

Mental Math Strategies

In Grade 3 we do a lot of practice using our mental math skills. These include –

- Making 10 (eg. $1+9 = 10$, $4+6=10$)
- Doubles (eg. $7+7=14$, $9+9=18$)
- Near Doubles (eg. $6+7 = 13$ using the fact $6+6$ or $7+7$ to figure out the answer)
- Adding 10 to a number ($6+10 = 16$)
- Magic 9 ($4+9=13$, because the “9” steals one from the “4” so the question becomes $3+10$ to find the answer)

Here are some game suggestions to continue strengthening your child's mental math abilities at home –

Numskills

Focus – Making 10 Facts (i.e. $7+3=10$)

Number of Players – 2

Directions –

- Remove face cards from a deck of cards.
- Place nine cards on the table face up
- Students try to create sums to 10 by collecting two or more cards.
- When they see a sum to 10 they say the word “Numskill”.
- Students must prove to the other players that their addition is correct.
- When the deck is gone (or no more play can be made), students add up their cards to determine the winner`.

Make 10 Go Fish

Focus – Making 10 Facts (i.e. $7+3=10$)

Number of Players – 2

Directions –

- Remove face cards from a deck of cards
- Shuffle the deck and deal out five cards per player
- Randomly choose a player to go first
- The first player asks another player for a specific card. This card should match one in their hand to create a sum of 10. I.e: I have a 6 in my hand and I say “Joe, do you have a 4?”
- If the player you ask has the card you have requested they must give it to you. If the person you ask does not have that card, they say, "Go fish." You then draw the top card from the draw pile.
- You may put down pairs that ‘Make 10’ at any time.
- The next player is the other partner OR the person to the left of the last person to go.
- ‘Go Fish’ continues until either someone has no cards left in their hand or the draw pile runs out. The winner is the player who then has the most pairs that make 10.

Doubles Face Off

Focus – Doubles Facts (i.e. $6+6=12$)

Number of Players – 2

Directions –

- Shuffle the deck (omit face cards from the deck) and split the deck into two equal piles
- At the same time both players lay down one card. Each player states the double of their card (ie. “ the sum of 8 and 8 is 16”)
- The player with the highest sum wins the cards
- If both players have the same sum, then it goes to a faceoff. Each player must lay down 3 more cards face down. Then they lay one more card face-up. Players state the double and the highest sum wins all the cards.
- The game can either be played until all the cards are out or players can continue to re-shuffle their cards and keep playing with their winning cards.

Face Off Original

Focus – Addition, Subtraction and Multiplication Facts

Number of Players – 2

Directions –

- Shuffle the deck (omit face cards from the deck) and split the deck into two equal piles
- At the same time both players lay down two cards.
- Each player states the sum (or difference if subtraction) of their card (ie. “ the sum of 5 and 8 is 13”)
- The player with the highest sum (or difference) wins the cards
- If both players have the same sum (difference), then it goes to a faceoff. Each player must lay down 3 more cards face down. Then they lay two more card face-up. Players state the sum(difference) of their cards and the highest sum(difference) wins all the cards.
- The game can either be played until all the cards are out or players can continue to re-shuffle their cards and keep playing with their winning cards.
- **Multiplication Version** - for beginning multiplication, use only cards A-5. Same rules above except the player must state the product of the two cards. (ie. if a player has a 5 and 2, they would say “the product of 5 times 2 is 10”)

HeadBands

Focus – Addition, Subtraction, Multiplication and Division Facts

Number of Players – 3

Directions –

- Have a deck of cards with face cards removed.
- One person is chosen as the judge. The other 2 people are the players.
- Each player chooses a card from the deck without looking at the number and places it on their forehead with the number side showing.
- The judge looks at both player's cards and states the sum of the two cards.
- The players must determine what number is on their head based on the sum and the other player's card.
- The first player to say the number on their head wins both cards. Each player only gets one guess.
- The player with the most cards at the end of the deck wins the game.
- **Multiplication/Division Version** - For beginning multiplication, use only cards A-5. Same rules above except the judge states the product of the two cards. (ie. if player one has a 2 and player two has a 4, the judge would state "the product is 8" and the players would have to use division to determine the number on their own card)

Place Value Pyramid

Focus – Understanding of Place Value

Number of Players – 2

Directions –

- Have a deck of cards with face cards and 10's removed.
- Lay out six cards for each player, face down, in the shape of a triangle. Make sure there are three rows (see picture).
- If you want, you can set a time limit on the game.
- Players begin by turning over the top card. The player with the highest card gets a point. If there is a tie, each player should receive a point.
- Then, have players turn over the second row, which should consist of two cards. These cards represent two-digit numbers. Now have the players switch the cards so that the card that was previously in the ones column is now in the tens column and vice versa. One point should be awarded to the player with the highest two-digit number before the switch, and one point should be awarded to the player with the highest score after the switch.
- Turn over the third row of cards. The player with the highest three-digit number wins a point. Allow the players two rounds of switches for this row and award one point per highest number as the result of a switch.
- Shuffle the cards and play another round. When time is up, whoever has the most points wins. If you prefer to go by points, the first player to reach 50 points wins the game.



100's Game

Focus – Skip Counting

Number of Players – Large Group Game

Directions –

- Level 1 - Have everyone stand in a circle. Moving in a clockwise direction, one at a time, count out loud until you reach a hundred. The person who says, "100" sits down. The last person standing, WINS!
- Level 2 - Counting by 5's, 10's, and 25's.
- Level 3 – Counting other multiples of numbers. For numbers that don't have a multiple of 100, the person that goes over 100 first sits down.
- Level 4 - Students don't say the multiple. Students can count by ones to a hundred, but all the multiples of say, 4, are "off limits." If a student says them, they sit down.

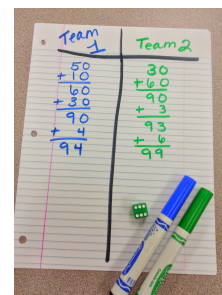
101 and Out!

Focus – Place Value and Mental Math

Number of Players – 2 Player or 2 Teams

Directions –

- To play you will need a sheet of paper, a pencil, and one dice. The object of the game is to score as close to 101 without going over or "out."
- To play, each player take turns rolling the dice. As they roll, they can either take the number as a one or a ten. For example, if a student rolls a 5, they could take it as a 5 or a 50. Students keep a running record of their total as they play.
- If a player goes over 101, they are out, and lose that round. A player can choose to stop at any time when they are happy with their total. The highest number 101 or lower wins the round.



BOOM!

- Write a mental math question on an end of a popsicle stick. Make approximately 20 popsicle sticks with math problems. On one popsicle stick write Boom at one end. Place all popsicle sticks with the number side down in a cup.
- Take turns pulling out a stick and answering the math problem. If you get the answer correct, you keep the stick in your pile. If you get it wrong, the popsicle stick goes back in the cup.
- If you get the Boom stick, you must put all your popsicle sticks back in the cup.