Kindergarten

From the Beginning of the Year, as Students have Experience with these Numbers	
Top it (dot cards, 0-10, teen numbers, tens: 10/20/30…) (or War with playing cards, but we could think of another name) and Double War	Card game; students mix (like shuffle) deck and divide all cards face down by passing 1 to each other, back and forth. They make a face down stack of their cards and then simultaneously flip over the top card. The larger number wins (face cards and Jokers can be removed or given the value of 0 or 10). If a tie, students flip over the next card simultaneously and then that card wins. Winner each round is given all the cards. (Traditional card game with modifications) For Double war, students flip over 2 cards each simultaneously and add the sum. The highest sum wins. This works well if face cards are worth 10. Top-it is an Everyday Math game- works well with the EM everything card decks.
Race to the Top: 1-6, and 1-12	Kim Sutton
Go Fish (in pairs, not 4 of a kind)	Best if played with 3 or 4 players, one being an adult (traditional game), good for recognizing numbers, making pairs
Dominos	Traditional game- matching numbers, taking turns
Follow the path game (any) on game board (good formats from The Pocket Book -old resource)	Roll 1 die (initially) or dice(eventually), move marker that many spaces. Provide lots of modeling or additional adult/upper grade student support. Moving markers 1-1 and taking turns is challenging.
Last Trimester of the Year:	
Ten Fish Card Game	Card game; make "easy tens" with ten frames to make a match like in "Go-fish" (Amazon).
Domino Sums	Using recording sheet and dominoes. Dominoes are placed face up in front of the student. Each student will scan the dominoes to find one where the addends (each half of the domino is an addend) equal the stated sum and then record it on the game sheet. (Kim Sutton, "Dazzling Dominoes Pips for Peeps", p. 111).

1st Grade

Ten Fish Card Game	Card game; make "easy tens" with ten frames to make a match like in "Go-fish" (Amazon).
Ten, Ten City or Ten, ____ City	Using ten sided die and game board, role to make "easy tens" to complete buildings. (Kim Sutton, "Math Fact Fluency", p.103).
Bump it- Sums or Bump it-Difference	Using game board, double decahedron die, and transparent chips; students roll addends on die then cover the sum with chip. Students may "bump" the other player from the spot. Bump it Difference variation. (Kim Sutton, "Math Fact Fluency", p. 50).
Domino Sums	Using recording sheet and dominoes. Dominoes are placed face up in front of the student. Each student will scan the dominoes to find one where the addends (each half of the domino is an addend) equal the stated sum and then record it on the game sheet. (Kim Sutton, "Dazzling Dominoes Pips for Peeps", p. 111).
Pick a Domino- Before and After	Using recording sheet and dominoes. Dominoes are placed in a bag or bucket; the student pulls one domino out of the bag and records it. Then the student will write the number that comes before and after. (Kim Sutton, "Dazzling Dominoes Pips for Peeps", p. 108).
Pick a Domino- What's Between	Using recording sheet and dominoes. Dominoes are placed in a bag or a bucket; the student pulls two dominoes recording the dominoes in the given spaces on the sheet. Then the student will write the number that comes between. (Kim Sutton, "Dazzling Dominoes Pips for Peeps", p. 109).
Snap it!	Students are in small groups, each student has 10 or more snap cubes. Students make a train of connecting cubes or specified number then "break" or "snap' their train into two parts; one part behind their back. Students go around the circle and reveal one part to group and the other students work out the full number combination. May be done whole class. (Boaler, "Math Fluency - You Cubed", p. 13).
How many are Hiding?	Students may work in pairs; each student has the same number of snap cubes (or other objects) and a cup. Students take turns hiding some of their cubes in the cup and show the leftovers. The other student works out the answer to "How many are hiding?" and say the full number combination. Use

	sentence frame to help students say the full combination. (Boaler, "Math Fluency - You Cubed", p. 14).
Tic-Tac-Toe: 4 Facts in a Row	Using one game board per pair of students, decahedron die (10 sided), dry erase markers; one student uses X's and the other O's. Students take turns rolling the die and then follow the command on the game board (i.e. +6; students will add "6" to whatever number they roll). The student will mark one of the sums. Students take turns until one player gets four in a row (Kim Sutton, "Math Fact Fluency", p. 62).

2nd Grade

Ten Fish Card Game	Card game; make "easy tens" with ten frames to make a match like in "Go-fish" (Amazon).
Ten, Ten City or Ten, ____ City	Using ten sided die and game board, role to make "easy tens" to complete buildings. (Kim Sutton, "Math Fact Fluency", p.103).
Bump it- Sums or Bump it-Difference	Using game board, double decahedron die, and transparent chips; students roll addends on die then cover the sum with chip. Students may "bump" the other player from the spot. Bump it Difference variation. (Kim Sutton, "Math Fact Fluency", p. 50).
Domino Sums	Using recording sheet and dominoes. Dominoes are placed face up in front of the student. Each student will scan the dominoes to find one where the addends (each half of the domino is an addend) equal the stated sum and then record it on the game sheet. (Kim Sutton, "Dazzling Dominoes Pips for Peeps", p. 111).
Stacked Domino Sums	Using recording sheet and dominoes. Dominoes are placed face up in front of student. Student will scan dominoes to find four dominoes to make two addends that equal the stated sum, then record the addends on their sheet. (Kim Sutton, "Dazzling Dominoes Pips for Peeps", p. 107).
How many are Hiding?	Students may work in pairs; each student has the same number of snap cubes (or other objects) and a cup. Students take turns hiding some of their cubes in the cup and show the leftovers. The other student works out the answer to "How many are hiding?" and say the full number combination. Use sentence frame to help students say the full combination. (Boaler, "Math Fluency - You Cubed", p. 14).
Pick a Domino- Before and After	Using recording sheet and dominoes. Dominoes are placed in a bag or bucket; the student pulls one domino out of the bag and records it. Then the student will write the number that comes before and after. (Kim Sutton, "Dazzling Dominoes Pips for Peeps", p. 108).
Pick a Domino- What's Between	Using recording sheet and dominoes. Dominoes are placed in a bag or a bucket; the student pulls two dominoes recording the dominoes in the given spaces on the sheet. Then the student will write the number that comes between. (Kim Sutton, "Dazzling Dominoes Pips for Peeps", p. 109).
Top It	Students work in pairs with a deck of cards (0-9; take out

	(addition or subtraction)　　 face cards and tens, jokers as zero or some other face card). Each student puts two cards face up in front of them; these are the addends. Then they say the sum of the two addends. The other player does the same for their two cards. The player with the higher sum takes all the cards and the next round begins. Play continues until players run out of cards. The player with the most cards wins. May be played with subtraction too! (Everyday Math Games).
Take Two for Ten	Students use one deck and play individually (like Solitaire). Student places ten cards in front of them (two rows of five cards each works well). Face cards are worth zero, and jokers are worth ten. They make a ten by picking up two cards when added together equal ten). Then they replace the two cards they just picked up with another two cards from their deck. If the player is stuck and cannot make another ten, they may place another two cards down face up next to the original ten cards. Student continues to make tens until they cannot make any more tens and reach the "magic moment." (Kim Sutton, Math Night - WA Elementary, 5/14/2019).
Race to the Top '100' (or '200','500')	Played with partners. Using two 10-sided dice, students roll the dice and use the numbers they roll as the two addends and then come up with the sum. The sum is recorded on their white-boards or recording sheet. The next turn the students will need to add the total to the previous one, keeping a 'running total'. The first student to reach the target number, '100', win. May be played with a deck of cards too, simply draw two cards (face cards J=11, Q=12, K=13).
Mouse Race for Cheese	Played with partners. Each student uses a game board, transparent chips, and the double dice. Students take turns rolling double dice. The sum of the two addends of the dice is found. The player's mouse (chip) is moved the appropriate number of spaces and the computational math problem is recorded on the right column of the game board. The first player to get their "mouse" to the cheese wins. Variation: subtraction. (Kim Sutton, "Dynamic Dice", p.52-54).

3rd Grade

Pepperoni Pizza	Play with one or more players. Use a piece of paper (or whiteboard), one dice per player, and a bucket of snap cubes or disk markers per group. Each student rolls a die twice. The first roll tells them how many pizzas to draw. The second rolls tells them how many pepperonis to put on EACH pizza (student will use the snap cubes or disk markers as the pepperoni). Then the student writes the number sentence that will help them answer the question, "How many pepperonis in all?" Start with six sided die, then progress to ten sided die. (Boaler, "Math Fluency - You Cubed", p. 13).
How Close to 100?	Play with two players, two dice (6-sided) and one recording sheet. Two students share a blank 100 grid. The first player rolls both dice; the numbers that come up are the numbers the student uses to make an array on the 100 grid. They can put the array anywhere on the grid, but the goal for the game is to fill up the grid. After the player draws the array on the grid, they will record the number sentence at the bottom that describes the array they just drew. The second player then rolls the dice and repeats the process. The game ends when both players have rolled the dice and cannot put any more arrays on the grid. Finish the game by asking the class "How close to 100 can you get?". Game may be played as single player where each student has their own number grid. (Boaler, "Math Fluency - You Cubed", p. 11).
10 Rolls Game	Students work in pairs. Using board/data recording sheet, double standard dice, and transparent chips. Players take turns rolling double dice. The student finds the sum of the two numbers (addends) rolled. Students cover the sum with a chip on the left hand column of the board/data recording sheet. Each of the 10 rolls gets a chip. Students may stack chips, one on top of the other, if they roll the sum more than once. After 10 rolls, students count the number of chips on each number in the left hand column and use that number to complete "the groups of" statement. At the end of 10 rolls, players total up the products for their score. This game may be played with the winner having the greatest or least score. (Kim Sutton, "Dynamic Dice", p.30-31).
Top It -(addition, subtraction or multiplication)	Students work in pairs with a deck of cards (0-9; take out face cards and tens, jokers as zero or some other face card). Each student puts two cards face up in front of them; these are the addends. Then they say the sum of the two addends. The other player does the same for their two cards. The player with the higher sum

	takes all the cards and the next round begins. Play continues until players run out of cards. The player with the most cards wins. May be played with subtraction or multiplication too! (Everyday Math Games).
Bump It Sums, Bump it Difference, Or Bump It Products	Pairs use a game board, double decahedron die, and transparent chips; students roll addends on die then cover the sum with chip. Students may "bump" the other player from the spot. Bump it Difference variation, players roll the whole (minuend) and the part (subtrahend) and find the difference then cover that number with a chip. Bump It Products variation- players roll the factors on die then cover the product with a chip (Kim Sutton, "Math Fact Fluency", p. 50).
Race to the Top '100' (or '200', '500")	Played with partners. Using two 10-sided dice, students roll the dice and use the numbers they roll as the two addends and then come up with the sum. The sum is recorded on their white-boards or recording sheet. The next turn the students will need to add the total to the previous one, keeping a 'running total'. The first student to reach the target number, '100', win. May be played with a deck of cards too, simply draw two cards (face cards J=11, Q=12, K=13).
Time Tables Spin; or Spin & Multiply	Using the board/templates for each time tables fact family, a paperclip and a pencil, students spin and must solve the multiplication problem and record it with the solution on the left. Students continue until they have solved each problem. Variation: Spin & Multiply for differentiation for students who exhibit math fact fluency and are ready for multi digit multiplication (multi digit repeated addition). (We are Teachers, link: https//:www.weareteachers.com/multiplication-games-printable/[spinners](spinners))
Fraction Match-up	Using game boards (there are many varieties from which to choose), double standard dice, and transparent chips. Players decide if they are playing "blackout" (or area game), five in a row, parallel lines, perpendicular lines game, or perimeter game. Players take turns rolling the double dice; the smallest number rolled is always the numerator while the largest is always the denominator (students will not roll an improper fraction in this game). For each fraction rolled, students state the fraction out loud and then state the meaning of that fraction (i.e. "⅖ means 2 of 5 equal parts of one whole"). If the picture of the fraction is on the game board, then it is covered with a chip. (Kim Sutton, "Dynamic Dice", p. 38-51).

Triangle Fact Families	Everyday Math triangle fact cards or Jo Boaler's You Cubed cards.Students may work in pairs or individually practicing multiplication/division math facts. Students state the math fact two ways, making two piles as they go of facts they know and facts they need to practice. The facts they need to practice may be written down in two ways (using commutative property) and turned in at the end of the center. (Everyday Math triangle fact cards, or Boaler, "Math Fluency - You Cubed").
Expanded Notation	Students work individually using recording sheet and decahedron double dice. Students roll the double dice; the inside die is the ones and the outside die is the tens. The double digit number is recorded in the box on the left in standard form then the student circles how many tens and record the digit, then circles how many ones and records the digit (expanded form). Game may be modified as a decimal version where the inside die is the hundredths and the outside die is the tenths. (Kim Sutton, "Dynamic Dice", p.90-93).

4th Grade & 5th Grade

10 Rolls Game	Students work in pairs. Using board/data recording sheet, double standard dice, and transparent chips. Players take turns rolling double dice. The student finds the sum of the two numbers (addends) rolled. Students cover the sum with a chip on the left hand column of the board/data recording sheet. Each of the 10 rolls gets a chip. Students may stack chips, one on top of the other, if they roll the sum more than once. After 10 rolls, students count the number of chips on each number in the left hand column and use that number to complete "the groups of" statement. At the end of 10 rolls, players total up the products for their score. This game may be played with the winner having the greatest or least score. (Kim Sutton, "Dynamic Dice", p.30-31).
Top It (addition, subtraction, multiplication or fraction)	Students work in pairs with a deck of cards (0-9; take out face cards and tens, jokers as zero or some other or face card). Each student puts two cards face up in front of them; these are the addends. Then they say the sum of the two addends. The other player does the same for their two cards. The player with the higher sum takes all the cards and the next round begins. Play continues until players run out of cards. The player with the most cards wins. May be played with subtraction, multiplication, or fractions too! (Everyday Math Games).
Bump It Sums, Bump it Difference Or Bump It Products	Pairs use a game board, double decahedron die, and transparent chips; students roll addends on die then cover the sum with chip. Students may "bump" the other player from the spot. Bump it Difference variation - players roll the whole (minuend) and the part (subtrahend) and find the difference then cover that number with a chip. Bump It Products variation- players roll the factors on die then cover the product with a chip (Kim Sutton, "Math Fact Fluency", p. 50).
Race to the Top '100' (or '200', '500")	Played with partners. Using two 10-sided dice, students roll the dice and use the numbers they roll as the two addends and then come up with the sum. The sum is recorded on their white-boards or recording sheet. The next turn the students will need to add the total to the previous one, keeping a 'running total'. The first student

to reach the target number, '100', win. May be played with a deck of cards too, simply draw two cards (face cards J=11, Q=12, K=13).

Fraction Match-up   Using game boards (there are many varieties from which to choose), double standard dice, and transparent chips. Players decide if they are playing "blackout" (or area game), five in a row, parallel lines, perpendicular lines game, or perimeter game. Players take turns rolling the double dice; the smallest number rolled is always the numerator while the largest is always the denominator (students will not roll an improper fraction in this game). For each fraction rolled, students state the fraction out loud and then state the meaning of that fraction (i.e. "⅖ means 2 of 5 equal parts of one whole"). If the picture of the fraction is on the game board, then it is covered with a chip. (Kim Sutton, "Dynamic Dice", p. 38-51).

Triangle Fact Families   Everyday Math triangle fact cards or Jo Boaler's You Cubed cards.Students may work in pairs or individually practicing multiplication/division math facts. Students state the math fact two ways, making two piles as they go of facts they know and facts they need to practice.   The facts they need to practice may be written down in two ways (using commutative property) and turned in at the end of the center. (Everyday Math triangle fact cards, or Boaler, "Math Fluency - You Cubed").

Let's Standardize   Using data recording sheet and place value dice, working in pairs each student rolls the place value dice and records the expanded form of the number rolled. Then the student will standardize the number and record that in the last column. The next player does the same, rolling the dice and recording the standard and expanded form of the number rolled. Once the recording sheets are filled up, each student adds the numbers to come up with a total for their sheet. Winners may be the player with the greatest or least sum (you may use the less than or greater than spinner to determine criteria for the winner). Teachers should match grade level standards to determine which place value dice are best to use for each grade (Kim Sutton, "Dynamic Dice", p. 126-132).

Factor Bingo   Using game board, number cards 2-10, Factor Bingo game

mat (Math Masters, p. G19), and 12 clear counters. Each student fills in their game board using any number listed (numbers should not be put in the grid in order). Then students pair up, placing shuffled deck of cards face down between them. One student pulls a card, that number is the "factor". Players check their grid for a product that has that number as a factor. Players who find a product cover it with a clear counter; each player may only cover one product for each card that is turned over. Play continues as another card is turned over. The first player to get five counters in a row, column or diagonal calls out "BINGO" and wins the game.

Factor Captor	Using factor captor grid (Math Masters, p.G15-16), clear counters and multiplication table up to 12 for reference. Playing in pairs, player one covers a two digit number on the board and records the number on their tally sheet; this is player 1's score for the round. Player two covers all the factors of player 1s number. Player 2 finds the sum of the factors and records it on the tally sheet. This is player 2s score for the round. If player 2 misses any factors, player 1 may cover the number and add it to their score. In the next round, players switch roles and repeat the steps above. Note: a factor may only be covered once during a round and any number that is covered by a counter may not be used again. Also- the first player in any round may not cover a number less than ten unless there are no other options on the board. Play continues until all numbers on the board are covered (or time runs out). The player with the higher score wins the game. (Everyday Math Games, Student Reference Book, p. 258).
Fraction Match	Everyday Math Games. Using one set of Everyday Math fraction cards and one set of wild cards. Playing with two-four players, students match their cards to an equivalent fraction trying to get rid of all their cards. Shuffle both decks together and deal each player 7 cards and place the remaining deck face down in the middle, turning the top card over. This is the target card. Players take turns trying to match the target card from a card in their hands. A "match" is an equivalent fraction card, a card with a like denominator, or a wild card with the player stating an equivalent fraction, but not the same one just played. The "match" card played on top is the new target card. If the player has no match, they pick up one card from the deck. Play ends when one player runs out of cards, there

are no more cards in the deck, or time runs out.   (Everyday Math Games, Student Reference Book, p. 263).

You Cubed Math Cards   Using Jo Boaler's Math Cards, students place cards face up on a table then take turns finding a match and may be played with two to four players. In another version, each student is given a number card and must find every card that matches. When students match the cards they should explain how they know that the different cards are equivalent. This activity encourages an understanding of multiplication as well as rehearsal of math facts. (Boaler, "Math Fluency - You Cubed", Appendix A).