

More Math! Less Stress!

Fun Centers and Games for PreK-2nd Grade

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A Few Tips for Math Centers and Games

- Math is not about worksheets and memorizing.
- Small groups allow almost any activity to be a more meaningful learning experience for children than a whole-group version of the same activity. To keep children's interest, choose activities that are open, rich, and worthwhile.
- Choose activities that children can do (mostly) independently—like those in today's session.
- Keep groups small so that children do not have to wait long for a turn.
- Introduce the game/activity to the whole group. Play first with one partner. Everyone watches. Then that person picks a friend and plays the game while you play with a new partner. Everyone watches. Finally, the four original players choose a partner and play.
- Make yourself one of the math centers, when possible. Encourage self-regulation in the rest of the classroom. Practice routines and expectations so that interruptions are kept to a minimum.

LADYBUG NUMBER COMPOSITION (outdoor center)

PreK- 2nd

Materials: two-color counters, cups, sidewalk chalk, math journals

Instructions: Go outside and enjoy the fresh air. Students work in pairs. Each pair of students draws a ladybug on the sidewalk with sidewalk chalk. Partners put ten 2-color counters in a cup and spill them on the ground. They work together to separate the colors on either side of the ladybug. Repeat at least five times. Write about it in your math journal. For prekindergarten: draw a picture to show one of the combinations for the number ten. For kindergarten: draw a picture and use numbers to represent one of the combinations for the number ten. For 1st-2nd grade: Use number sentences to describe the math situation.



DOMINO WAR ADDITION GAME

Kinder, 1st, & 2nd



Materials: dominoes

Instructions: Play with 2 or more players. Deal the dominoes out to all players, facing them down on the table. Take turns flipping over a domino and adding the pips. Whoever has the highest total of pips on their domino is the winner and gets to take the dominoes that were in play.

THE DISAPPEARING TRAIN GAME

Preschool, Kindergarten, 1st, 2nd

Materials: 20 cubes, die

Instructions: With a partner build a train 20 cubes long. One partner rolls the die and removes exactly that number of cubes from the train until there are no cubes left. The other partner keeps a record of how many rolls of the die it takes to make the train disappear. He/she writes a number sentence to show what happens after each roll. Switch rolls and repeat the activity several times.



SNAPPO SUMS OF TEN GAME

1st & 2nd grades



Materials: playing cards with face cards removed

Instructions: Each player gets seven cards. The rest of the cards are the fishing pond. Players look in their hand for two cards with a sum of 10. If they find a set, they lay it aside. Take turns asking other players for the card needed to complete a sum of 10. For example, if you have a 5 in your hand, ask another player for a 5. If they don't have a 5, you "Go

Fish" by picking up a card from the fishing pond. The winner is the player with the most sets of cards that sum to 10 when all the cards have been used.

THE SUM WHAT DICE GAME

Source: *Family Math*, 1986. 1st & 2nd grades

Materials: Two dice, beans or other markers, pencil and paper

Instructions: Work in a small group of 2-4. Each person writes the numbers 1 through 9 on their sheet of paper like this:

1	2	3	4	5	6	7	8	9
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1. Take turns rolling two dice. On each turn, the player who rolled may cover either the sum rolled on the dice or **any two numbers** that are still uncovered and that add to the sum rolled.
2. For example, if a sum 9 is rolled first, the player may cover: 9, **or** 1 and 8, **or** 2 and 7, **or** 3 and 6, **or** 4 and 5.
3. Later in the game if the sum of 9 is rolled again and the 5 is already covered, then the player cannot use the 4 and 5 combination and must play one of the other open possibilities.
4. When a player cannot play, he or she is out and has a score of the sum of the **uncovered** numbers.
5. Play continues for everybody else until everyone is out.
6. The last person to go out will not necessarily win; the person with the **lowest** score wins.

GROCERY COUPON COMPARISONS

1st and 2nd Grades



Materials: grocery store coupons, online coupons (for larger amounts), Ziploc bags, strips of 12" x 18" construction paper, glue, calculators

Instructions: Work with a partner. Sort the coupons according to the type of product. For example, put all the cereal coupons together. Put all the toothpaste coupons together. Talk about which type of product has the most coupons. Then, choose six coupons. Put the coupons in order from *least* to *greatest* amount saved. Glue the coupons to a strip of construction paper. Use a calculator to find the total amount a shopper would save using all six coupons. Write the total saved on your strip of construction paper.

For older children: Make up three word problems using the coupons. Write your word problems in your math journal or on a blank sheet of paper. For example: Mom used the cereal coupon, the juice coupon, and the shampoo coupon. How much did she save? Which coupons could mom use to save a total of \$1.25? How much would she save if she used the two coupons that are worth the least? Trade problems with another group and solve.

HOW BIG IS YOUR KISS?

1st and 2nd Grades



Materials: Vaseline, marker, split peas, index cards

Instructions: Work with a group of four or five kids. Write your name on an index card. Put a dab of Vaseline on your lips. Kiss your card. Trace around your kiss with a marker. Cover your kiss with split peas. Make sure you lay the peas flat, edge to edge, as you cover your kiss. Count the number of peas to find the area of your kiss. Make a graph to show the area of the kisses of each member of your group.

TRANSFORM

Preschool, Kindergarten, 1st, 2nd



Materials: playdough

Instructions: Sit across from a small group of students. Make a sphere with your playdough, then have the students do the same. When all the students have made a ball (“You can call it a ball. Or I call it a sphere.”) then have them “transform” the dough into another 3D shape such as a cone, cylinder, cube, etc.

STRAW TRIANGLES

PreK, Kinder, 1st, 2nd

Materials: straws, playdough or clay

Instructions: Children cut straws to different lengths. Children roll small ball of clay to join three lengths of straws to make a triangle. Emphasize that a triangle has three sides. Have children make as many different triangles as possible.



BUTTON SORTING (TEACHER-LED CENTER)

1st and 2nd grades

Materials: selection of buttons, construction paper

Instructions: Option One: label paper with the numbers 1, 2, & 4. Children sort the buttons by counting the number of holes and placing the button on the appropriate sheet. Option Two: Ask children to sort the buttons using whatever attribute they wish. The only requirement is that they must be able to support their decision to place a button in a certain pile. Option Three: Have two children work together. One child selects five buttons—four of which have a common attribute and one of which does not have that attribute. The partner tries to guess which button doesn’t belong and why.



MORE OR LESS BINGO GAME

Created by Carrie Cutler, Kindergarten & 1st

Materials: die, bingo cards

Instructions: Use your own bingo card. Take turns rolling the die, finding a description of that number and covering it on your card. All numbers have at least two correct spaces on the card. For example, if 4 is the number chosen, there are two possible descriptions of 4: one more than 3 or one less than 5. If both of these descriptions are on your card, you must choose which one to cover – you cannot cover both descriptions. The first player to get 4 in a row – horizontally, vertically, or diagonally – wins!

Bingo Card A

one more than 2	one less than 2	one more than 3	one less than 7
one less than 6	one more than 5	one less than 2	one more than 4
one more than 1	one less than 4	one more than 0	one less than 6
one less than 5	one more than 5	one less than 3	one more than 0

Bingo Card B

one less than 7	one more than 1	one less than 4	one more than 5
one more than 4	one less than 3	one more than 0	one less than 7
one less than 4	one more than 0	one less than 6	one less than 5
one more than 1	one less than 2	one more than 3	one more than 2



LUCKY SIX GAME

--adapted from the Kentucky Math K-5 Project
1st and 2nd grades

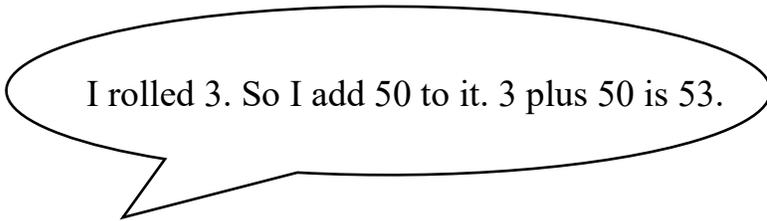
Materials: Lucky Six game board (attached), die, counters of 2 different colors

Instructions:

1. Play with a partner. Share a game board. Each of you uses a different color of counters to cover spaces on the game board. Take turns rolling the die.

- If you roll a 1 you must add 20 to it.
- If you roll a 2 or a 4 you must add 40 to it.
- If you roll a 3 or 5 you must add 50 to it.
- If you roll a 6 you may choose to add 10, 20, 30, 40, 50, 60, 70, 80, 90, or 100 to it.

2. Say the math talk sentence aloud and cover the sum on your game board with a counter. You can only cover one number on each turn.



3. Keep going until one player has four counters in a line vertically, horizontally or diagonally.

4. Clear your boards and play again.



Lucky Six Game Board



21	76	55	53	44
42	36	44	76	21
53	16	53	26	36
96	106	21	46	42
53	86	56	55	66

STANDING LONG STEP COMPARISONS

Source: Sheffield & Cruikshank, 2005. 1st & 2nd grades

Materials: string or yarn, scissors, sticky notes, masking tape

Instructions:

1. Choose two members of your group to be the “officials.” The other members of the group will be the “athletes.”
2. Officials: Place a strip of masking tape on the floor to mark the starting line. Athletes: Write your name on a sticky note.
3. Athletes: Estimate how far from the line you can step using one giant step. Set your sticky note on the floor to mark the spot.
4. Athletes: Take turns taking one giant step. Officials: Mark the spot where the athlete actually stepped. Measure the distance from their guess to their actual step by cutting a piece of string that length. Give the athlete their string and their name card.
5. Work together to put the strings in order from shortest to longest. Keep the name cards with the strings so that you can see which athletes were the best Giant Step Estimators.
6. Repeat the activity by trading jobs. If you were an athlete last time, you will be an official this time.
7. Compare the strings. Who was the best Giant Step Estimator?
8. For older children: Write about it in your math journal. What three tips would you give someone who hasn't ever done this activity?

COIN TRADING GAME

Source: *About Teaching Mathematics* by Marilyn Burns, & *Math-Positive Mindsets* by C. Cutler
Kindergarten, 1st, 2nd

Materials: one dice, coin board for each player, pennies, nickels, dimes

Instructions:

1. Work with a partner. Each partner needs a coin board. Put the money in the center of the table.
2. Take turns rolling the dice and adding coins to your board. For instance, if Player A rolls a 4, he takes 4 pennies and puts them on his board in the penny column.
3. The idea of the game is to show, in any column, the least number of coins possible. So as soon as you have enough to “trade up” 5 pennies for a nickel—do it. As soon as you have enough to “trade up” 2 nickels for a dime—do it.
4. The first player to have 5 dimes in the dime column is the winner.

Dime	Nickel	Penny

PICO, FERMI, BAGELS

1st and 2nd grades

Materials: whiteboard, marker

Instructions: object of the game is to guess the leader's secret 3-digit number.

Choose a leader; the leader picks a secret 3-digit number, whose digits are all different (for example 121, 442, 666 are not allowed). The leader writes the secret number on a slip of paper to refer to as the game progresses.

Players take turns making guesses; for each guess, the leader responds with the following clues:

BAGELS means none of the digits is correct

PICO means one of the digits is correct, but it is in the wrong place

FERMI means one of the digits is correct and in the correct place

Note that two or more correct digits requires several words:

"PICO PICO" means 2 digits are correct, but neither is in the correct place.

"FERMI FERMI FERMI" means you have guessed the secret number.

Players or the leader should keep a record of guesses and leader's responses. Play several times to improve your skill.

For additional games and activities, see [Math-Positive Mindsets: Growing a Child's Mind without Losing Yours](#)