



Secondary  
Subject specific

# Magic number square

Age: 12-15

Subject: Maths

Topic: Numbers and  
problem solving



Learning  
through  
Landscapes

## ● Previous learning required

- Confident addition of single digit numbers and number bonds.

## ● Learning outcomes

- To use different methods to solve a problem.
- To practise addition and number fluency.

## ● Equipment

- Chalk or sticks to create the grid
- Small natural materials, e.g. pebbles, shells, seeds, conkers, pine cones, etc.

## ● Activity

1. Working in small groups, ask your pupils to draw or create a 3x3 grid using chalk or sticks.
2. Ask your pupils to create a magic number square in which each row and column adds up to 15. They must use the values 1-9, but they can only use each value once.
3. Ask your pupils to tell you how many natural items they will need in total to create their grid. Answer = 45 (15 x 3 columns or 1+2+3+4+5+6+7+8+9).
4. Using trial and error, ask your pupils to arrange the items in the grid to complete the challenge.

## ● Check for understanding

1. Challenge pupils to create a magic number square in a 4x4 grid, using numbers 1-16. Tell them that the magic number is 34, so all columns and rows must add up to 34.
2. There are multiple solutions to a 4x4 grid, but here is an example:

7	12	1	14
2	13	8	11
16	3	10	5
9	6	15	4

If you would like to develop your outdoor learning knowledge and skills, take a look at our range of training courses: [ltl.org.uk/outdoor-learning-training](https://ltl.org.uk/outdoor-learning-training)