

Healthy Cities Tutoring

Tutor Tips – Math Games

A link to all of these handouts will be sent to you post training.

Bring along:

- Deck of cards
- Set of dice
- Book
- Paper and Pencils
- Ruler
- Whiteboard with marker

Take a break and stretch between activities. These activities are to support the work given by the teacher.

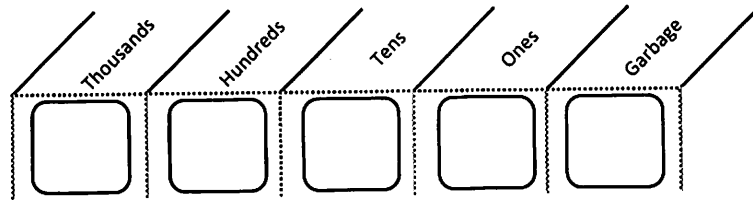
Math Games – table of contents:

- Learning Place Values
- Twenty Wins
- Top It
- Name That Number
- Basketball Addition
- Baseball Multiplication

Also included: Addition/Subtraction and Multiplication/Division Facts Tables

Math game: Learning Place Values

How to play: Find a partner and some dice. Each of you draws a set of five boxes like this:



Take turns to roll the dice and decide which of your four boxes to fill. The first four spaces are place values, the fifth space is garbage – a place to throw out one number. Once you write in a number, you can't move it. Choose carefully!

Do this five times each until all your boxes are full. Read the four digits as a whole number (ignore the "garbage" number).

Whoever has the larger four-digit number wins.

There are two possible scoring systems:

- A point for a win. The first person to reach 10 wins the game
- Work out the difference between the two four-digit numbers after each round. The winner keeps this score. First to 10000 wins.

Game Variation: Whoever makes the smaller four digit number wins.

** You can find a blank worksheet for keeping track of your answers at <http://www.healthycities.site/tutor-corner/>

Math game: Twenty Wins

How to play: The first player rolls the dice. They can either add or subtract the two numbers that are shown on the dice. Next, the player enters the sum or the difference anywhere on the score sheet. The second player then does the same thing. The game continues until one of the players can successfully put four digits together into a square that totals 20 – you can use each other’s numbers. That player then gets a point.

The game continues until one player has received a given number of points or until the board is full of numbers.

EXAMPLE:

[illegible]

Math game: Top It

How to play: Use one deck of cards with the jokers, jacks, queens, and kings taken out so that only cards 1-10 are used.

- This game is very similar to the card game known as "war," but we call it "Top-It." To begin play, divide the cards equally between two players.
- Each player turns over two cards. Each player then adds the two cards together and tells their opponent the sum, checking each other for accuracy.
- The player with the highest sum gets all four cards.
- If the sums are equal, then each player lays three cards face down on the pile. Then they turn over two new cards, add the numbers, and announce the sum. The player with the highest sum wins all the cards in that pile. That's a lot of cards!
- Repeat until all the cards have been played.

To modify this game:

- Turn over 3 or 4 cards for each player on each turn to increase the addition challenge.
- Play subtraction Top-It. Instead of adding the numbers, subtract the smaller number from the larger one to figure out the difference. The player with the larger difference gets the cards.

For more advanced:

- Use multiplication! Take out the larger cards as needed for your student.

Math game: Name That Number

Materials: 1 deck of cards*

(* You can use a standard deck with Aces = 1 and take out face cards)

Number of Players: 3 or 4 works well but any number of players can play (even 1)

Rules of the Game:

A player shuffles the deck and places five cards face-up on the playing surface. This player leaves the rest of the deck face down and then turns over and lays down the top card from the deck. The number on this card is the number to be named; **the target card**.

In turn, players try to name the target number by using math operations with the numbers on as many face up cards as possible. You can name the target number by adding, subtracting, multiplying or dividing the numbers on 2 or more of the cards that are number side up. A card may be used only once for each turn.

If you can name the target number, take the cards you used to name it. Also take the target number card. Then, replace all the cards you took by drawing from the top of the deck.

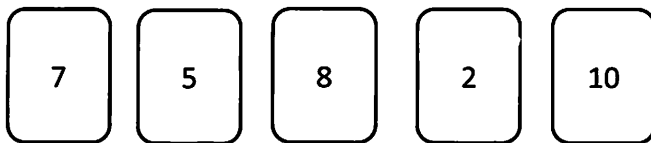
If you cannot name the target number, your turn is over. Turn over the top card of the deck and lay it down on the target number pile. The number on this card becomes the new target number to be named.

Play continues until all of the cards in the deck have been turned over. The player who has taken the most cards wins.

Example:

Target number: 16

A player's cards:



Some possible solutions:

$$10 + 8 - 2 = 16 \text{ (3 cards used)}$$

$$7 \times 2 + 10 - 8 = 16 \text{ (4 cards used)}$$

$$8 / 2 + 10 + 7 - 5 = 16 \text{ (all 5 cards used)}$$

Strand Operations and Computation
Skill Practice adding 3 or more 1-digit and 2-digit numbers

OPTIONS FOR INDIVIDUALIZING						
GRADES	K	1	2	3	4	5
ENRICHMENT		✓				
CORE PROGRAM			✓			
RETEACHING AND PRACTICE				✓	✓	✓

NOTE: A twenty-sided die can be used instead of 3 regular dice.

Games Kit Materials (per group)

- Basketball Addition Gameboard (or Game Master 28)
- 3 dice

Players 2 teams of 3-5 players each

Object of the game To score a greater number of points than the other team.

Directions

1. Players on opposite teams take turns rolling the 3 dice.
2. Each player enters the sum of the numbers on the 3 dice in the **Points Scored** table.
3. After each player on a team has rolled the dice, each team finds the total number of points scored by their team for the first half of the game and enters the **Team Score** in the table.
4. Players repeat Steps 1-3 to find their team's score for the second half of the game.
5. Each team adds their team totals from both halves of the game to find their team's total score.
6. The team with the greater number of points wins the game.

Basketball Addition Gameboard

Points Scored

Player	1st Half	2nd Half
Player 1		
Player 2		
Player 3		
Player 4		
Player 5		

SKILL
Practice adding three or more 1-digit and 2-digit numbers

GAMES KIT MATERIALS
3 dice

PLAYERS
2 teams of 3 to 5 players each

OBJECT OF THE GAME
To score the greater number of points

Points Scored

Player	1st Half	2nd Half
Player 1		
Player 2		
Player 3		
Player 4		
Player 5		

SCOREBOARD

	1st Half	2nd Half	Total Points
Team 1			
Team 2			


Name _____

Date _____

Time _____

Basketball Addition

Game Master **28**

	Points Scored			
	Team 1		Team 2	
	1st Half	2nd Half	1st Half	2nd Half
Player 1				
Player 2				
Player 3				
Player 4				
Player 5				
Team Score				

Point Totals

1st Half

2nd Half

Final

Team 1

Team 2

1. Which team won the first half? _____

By how much? _____ points

2. Which team won the second half? _____

By how much? _____ points

3. Which team won the game? _____

By how much? _____ points

Baseball Multiplication

- Materials** ☐ 1 *Baseball Multiplication* game mat
 (*Math Masters*, p. 443)
☐ 2 six-sided dice
☐ 4 counters



Players 2 teams of one or more players each

Skill Multiplication facts 1 to 6

Object of the game To score more runs in a 3-inning game.



Directions

The rules are similar to the rules for baseball, but this game lasts only 3 innings. In each inning, each team bats until it makes 3 outs. Teams flip a coin to decide who bats first. The team with more runs when the game is over wins.

Pitching and batting: Members of the team not at bat take turns "pitching." They roll the two dice to get 2 factors. Players on the "batting" team take turns multiplying the 2 factors and saying the product.

The pitching team checks the product. (Use a calculator or the Multiplication/Division Facts Table on page 52.) An incorrect answer is a strike, and another pitch (dice roll) is thrown. Three strikes make an out.

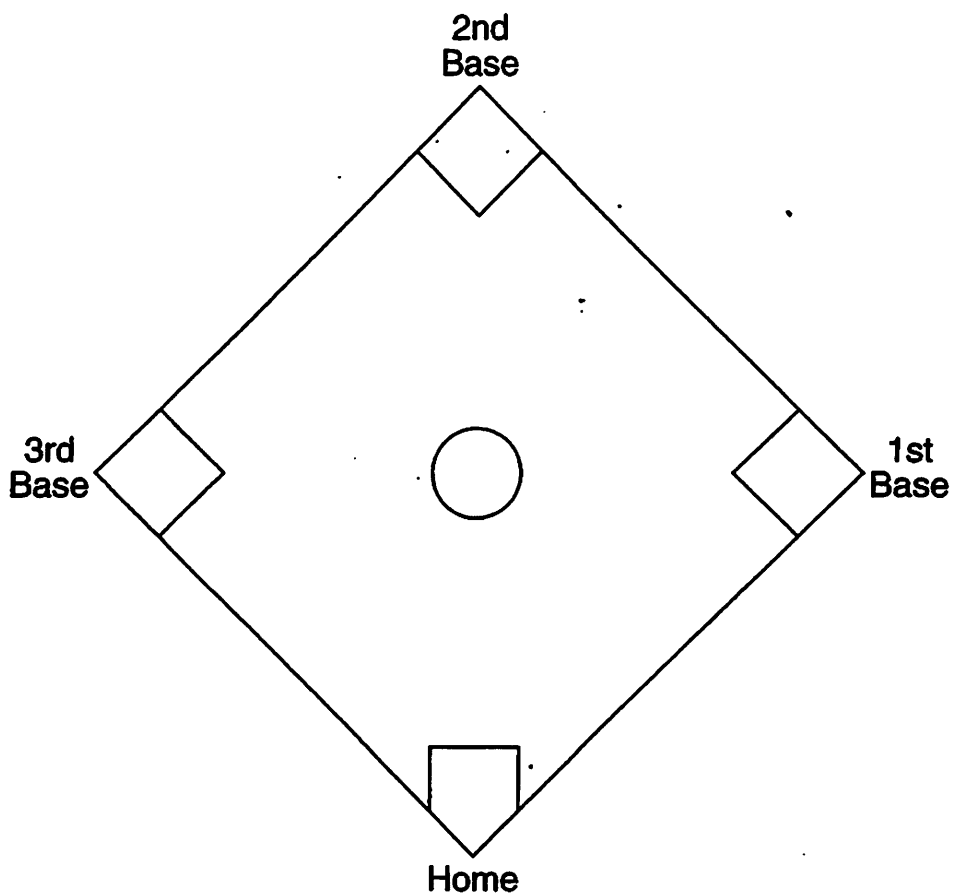
Hits and runs: If the answer is correct, the batter checks the Scoring Chart on the game mat. If the chart shows a hit, the batter moves a counter to a base as shown in the Scoring Chart. Runners already on base are moved ahead of the batter by the same number of bases. A run is scored every time a runner crosses home plate.

Name _____

Date _____

Time _____

Baseball Multiplication Game Mat



Scoreboard				
Inning	1	2	3	Final
Team 1				
Team 2				

Runs-and-Outs Tally					
Team 1			Team 2		
Runs	Outs		Runs	Outs	

Scoring Chart (for 2 six-sided dice)	
36 = Home run (score a run)	6 to 15 = Single (go to 1st base)
25 to 35 = Triple (go to 3rd base)	5 or less = Out (record an out)
16 to 24 = Double (go to 2nd base)	

Addition / Subtraction Facts Table

+, -	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9	10
2	2	3	4	5	6	7	8	9	10	11
3	3	4	5	6	7	8	9	10	11	12
4	4	5	6	7	8	9	10	11	12	13
5	5	6	7	8	9	10	11	12	13	14
6	6	7	8	9	10	11	12	13	14	15
7	7	8	9	10	11	12	13	14	15	16
8	8	9	10	11	12	13	14	15	16	17
9	9	10	11	12	13	14	15	16	17	18

Multiplication / Division Facts Table

$\times, /$	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