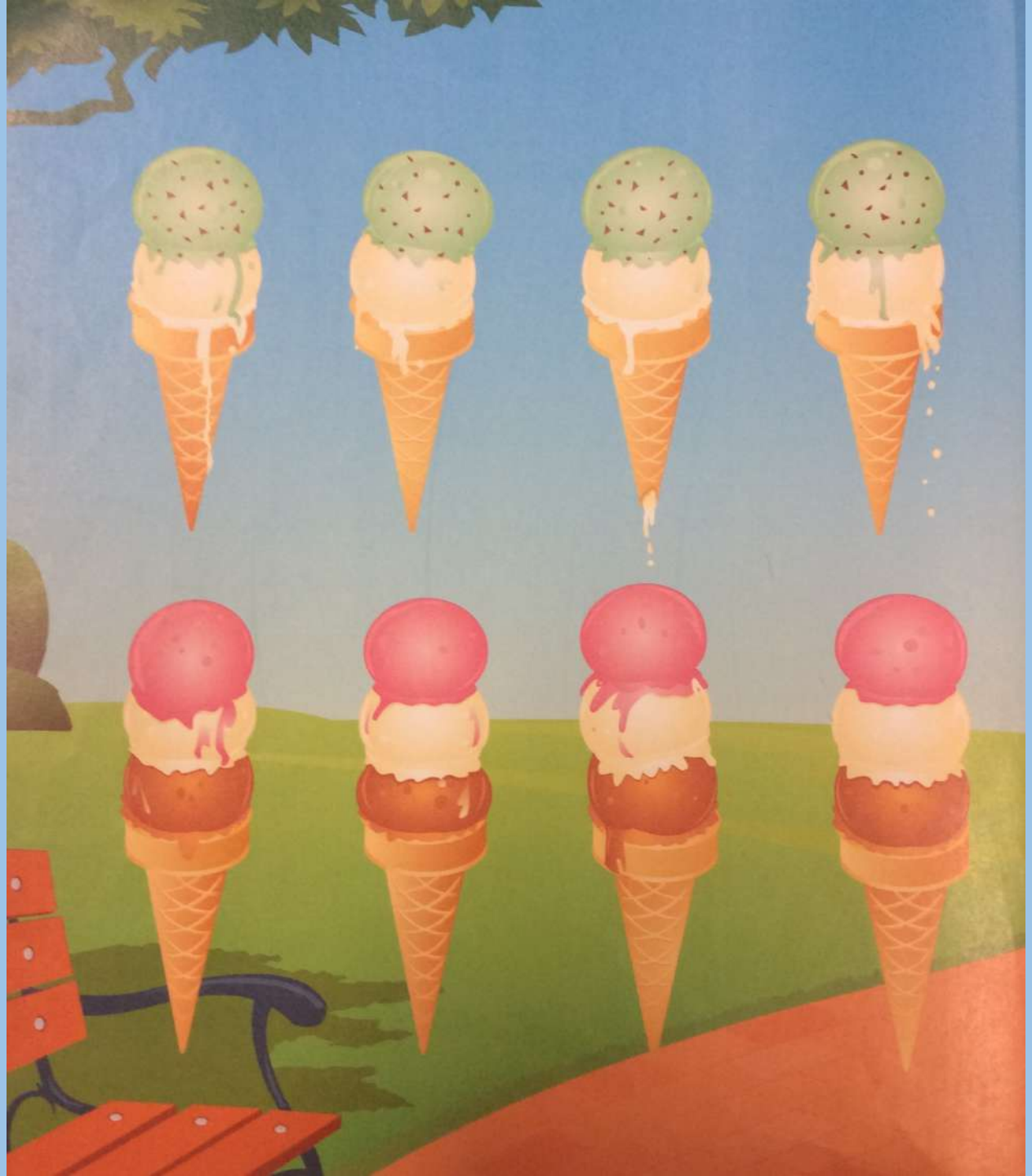
My ice cream's melting in the sun.
It makes a mess before I'm done.

On my clothes are many drips.
Drat these cones with broken tips!

Can you count up all the scoops?
Try to first make clever groups.

Instead of counting row by row,
Simply add the cone below!





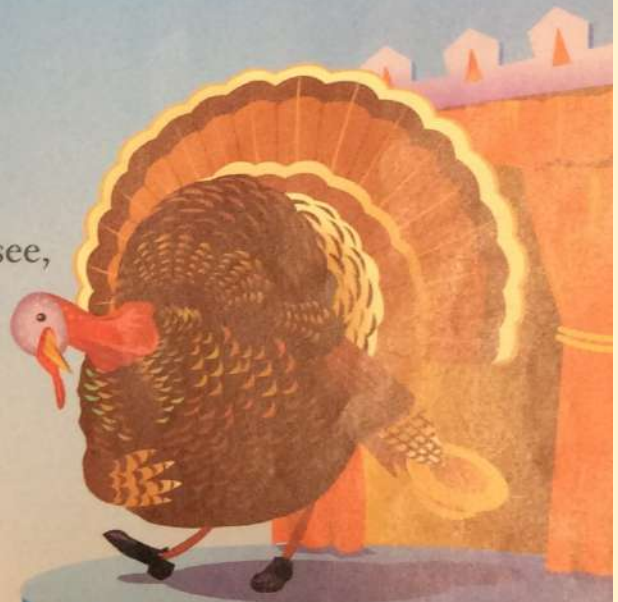
FALL FINALE

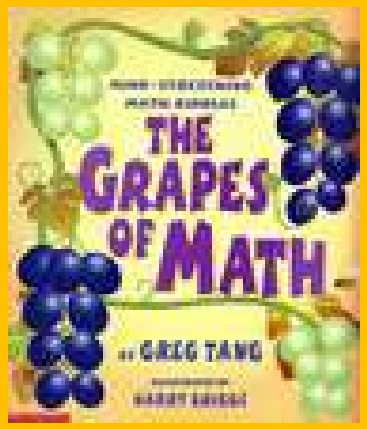
Autumn's colors bright and bold,
Orange, red, and lots of gold!

For trees it is the final show.
Coming soon is winter's snow.

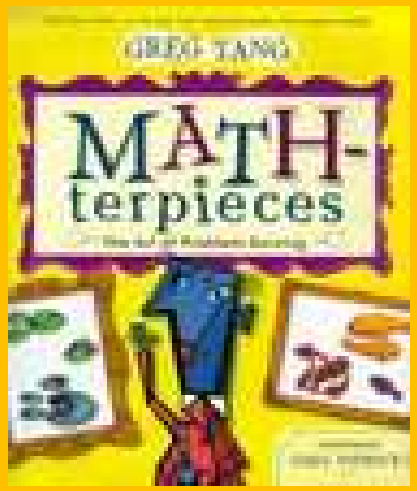
Just how many leaves are there?
Find a pattern in the air.

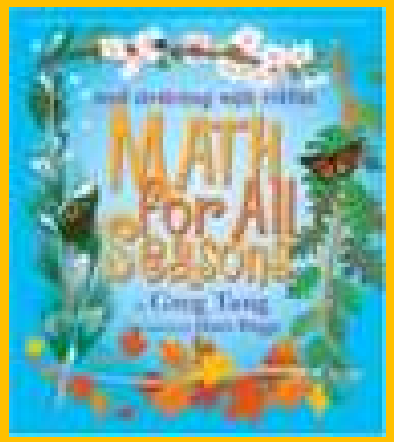
Make groups of five and you will see,
An ending happy as can be!

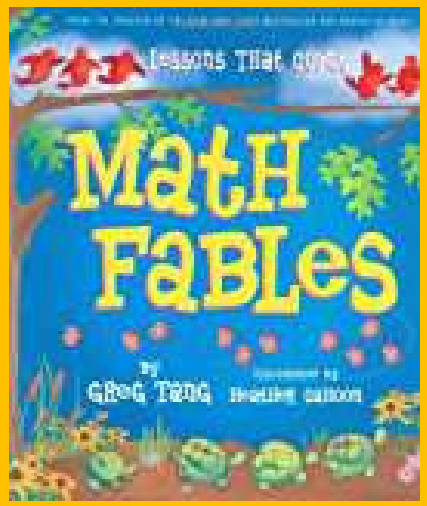


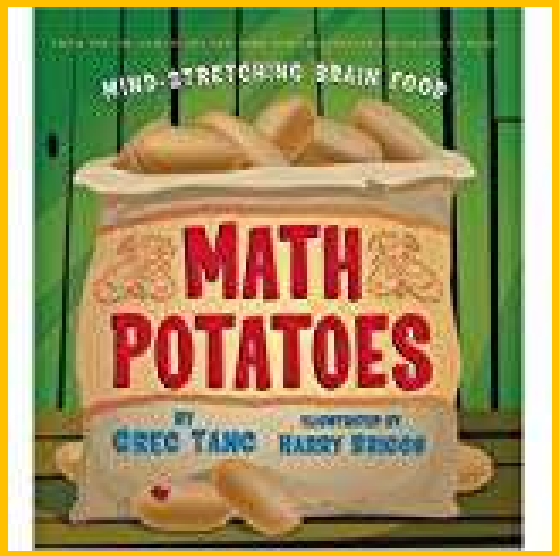

THE GRAPES OF MATH
GREG TANG

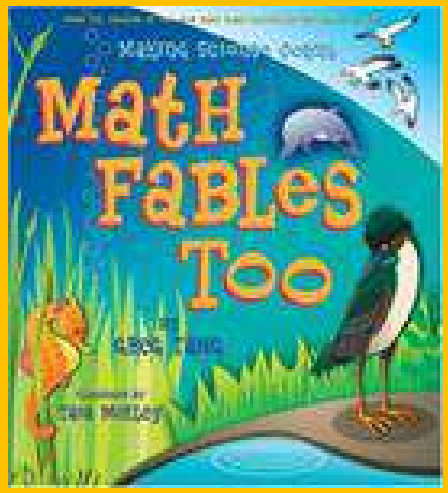

The Best of Times
by Greg Tang
Harry Briggs


GREG TANG
MATH-terpieces

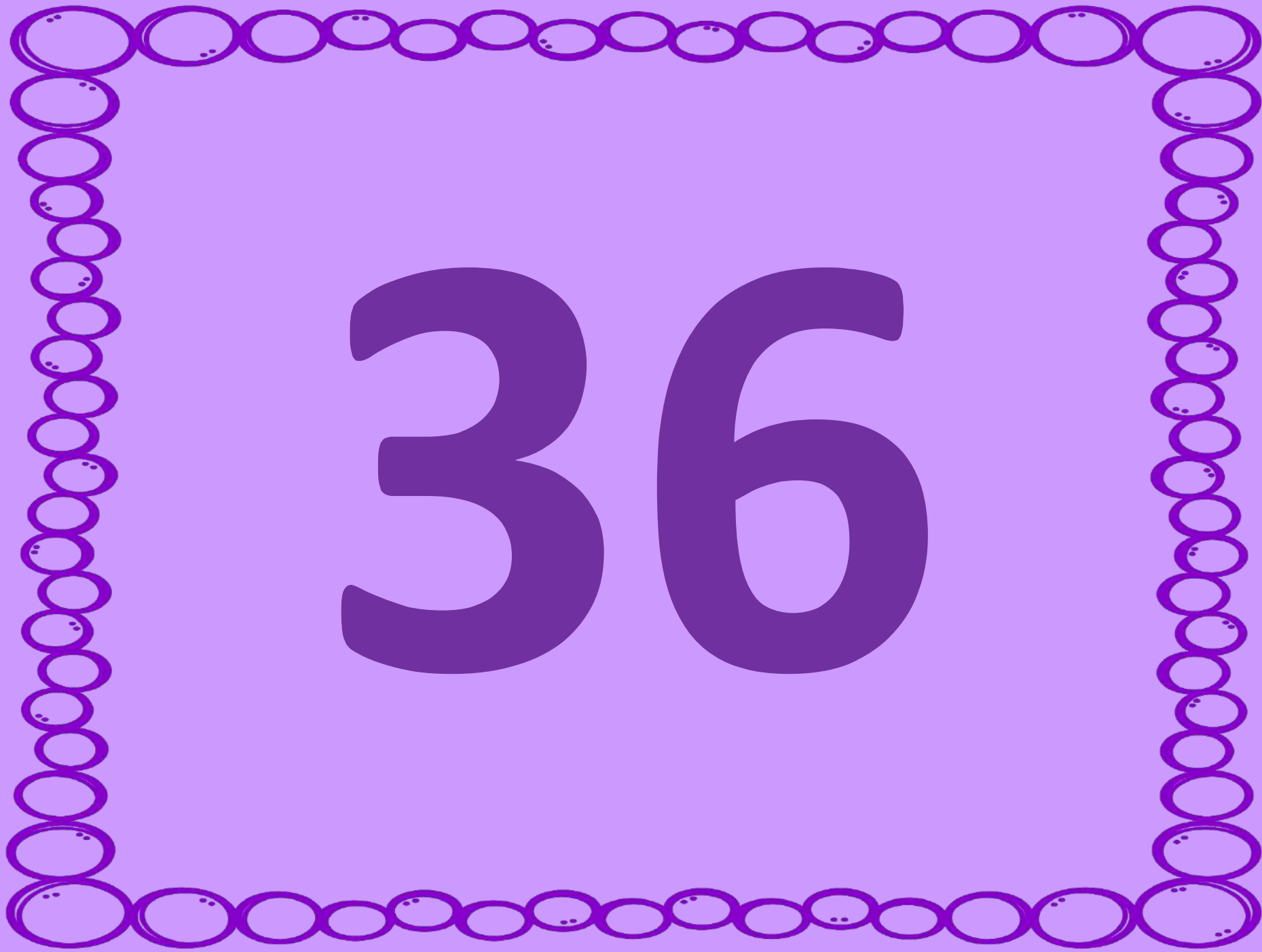

Math for All Seasons
Greg Tang


Math Fables
by
Greg Tang


MIND-STRETCHING BRAIN FOOD
MATH POTATOES
GREG TANG
HARRY BRIGGS


Math Fables Too
Greg Tang

Number Talks


36

- We can count by 25’s
- Odd Number
- Count by 5’s to 25
- 2 digits
- Quarter is worth 25 cents
- 5, 5’s makes 25
- 10+10+5=25
- You can count by odd numbers to 25
- The number is in the 20’s
- We count by 25’s to count money
- Could have $25
- 2 tens and 5 ones = 25
- 15+10=25

addition

subtraction

division

FACTS

multiplication

Problem Solving

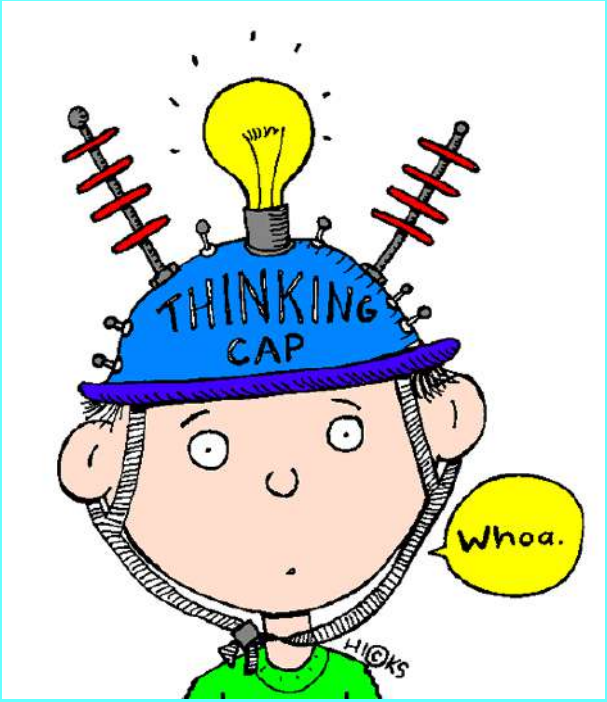
- teach them the process
- repetition
- solving and writing
- repeat in a station
- model/ talk it out

M istakes

A llow

T hinking to

H appen



Spiral Review

- short and to the point
- repeat of concepts already taught
- calendar math
- building the basics
- different for different grade levels

Mini-Lesson

- Introducing a concept:
  - literature
  - videos
  - KWL
  - turn and talk (what do you know about…)
  - length may vary

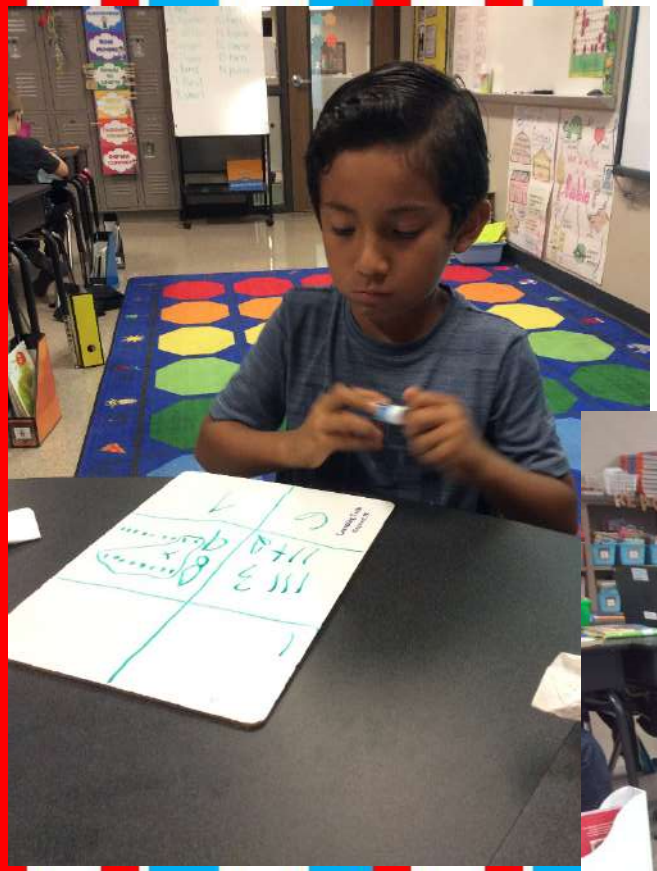
GoMath: videos to introduce each lesson

SMALL GROUPS & STATIONS

How many groups?

Groups will change throughout the year. A student that struggles in one area, may exceed in another.

The core of your lesson will happen in small groups so you need to meet with every group every day.




BON

Math Rotations

	1	2	3
Michael Ashlyn and Tiffany	Mrs. Lee	Work/Xtra Math	Station 2
AJ Senidah	Mrs. Lee	Work/Xtra Math	Station 2
Victor Melynie	Mrs. Lee	Work/Xtra Math	Station 2
Cadence Abby & Steven	Station 2	Mrs. Lee	Work/Xtra Math
Jamare ViVianna	Station 2	Mrs. Lee	Work/Xtra Math
Kye Jurdin	Station 2	Mrs. Lee	Work/Xtra Math
M'Aujehl Miranda & Nian	Work/Xtra Math	Station 2	Mrs. Lee
Aaiden Javion	Work/Xtra Math	Station 2	Mrs. Lee
Jeep Kathryn	Work/Xtra Math	Station 2	Mrs. Lee

Math Rotations

	1	2	3
Michael Ashlyn and Tiffany	Mrs. Lee	Work/Xtra Math	Station 2
AJ Senidah	Mrs. Lee	Work/Xtra Math	Station 2
Victor Melynie	Mrs. Lee	Work/Xtra Math	Station 2
Cadence Abby & Steven	Station 2	Mrs. Lee	Work/Xtra Math
Jamare ViVianna	Station 2	Mrs. Lee	Work/Xtra Math
Kye Jurdin	Station 2	Mrs. Lee	Work/Xtra Math
M'Aujehl Miranda & Nian	Work/Xtra Math	Station 2	Mrs. Lee
Aaiden Javion	Work/Xtra Math	Station 2	Mrs. Lee
Jeep Kathryn	Work/Xtra Math	Station 2	Mrs. Lee

Math Rotations

	1	2	3
Michael Ashlyn and Tiffany	Mrs. Lee	Work/Xtra Math	Station 2
AJ Senidah	Mrs. Lee	Work/Xtra Math	Station 2
Victor Melynie	Mrs. Lee	Work/Xtra Math	Station 2
Cadence Abby & Steven	Station 2	Mrs. Lee	Work/Xtra Math
Jamare ViVianna	Station 2	Mrs. Lee	Work/Xtra Math
Kye Jurdin	Station 2	Mrs. Lee	Work/Xtra Math
M'Aujehl Miranda & Nian	Work/Xtra Math	Station 2	Mrs. Lee
Aaiden Javion	Work/Xtra Math	Station 2	Mrs. Lee
Jeep Kathryn	Work/Xtra Math	Station 2	Mrs. Lee

Small Groups

- hands on/ lots of manipulatives
- short and to the point
- set a timer to keep you on schedule
- list of supplies they need to bring
- turn and talk

Turn and talk quote….

Stations

- not a new concept
- use station more than one day
- be organized
- train, train, train
- state expectations and be ready for those that need extra support
- be consistent

- keep your time frame in mind
- hands-on
- partners or small groups
- games
- computer
  - xtramath.org
  - mobymax.com
  - Tenmarks
  - Prodigy

- math journals
- dice and playing cards
- writing about math
- STEM boxes
- Logic puzzles

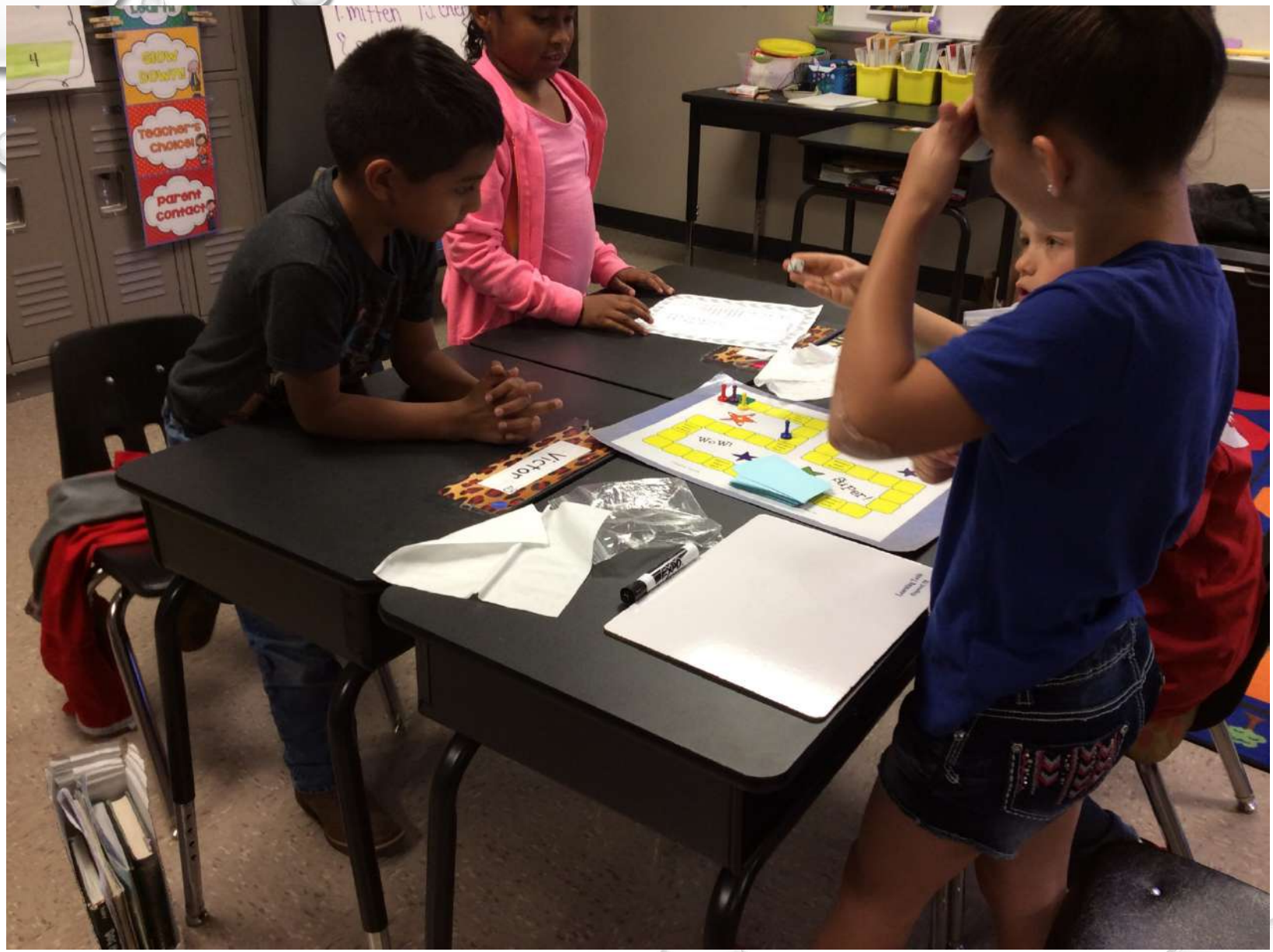
Exit Tickets

or

Wrap-up

Storage and Organization


Abigail
Nian


Slow Down!
Teacher's Choice!
Parent Contact
Victor

Standard Form

Sketch

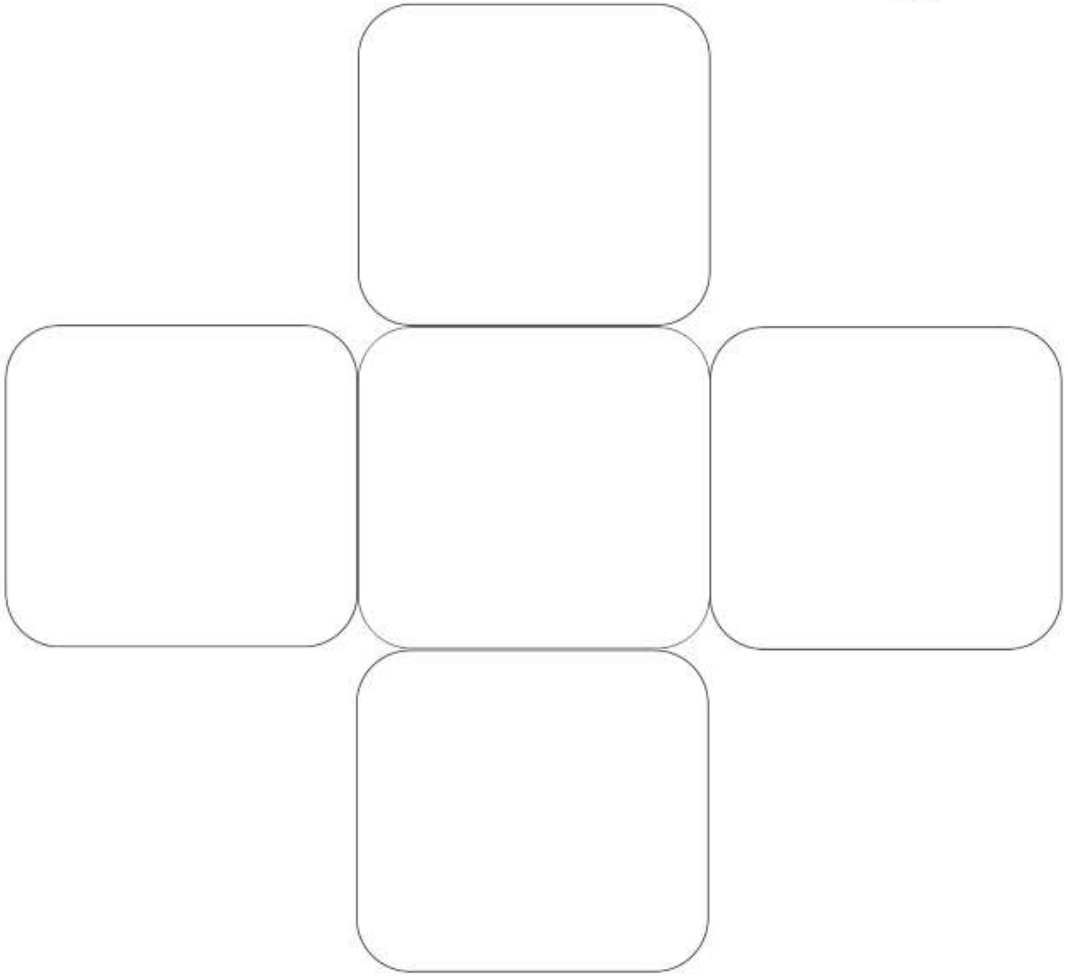
tens	ones

Number of the Day

Expanded Form

Word Form

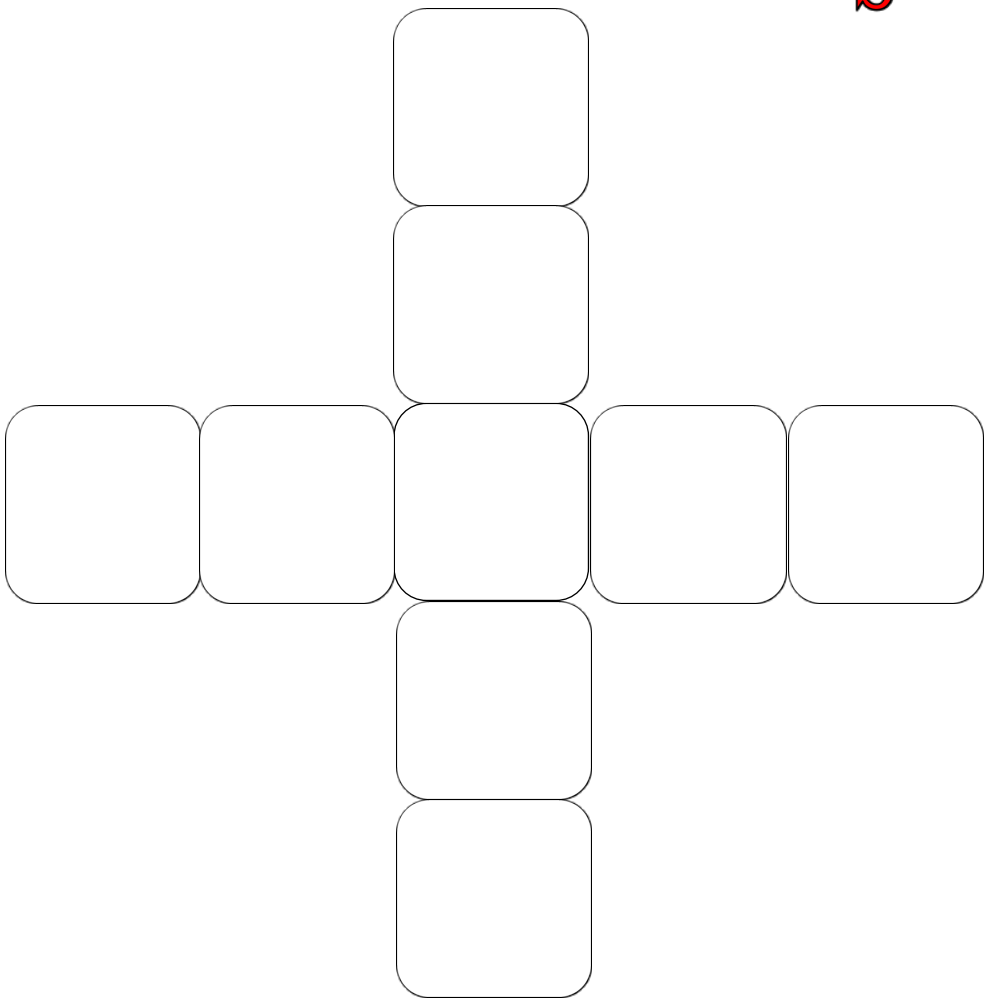
Number of the Day



Sketch the number of the day

Created by Tracy Lee

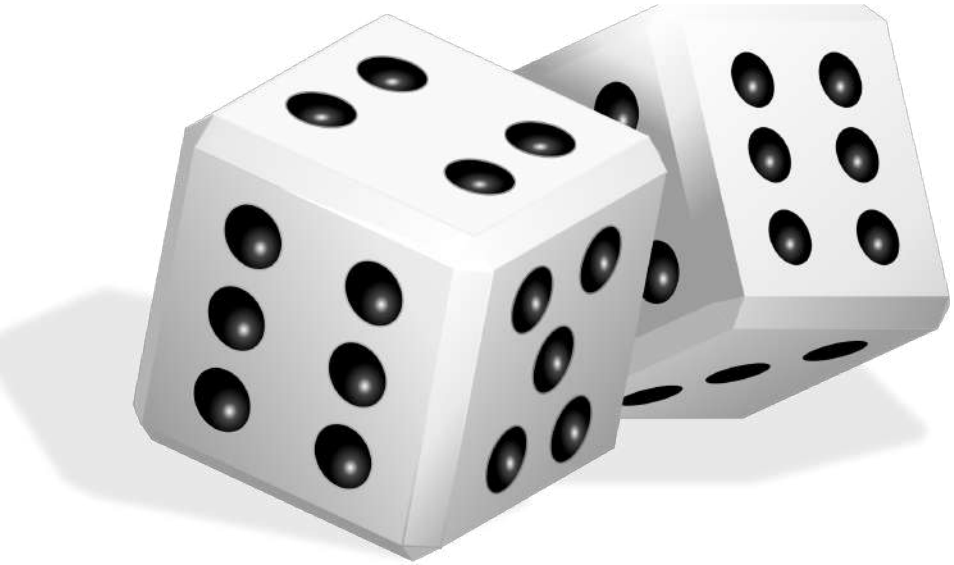
Number of the Day



Sketch the number of the day

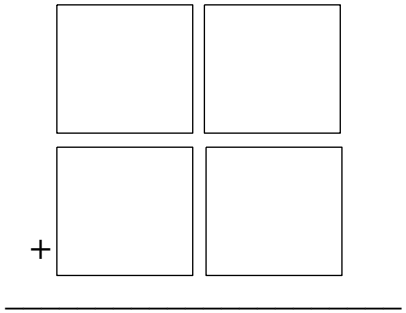
Created by Tracy Lee

Dice and Playing Cards



DOLLAR TREE

Double digit roll a problem



Created by Tracy Lee

Multiplication/Division Chart

x/÷	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Games to Play with a Pair of Dice

BUILD THE BIGGEST

Players: 2

Materials: 2 dice, scratch paper

Object: Build the biggest number possible

How to Play: Players each draw a game board like the one shown. Each player rolls their dice and decides where to place the digit in their number. ***Once placed, a digit cannot be moved.*** The throw away box is used to discard a digit that a player doesn't want to use to build their number. Players continue rolling the dice and placing digits until their game board is filled. Both players read their numbers out loud and the largest number wins.

Variations:

- Use more or less digits
- Try to build the smallest number possible

Addition/Subtraction Chart

+/−	1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10	11
2	3	4	5	6	7	8	9	10	11	12
3	4	5	6	7	8	9	10	11	12	13
4	5	6	7	8	9	10	11	12	13	14
5	6	7	8	9	10	11	12	13	14	15
6	7	8	9	10	11	12	13	14	15	16
7	8	9	10	11	12	13	14	15	16	17
8	9	10	11	12	13	14	15	16	17	18
9	10	11	12	13	14	15	16	17	18	19
10	11	12	13	14	15	16	17	18	19	20

MORE FAMILY MATH GAMES

Check out these websites for additional math activities.

Activity Village: http://www.activityvillage.co.uk/dice_games.htm
Instructions and printable score sheets for over 15 games using dice, adaptable for kids of all ages. Includes tips for parents on how to manage dice games.

MathWire.com: Games using one die (http://www.mathwire.com/data/dicetoss1.html) and two dice (http://www.mathwire.com/data/dicetoss2.html). Many include printable game boards.

Mixing In Math:
http://mixinginmath.terc.edu/materials/athomewithmath.cfm
Ten math activities for parents and kids (English and Spanish)

US Department of Education, Helping Your Child Learn Mathematics:
http://www2.ed.gov/parents/academic/help/math/index.html
A 43-page booklet made up of fun activities that parents can use with children from preschool age through grade 5 to strengthen their math skills and build strong positive attitudes toward math (English and Spanish)

CONTAIN THE FUN!

Try this great tip for using dice! Put them in a small plastic container. Kids shake the dice in the container and read the numbers rolled through the plastic.

MAKE 10

Players: 2

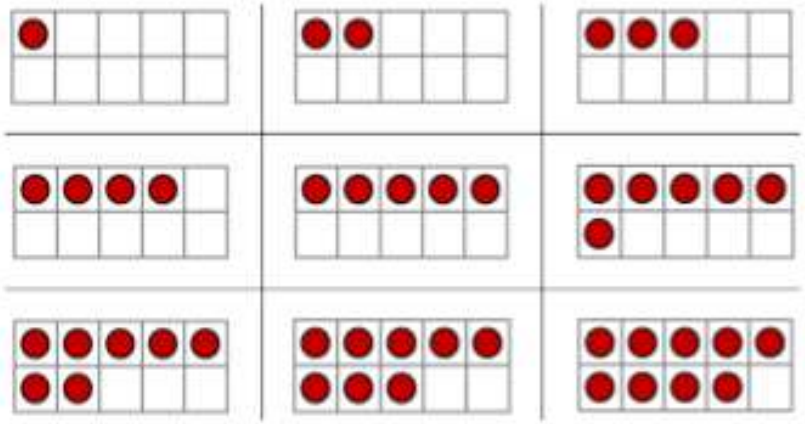
Materials: 1 or 2 dice, scratch paper (for keeping score)

Object: Make a 10 from the number rolled

One Die Version: One die is rolled. Players try to be the first player to shout what number needs to be added to the number on the die to make a ten. The number needed to make ten becomes the player's score for that round. For example, if a 3 is rolled, players would shout 7, because 3 and 7 make 10. The first player to answer correctly earns 7 points.

Two Die Version: Two dice are rolled. Players must now add or subtract to make ten. For example, if two 6s are rolled, players would shout 2, because 6 + 6 = 12 and 12 - 2 = 10.

Players can use the ten-frames below for additional support.



http://mathcoachscorner.blogspot.com/

Name _____

Yahtzee

Using Dice

two	
three	
four	
five	
six	
seven	
eight	
nine	
ten	
eleven	
twelve	

Playing Cards

Deal a Problem

Name______________________________

______ + ______ = ______	______ + ______ = ______
______ + ______ = ______	______ + ______ = ______
______ + ______ = ______	______ + ______ = ______
______ + ______ = ______	______ + ______ = ______
______ + ______ = ______	______ + ______ = ______
______ + ______ = ______	______ + ______ = ______
______ + ______ = ______	______ + ______ = ______
______ + ______ = ______	______ + ______ = ______
______ + ______ = ______	______ + ______ = ______
______ + ______ = ______	______ + ______ = ______

Created by Tracy Lee

WAR

A Collection of Math Games

Acing Math

(One Deck At A Time!)

PEP

The Positive Engagement Project

Making a difference...not a dollar

Table of Contents

Introduction to Acing Math	page 5
Card Sort (Grades K - 3)	page 8
Greater or Less Than (Grades K - 3)	page 9
Number Battle (Grades K - 3)	page 10
Place Value Number Battle (Grades 1 - 6)	page 11
Addition Number Battle (Grades 1 - 3)	page 12
Advanced Addition Number Battle (Grades 1 - 6)	page 13
Subtraction Number Battle (Grades 1 - 3)	page 14
Multi-Digit Subtraction Number Battle (Grades 1 - 3)	page 15
Multiplication Number Battle (Grades 3 - 6)	page 16
Advanced Multiplication Number Battle (Grades 3 - 6)	page 17
Multi-Digit Multiplication Number Battle (Grades 3 - 6)	page 18
Fraction Number Battle (Grades 4 - 6)	page 19
Integer Addition Number Battle (Grades 5 - 8)	page 20
Integer Multiplication Number Battle (Grades 5 - 8)	page 21
Strategy Number Battle (Grades 5 - 8)	page 22
Absolute Strategy Number Battle (Grades 5 - 8)	page 23
Exponent Number Battle (Grades 5 – 8)	page 24
End Game (Number Battle Extension) (Grades 1 - 6)	page 25
Give Me 10 (Grades 1-3)	page 26
Reading Addition Minds (Grades 1 - 5)	page 27
Reading Multiplication Minds (Grades 3 - 6)	page 28
Hit The Target (Grades 4 - 8)	page 29
Multiplication Zone (Grades 4 - 8)	page 30
Addition Toss Up (Grades 2 - 5)	page 31

Subtraction Toss Up (Grades 4 - 6)	page 32
Multiplication Toss Up (Grades 3 - 5)	page 33
Sum Fractions (Grades 5 – 8)	page 34
Difference Fractions (Grades 5 – 8)	page 35
Product Fractions (Grades 5 – 8)	page 36
Quotient Fractions (Grades 5 – 8)	page 37
M & M & M s (Grades 4 – 6)	page 40
The Chosen One (Grades 5 – 8)	page 42
Make it Texas Size! (Grades 2 – 5)	page 43
Make it Rhode Island Size! (Grades 2 – 5)	page 44
Elevator (Grades 1 – 3)	page 46
Pattern Points (Grades 1 – 5)	page 47
I Spy Sums (Grades 1 – 3)	page 48
I Spy Products (Grades 3 – 6)	page 49
Flip Out (Grades 1 – 5)	page 50
Number Memory (Grades 1 – 5)	page 51
Addition Memory (Grades 1 – 5)	page 52
Color Number Memory (Grades 1 – 5)	page 53
Odd/Even Number Memory (Grades 1 – 5)	page 54
Hit (Grades 5 - 8)	page 55
Over-Under (Grades 3 - 6)	page 56
First to Fifty Addition (Grades 2 - 5)	page 57
First to Five Hundred Multiplication (Grades 3 - 5)	page 58
Give Some Percent! (Grades 4 - 6)	page 59
Get to the (Decimal) Point Addition (Grades 3 - 5)	page 60
Advanced Get to the (Decimal) Point Addition (Grades 3 - 5)	page 61
Get to the (Decimal) Point Subtraction (Grades 3 - 5)	page 62

Board Games

Math Concepts Taught by Board Games

Addition and Subtraction and Counting Skills	
Game	**Age level**
Chutes and Ladders	3+
Candy Land	3+
Connect Four	7+
Hi Ho! Chery-O	3+
Sorry	6+
Cariboo	3+
Hungry Hungry Hippos	4+
Pay Day	8+
Uno	6+
War	

Patterns, Attributes, Shapes and Geometry	
Game	**Age level**
Crazy Eights	4+
Guess Who?	6+
Lucky Ducks	3+
Rummikub	8+
Category 5	8+
Tangrams	
Jigsaw Puzzles	

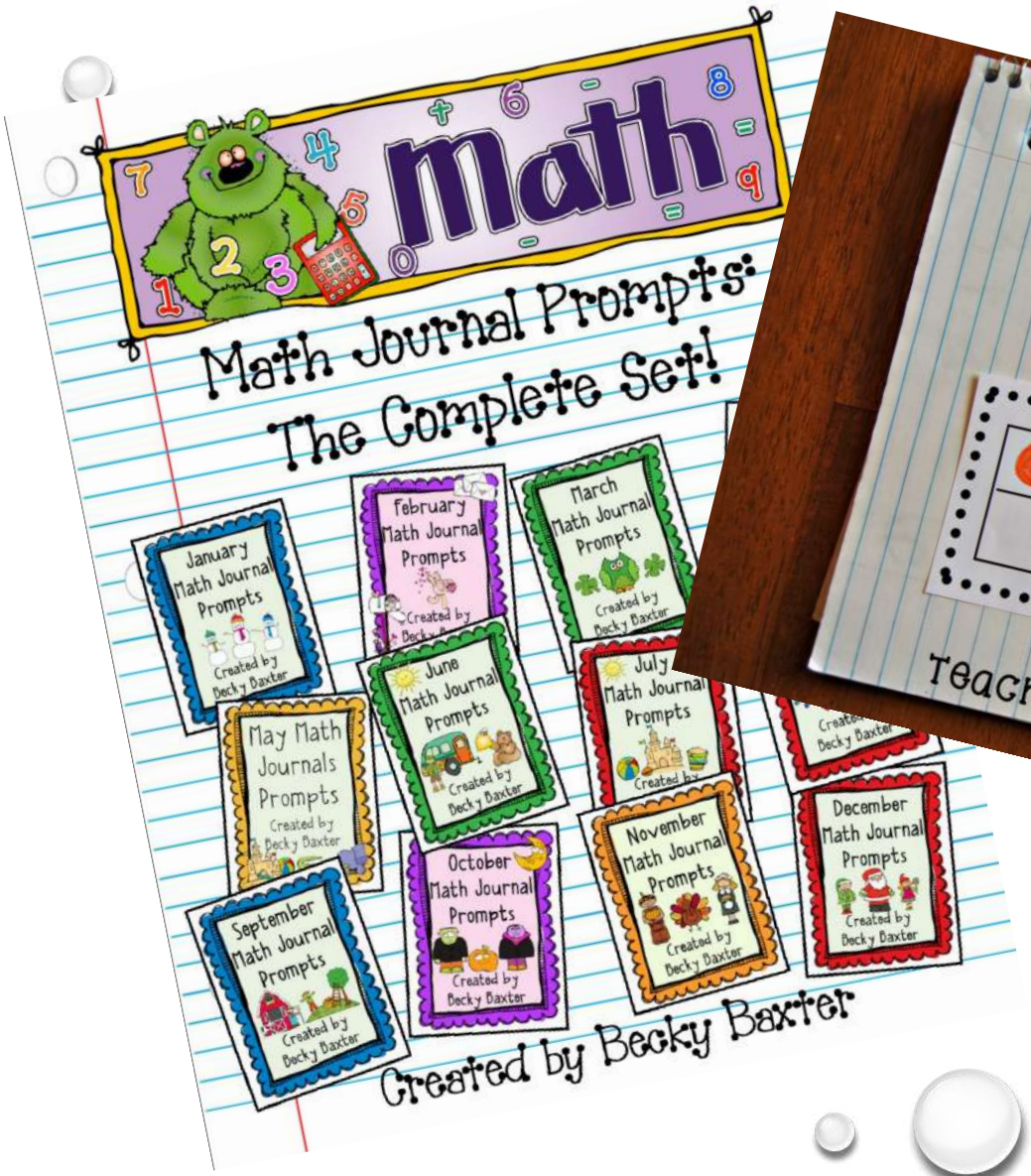
Math Concepts Taught by Board Games

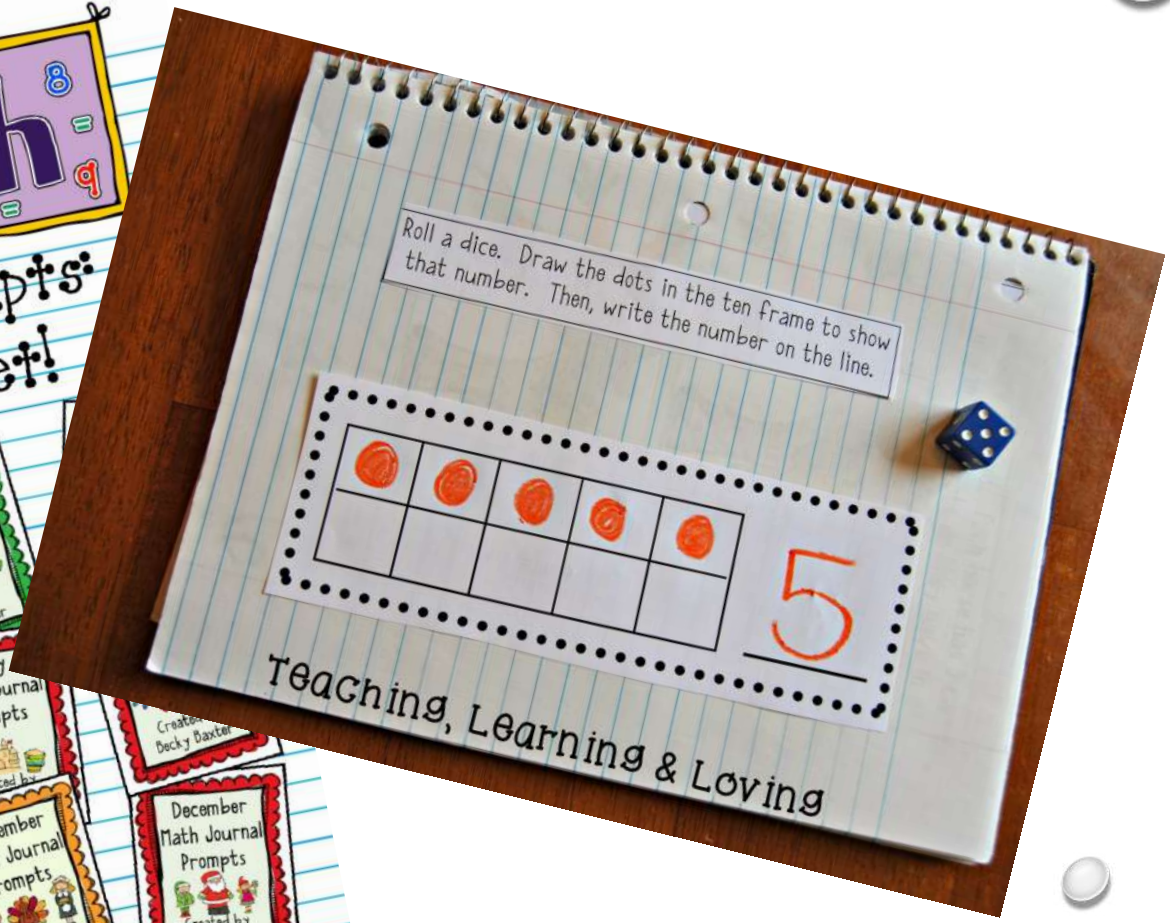
Strategy, Reasoning and Spatial Perception	
Game	**Age level**
Mastermind	8+
Monopoly Jr.	8+
Mousetrap	6+
Apples to Apples Jr.	9+
The Game of Life	9+
Yahtzee	9+
Cadoo	7+
Battleship	7+
Clue Jr.	8+
Clue	8+
Connect Four	7+
Othello	8+
Blokus	5+
Jenga	6+
Mancala	6+
Pretty, Pretty, Princess	5+
Memory	3+

General Strategy Games
Chess
Backgammon
Checkers
Solitaire
Pokemon

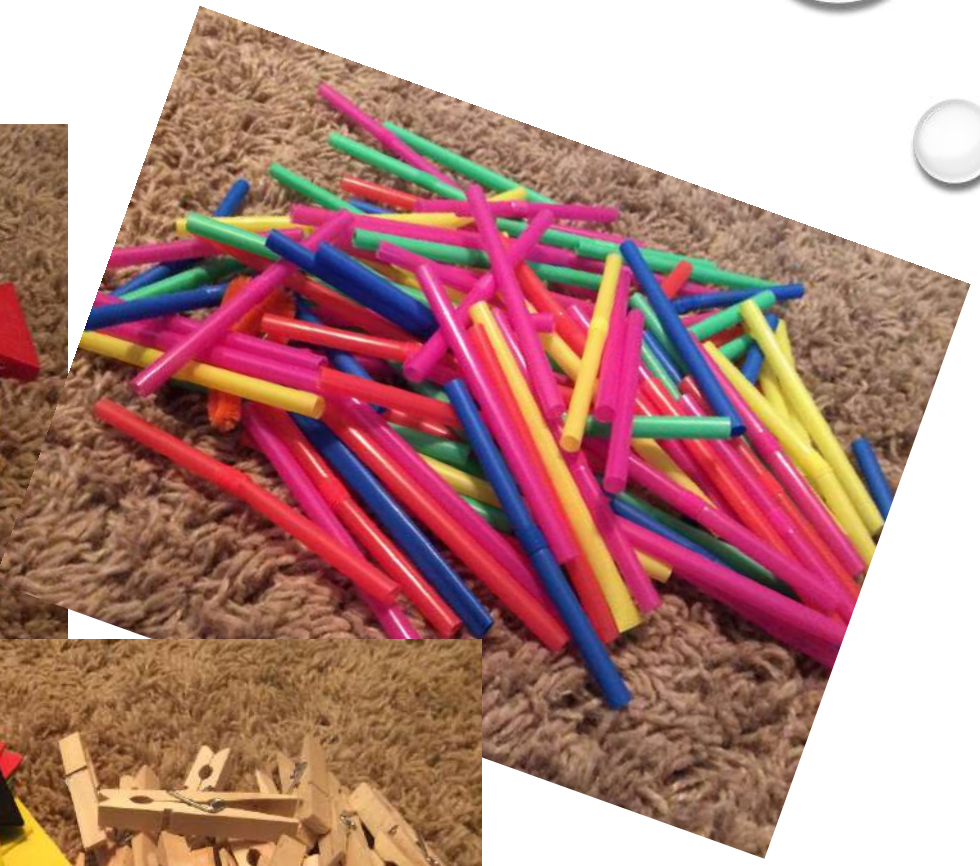
List compiled by Tracy Lee from Bright Hub

Math Journals

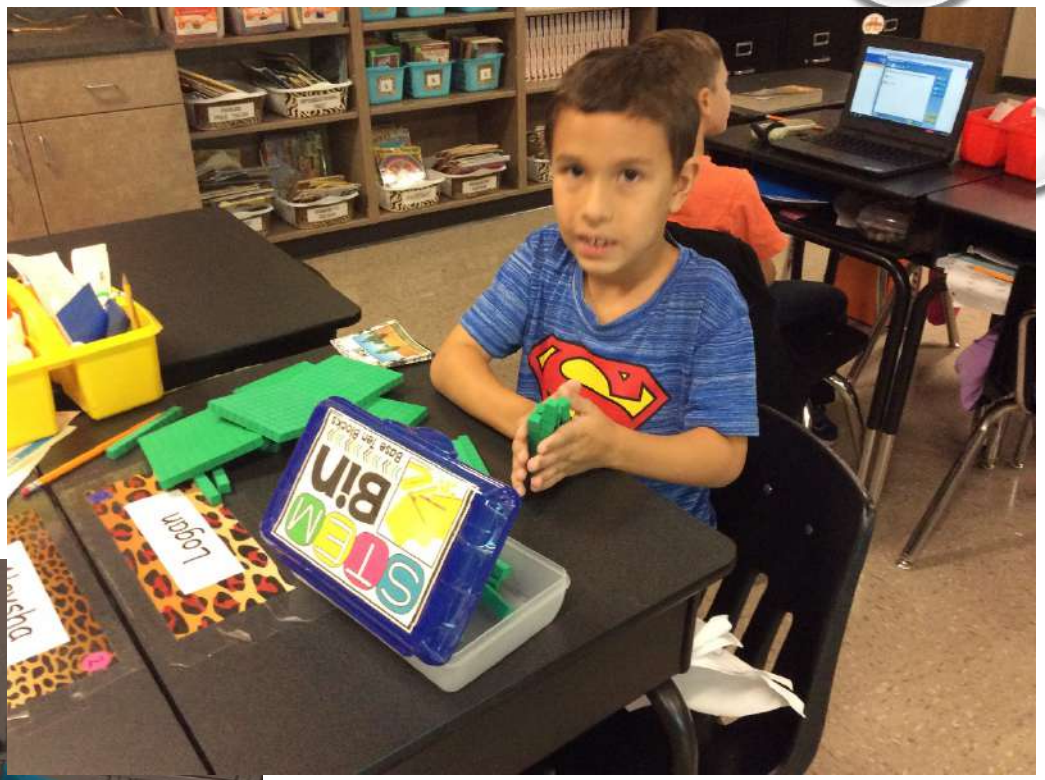




STEM Boxes



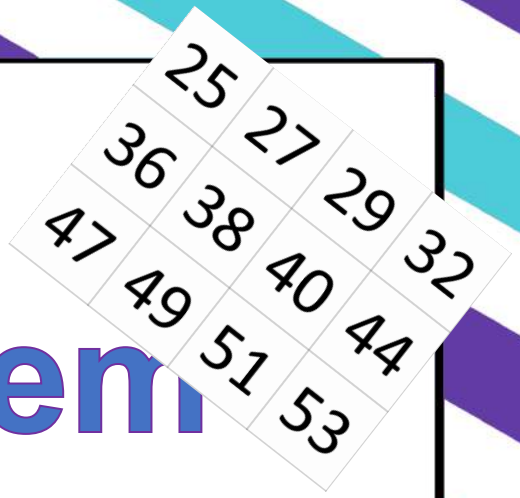

Gracie
STEM Bin


STEM
bin
Logan


Lilyanna

Logic Puzzles

Create a Story Problem



Directions: Choose a Character/Setting card, then choose two number cards and create a story problem to go with the information you have.

When you have created you problem solve it, then trade with another set of partners and have them solve it as well.

There are 3 sets of cards. One with 1 digit numbers, one with 2 digit numbers and one with 3 digit numbers.

Characters:

Frog and Toad

Setting:

The woods

Characters:

Junie B. and her Mom

Setting:

Grandma's house

Characters:

Brother and Sister Bear

Setting:

The Treehouse

Characters:

City Mouse and Country Mouse

Setting:

Under a big tree

Created by Tracy Lee

Characters:

Tortoise and the Hare

Setting:

The big race

Characters:

Jack and Annie

Setting:

Magic Tree House

Beanbag Toss (butcher paper)

Where do I find this information?

- shares- Johnstonstaff/guided math (powerpoint presentation and stations.
- Facebook groups-
  - Literacy and Math Work Stations Community with Debbie Diller
  - Tunstall's Teaching Group
  - Build Math Minds
  - Teachers using Guided Math


That's all Folks!