

Magic Grid Puzzles

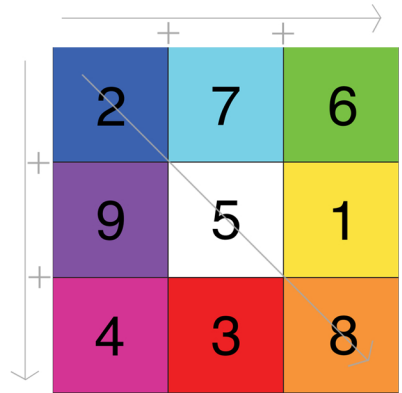
Artist James Ackerley has three sculptures called *Studio Objects* in the Portable Sculpture Exhibition. He uses numbers to make patterns and grids to use in his sculptures.

James has made this activity so you can explore 'magic grids', which use maths to make patterns.

This is a Magic Grid. It's magic because the numbers in each line (up/down, across and diagonally) all add up to the same number.

Can you find the magic number by adding up the numbers in each line?

The magic number is: _____



Solve the puzzle on the back

Each number in the grid has a colour. The puzzle on the other side uses these colours and numbers to make a pattern. Can you follow the instructions and find the patterns?

Instructions

1. Add up the numbers on each row (down, across and diagonally). Use a pencil to write the number in the empty boxes at the start and end of each row.
2. Where the answer is a double figure (above 9), drop the first number (so 14 becomes 4). Go through your answers and change the numbers.
3. Using the Magic Grid as a key, find the right colour for your numbers and use crayons or pens to colour in your grid. You should find a pattern.
4. Now use the blank grid to make your own puzzle, then solve it to find the pattern.

Examples

				14
Step 1:	5	7	8	
	7	4	7	
	5	7	5	
	14	17	18	17
Step 2:	17	5	7	5
	18	7	4	7
	17	5	7	5
	14	17	18	17
	14	17	18	17
Step 3:	17	5	7	5
	18	7	4	7
	17	5	7	5
	14	17	18	17

2	7	6
9	5	1
4	3	8

Follow the instructions on the other side to solve the puzzle, add colours and find the pattern.

Use the grid above to find the right colours. Use grey or black for 0.

	1	7	1	
	4	2	4	
	1	7	1	

	B	A	B	
	A	C	A	
	B	A	B	

Now make your own pattern.

Choose a number between 1-9. Write it in the boxes marked A.

Choose another and write it in the boxes marked B.

Choose a third number and write it in the C box.

Use the instructions again to solve your own puzzle and find the pattern.

Make more grids at home! Use grid paper or draw your own to make more, or bigger patterns using these instructions. Share your grids with us on social media: