



**THIRD SPACE  
LEARNING**

# Math Games For 7th Grade

13 games to help your 7th graders develop  
their math knowledge in a low-stakes  
environment

**7th grade**

## How to use this resource

Fun math activities and math games provide students with an engaging, low-stakes opportunity to practice new math skills and solidify the skills they've already learnt.

Math games and math problems are a useful resource for any math teacher to have up their sleeve. When a class is losing focus a fun math game can help to shake things up. Math games can also be a great way to start a lesson and end a lesson.

The math games in this resource are designed to be versatile and allow for adaptations to different topics and different levels of ability. Feel free to adapt the games to the needs of your class.

All games are simple to carry out and require few resources. We hope your students enjoy these math games.

# Algebraic equations game: find the operation

You will need:

- ☐ 2 players
- ☐ 0-5 grids (see printable resource pack)
- ☐ Pen

## How to play:

- Both players have a 0-5 grid, marked 'a' and 'b'.
- Each player needs to decide on the rule for their grid. For example,  $a * b$  means treble a, then add b.
- Once they have decided on a rule for their grid, they complete 7 answers.
- Players then swap grids and attempt to work out the other player's rule, then complete the grid.
- The winner is the first player to correctly complete the grid.

		a					
	•	0	1	2	3	4	5
0							
1							
b 2							
3							
4							
5							

# Factors and multiples game

## You will need:

- 2 players
- A hundred square  
(see printable resource pack)
- 2 pens (different colors)

## How to play:

- The first player chooses a number on the hundred square and crosses it out.
- The next player chooses a second number to cross out in a different color.  
This number must be a factor or multiple of the first number.
- Continue crossing out numbers, ensuring that each number crossed out is a factor or multiple of the previous number that has just been crossed out.
- The first person who is unable to cross out a number loses and the other player earns one point.
- The winner is the first player to use their multiplication tables to get to five points.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
64	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

## Number game: yes / no

### You will need:

- At least two players
- Pen and paper
- Scorecard to keep track of player scores each go

### How to play:

- Each player writes down a set of different values (e.g. 5 numbers) for the other player(s) to guess.
- Player 1 asks a question about the other player's number (e.g. is your number a multiple of 5?).
- If the answer is 'yes', player 1 gets to ask another question.
- If the answer is 'no', player 2 gets to ask a question.
- The winner is the first player to correctly guess the other player's number. They score one point.
- The first player to get to five points wins the game.

## Division and remainders game: mystery number

### You will need:

- ☐ 2 or more players
- ☐ Pen and paper

### How to play:

- Both players think of a number between 1 and 100 for the other player to guess.
- Player 1 gives a number between 2 and 10.
- Player 2 works out what the remainder would be if their mystery number was divided by that number.
- For example, player 2 may have chosen 44. If player 1 chose a 3 as their first number, then player 2 tells them what the remainder would be if their number was divided by 3. In this case, it would be a remainder of 2.
- Players jot down this information, to help them work out the number once all the clues have been used.
- Roles then swap and player 2 gives player one a number. Player 1 works out what the remainder would be if their number was divided by the number given by player 2.
- This continues. The winner is the first player to correctly identify the number.

## Addition game: got it

You will need:

- ☐ 2 players

### How to play:

- The target number for the game is 23.
- The first player chooses a number from 1 to 4.
- Players take turns to add a whole number from 1 to 4 to the running total.
- The player who lands on 23 wins the game.
- Players need to think about their strategy and plan ahead.

## 2D shapes game: square it

### You will need:

- 2 players
- Square dot paper
- 2 coloured pens

### How to play:

- The first player places a coloured dot on one of the dots on the squared paper.
- The second player does the same, using a different color pen.
- This continues until one of the players has placed 4 dots which can be joined together to form a square.
- The square can be any size on the grid and can also be tilted.
- The game requires both players to be working out their own strategy, whilst also keeping a close eye on the other player's game, to ensure any potential squares are blocked.



## 3D shapes game: nine colors

### You will need:

- One or more players
- 27 cubes (3 each of 9 colors) per person

### How to play:

- This game can be played individually, or as a speed challenge against other players.
- Each player needs to make a large cube using the 27 small cubes.
- The aim of the game is to be the quickest player to make a large cube with all 9 cubes on each face containing only 1 of each cube color.
- If any face contains more than one of the same color cube, the player hasn't successfully completed the challenge.

## Integer face-off

### You will need:

- A partner
- Two sets of cards labeled from -20 to 20, including zero. (Tip: cut index cards in half)

### How to play:

- Each player gets one set of cards (-20 through 20). The cards should be shuffled and placed face down in a stack.
- At the same time, each player lays two of their cards face up and adds the two numbers together
- The player with the highest sum collects all four cards
- When a player runs out of cards in their stack, they should shuffle their collected cards and continue playing
- The game ends when one player runs out of cards. (Or whoever collects the most cards, wins!)
- Note: This game can also be played to practice subtracting integers. Instead of adding their two integers together, players would subtract.

## Exponent game

### You will need:

- A partner (or a small group)
- A deck of playing cards  
(Number cards only; Ace can be used as 1)

### How to play:

- The cards should be shuffled and dealt evenly among the players
- Players should keep their stack of cards face down
- Each player flips two cards at the same time. The first card they flip is their base number and the second card flipped is the exponent. So, for example, if player 1 flips a 2 and then a 3, their number will be  $2^3$  which equals 8. If their opponent flips a 4 and then a 2, their number will be  $4^2$  which equals 16. So player 2 wins that round.
- The player who wins each round collects all cards played during that round
- Whoever collects the most cards, wins!

## Proportion hunting

### You will need:

- ☐ Pencil
- ☐ Paper
- ☐ Crayons or colored pencils (optional)

### How to play:

- On a blank piece of paper, students write “Proportions are all around us” in the middle.
- On the rest of the paper, students should list real-world examples of fractions, decimals, and percentages. (Such as cutting a cake.)
- To take this a step further, this could be a creative art project done on a poster and students can illustrate each example.

## M&M math

### You will need:

- ☐ Paper
- ☐ Pencil
- ☐ Multi-colored M&Ms (at least 20 per student)

### How to play:

- Provide each student with a pile of multi-colored M&Ms
- Students count the total as well as each color of their set of M&Ms
- Then, students create fractions, decimals, and percentages that represent their group of M&Ms.
- This activity can be extended by asking students to graph their data.

## Mystery number: inequalities

### You will need:

- Paper, dry erase or chalkboard

### How to play:

- One student or group starts by thinking of a mystery number. On their paper or on the board, they will write " $x = ?$ " to represent their mystery number. (Before starting, there should be agreed-upon terms to the numbers that can be chosen as the mystery number, such as numbers 1-100.)
- The rest of the class or group will try to figure out the mystery number by asking questions pertaining to inequalities, such as "is the mystery number greater than or equal to 78?" If the answer is yes, the student would write " $x > 78$ " on their paper or on the board. If no, they move on to the next question.
- The round continues until someone has correctly determined the mystery number. Then, another student or group chooses a mystery number and begins another round.

## Make 24

### You will need:

- 2 or more players
- A pack of cards – number cards only
- (Variation: number cards = face value, A=1, J=11, Q=12, K=13)

### How to play:

- Shuffle the pack of cards and lay them face down on the table.
- Each player picks a card and turns it face up on the table until there are 4 cards displayed per player.
- The aim of the game is to make '24' using only the cards on the table and any of the 4 operations.
- For example, if they have a 6, 10, 2, and 6, the solution could be very simple, such as basic addition:  
 $6 + 10 + 2 + 6 = 24$
- To incorporate the order of operations, however, students can create more complex operations involving parentheses. For example, they may have 9, 5, 6, and 9 and solve it by creating the equation  $5 - (9 \div 9) \times 6 = 24$ .
- Teachers may add rules or variations to the game to encourage more complex equations being created, such as
  - 2 or more operations must be used (or 3, or all 4),
  - must use at least one set of parentheses,
  - each player must create 2 different equations, etc.
- If no players are able to reach 24, the player who is the closest wins.

## Do you have a group of students who need a boost in math?

Each student could receive personalized lessons every week from our specialist one-on-one math tutors.




- ✓ Differentiated instruction for each student
- ✓ Aligned to your state's standards
- ✓ Scaffolded learning to close gaps

“We just had our first session and it went great! The kids really liked it and felt like they were learning! One even said he finally felt like math was making sense.”



Michelle Craig, Instructional Coach,  
Sherwood Forest Elementary, Washington

## Speak to us

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