MAGIC SQUARES

8	1	6
3	5	7
4	9	2

In a magic square, all the numbers are different whole numbers, and all the rows, all the columns and the two diagonals to add up to the same number called the magic sum.

In this 3 × 3 magic square, the magic sum is 15. Add up each row, column and diagonal to check it equals 15.

Q1. Can you make a 3 × 3 magic square with a magic sum of 18?

Q2. How about 20?

Q3. Can you make a 1 × 1 magic square with a sum of 20?

Q4. Find some other 3 × 3 magic squares with a magic sum of 15. How many can you find ?

This is a 5 × 5 magic square.

17	24	1	8	15
23	5	7	14	16
4	6	13	20	22
10	12	19	21	3
11	18	25	2	9

Q5. Look at how the numbers 1, 2, 3 etc. are placed sequentially in these squares and use what you see to create a 7 × 7 magic square.

Q6. Then make the biggest magic square you can.

Q7. Can you make a magic oblong (a rectangle that isn't a square), e.g. 3 × 5?

Q8. Magic squares with even dimensions, e.g. 2 × 2 or 4 × 4 are constructed differently. See if you can construct a 2 × 2 and a 4 × 4.