

## Sudoku- Maths Puzzle

### The benefits of Sudoku

Sudoku is a game of logic, problem solving and spotting patterns – it's a true “brain game” that helps stimulate people’s cognitive abilities and gives the satisfaction of accomplishing a difficult puzzle. Memory and logic work side-by-side when you are playing Sudoku. We use our memory to memorize the numbers, when we use our logic to figure out the next blank. It keeps you practicing your logical thinking process when you are solving a puzzle, and eventually improve your number skills. Sudoku gives you a sense of accomplishment when you can solve a puzzle, especially the puzzle is a difficult one.

How do you play Soduko?

- Sudoku is played on a grid of 9 x 9 spaces.
- Within the rows and columns are 9 “squares” (made up of 3 x 3 spaces).
- Each row, column and square (9 spaces each) needs to be filled out with the numbers 1-9, without repeating any numbers within the row, column or square.
- As you can see from the image below of an actual Sudoku grid, each Sudoku grid comes with a few spaces already filled in; the more spaces filled in, the easier the game – the more difficult Sudoku puzzles have very few spaces that are already filled in.

	7	2			4	9		
3		4		8	9	1		
8	1	9			6	2	5	4
7		1					9	5
9					2		7	
			8		7		1	2
4		5			1	6	2	
2	3	7				5		1
				2	5	7		

As you can see, in the upper left square (circled in blue), this square already has 7 out of the 9 spaces filled in.

The only numbers missing from the square are 5 and 6.

By seeing which numbers are missing from each square, row, or column, we can use process of elimination to decide which numbers need to go in each blank space.

Beginner puzzles:

These puzzles have the highest number being 4, in a grid 4 x 4

	1		
3			1
4			2
		4	

	1	2	
2			
			3
	3	4	

	1		3
		2	
	4		
1		3	



Intermediate puzzles:

5			4	6	7	3		9
9		3	8	1		4	2	7
1	7	4	2		3			
2	3	1	9	7	6	8	5	4
8	5	7	1	2	4		9	
4	9	6	3		8	1	7	2
				8	9	2	6	
7	8	2	6	4	1			5
	1					7		8

8		7			4			9
1		9	8		2	3		7
	3	5			7	4		6
6		4	7	8		9	3	
9		3			1		7	
7	8				3	1	4	
	7	1	4		9	8		3
4	2		3	7	6		9	1
3	9		1		8	7		4

5		1		9	6		3	8
9		8	7	5			6	
	3		8		1		9	5
3	7			8			5	
	8	5	6	1				3
	6		3		5		8	
	5	3	1	6		8		9
6	1			3	8	5		2
8	9		5	7			1	6



## Mastering

	5			3		9	7	
		8		1	2		5	3
3		9			7	2		1
		6		9			1	
	2			7		3		
	1	3	5				9	2
1		5	3		9	7		
	3				1	5		
	9			2	5		3	

5		2		9			7	
	6	4	7				5	
9	7				5		6	
	8	9	3					7
	5			4	7	6		
	4		5			9		
4				5		7		
6					9			5
		5	2				9	4

3			7	9				4
	8			3	1		5	
9		6		4				3
1	6				3		4	
		7			6		3	9
		3	4			7		1
	5	4	3			1		
	9		1			3		
6				5		7		