Math Night

Second Grade and Third Grade

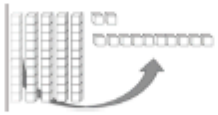
Fluency Brochure

Subtraction: Regrouping

Sometimes a problem requires a group of ten to be regrouped so that ones can be taken away. Consider 52 - 28

This is 52. There aren't enough ones to take away.

This is 52 after regrouping 1 ten to make 4 tens and 12 ones.



Now, we can take away 8 ones from 12 ones.

Subtraction: Adjusting

We can use "friendlier numbers" to solve problems. 500 – 239 can be challenging to regroup. But the difference between these numbers is the same as the difference between 499 – 238. Now, we don't need to regroup.

(Original problem)	500	-	239 =
(Compensation)	- 1		- 1
	499	-	238 = 261

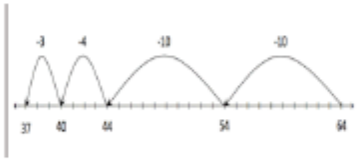
Subtraction: Unknown Addend or Think Addition

Many people think of subtraction as unknown addition problems. Instead of finding the difference, they think about what the missing addend is. Consider the problem below.

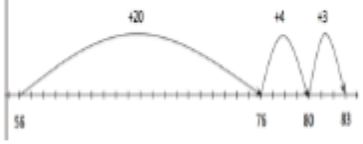
(Original problem)	347 – 249 = ?
(Think Addition) "249 plus what number equals 347?"	249 + ? = 347

Subtraction: Number Line

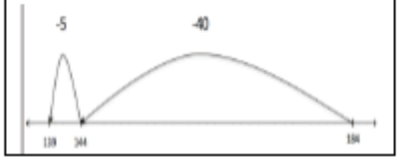
Counting Back on the Number Line: Consider 64 – 27. We can start at 64 and count back using friendly numbers. After counting back 27, we land on 37. So, 64-27 = 37.



Counting Up on the Number Line: Consider 83 – 56. Another strategy is to find the difference by counting up. To do this, start with 56 and count up to 83. We can add 20, add 4, and add 3 (27).
So. 83 – 56 = 27.



Using an Open Number Line: Students begin to work with open or empty number lines as they become more comfortable with numbers and number lines. These number lines do not have individual tick marks. Consider 184 – 139 = 45.



Developing Computational Fluency

Grade 2

Elementary Mathematics Office
Howard County Public School System

This brochure highlights some of the methods for developing computational fluency. For more information about computation and elementary mathematics visit http://smart.wikispaces.hcpss.org

All About Learnzillion

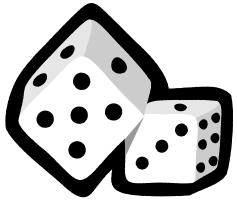
- Learnzillion is a website that provides videos to help you understand how your child is learning math
- Here is an example of a Learnzillion video:
- https://learnzillion.com/lessons/1517-divide-using-a-sharing-model

Math Activities

- Second Grade- Games with dice
  - Dice Race
  - Biggest or Smallest
  - Pig
  - Probability

Dice Race

- 2 or more players, 2 dice, score card
- Players take turns rolling the dice and adding them together. The first person to get a total of 100 points wins.
- This game can be played using subtraction by starting with 100 points. The first person to get to 0 would win.



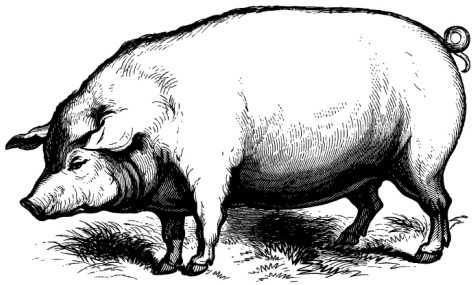
Biggest or Smallest

- 2 or more players, 1 die, place value grids
- Player 1 rolls the die, and records the number anywhere in their place value grid. Player 2 rolls the die, and records the number anywhere in their place value grid. Repeat until all place values are filled. Say the number you have created. The person with the biggest number wins.

Thousands	Hundreds	Tens	Ones

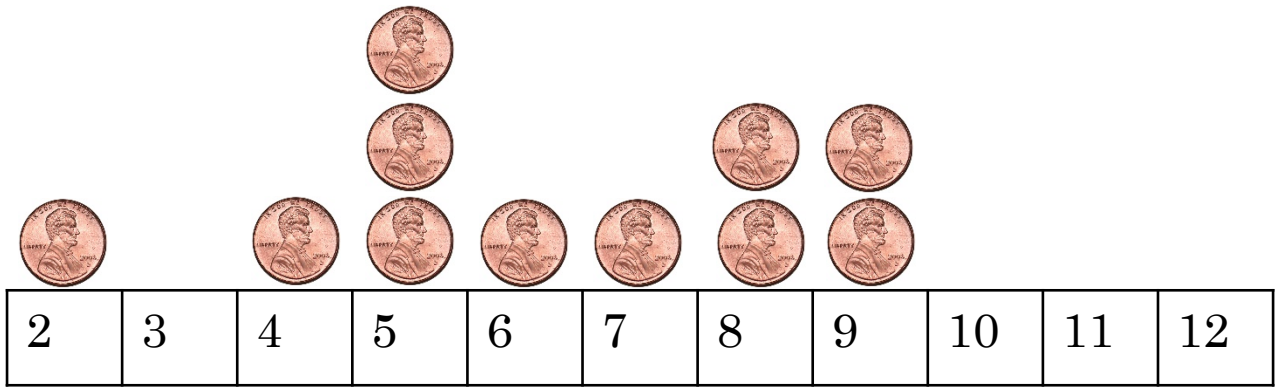
Pig

- 2 or more players, 2 dice, score card
- Player 1 rolls the dice, and adds them together. They may roll again, and add that score to the previous score. They may roll as many times as they want. When they stop, that is their score for the round. However, if they roll a 1 before they decide to stop, then they get a 0 for that round. If they roll a double 1, their total score goes back to 0. The first person to reach 100 wins.



Probability

- 2 dice, 11 counters, number line from 2-12
- The player arranges the counters on the numbers on the number line however they want (one on each number, all on 5, most on 7, etc.). Players take turns rolling the dice. **Each** player removes a counter if it is on the sum rolled. The first person to remove all of their counters wins.



Math Activities

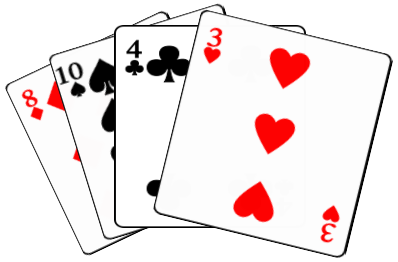
- Third Grade- Games with a deck of cards
  - Multiplication War
  - On Target
  - Salute
  - Pyramid

Multiplication War – two versions

- 2 players, deck of cards
- Version 1: Each player places a card face up. Multiply them. The first person to say the correct answer keeps the cards.
- Version 2: Each player turns over two cards, and multiplies their own. The person with the highest product keeps all four of the cards.

On Target

- 2 or more players, deck of cards, piece of paper.
- Choose a target number from 0-100
- Each person gets 4 cards. They may use those cards and any mathematical operation they want to create a problem. Write out and solve the equation. Whoever is closest to the target wins.



10 x 4 + 8 x 3 = 64
Player 1
Player 1 wins!

5 x 4 + 7 x 7 = 69
Player 2

SALUTE

- Three players, deck of cards.
- Deal the cards evenly to the three players. Player 1 and 2 sit facing each other. When player 3 says "salute," players 1 and 2 each place a card on their forehead, so that they can only see the other player's card. Player 3 announces the sum (if playing using addition) or product (if playing using multiplication) of the cards. The first person to correctly guess their card gets to keep both cards. Take turns being the person who says "salute."

Pyramid

- 1 player, deck of cards.
- Lay the cards out in a pyramid of face up cards until there are six cards at the bottom of the pyramid. Only cards that are fully uncovered can be used. Pick up and discard cards with number combinations that equal ten. You may do this using only addition, or include subtraction and multiplication as well. If no combination of cards equals 10, turn over 3 cards from the top of the rest of the deck. You win when all the cards in the pyramid have been used.