

Activity 4.4 Magic Squares

Objective: To practice addition and puzzle solving.

Materials: Paper, pencil.

Group size: 3 to 4.

Look at the square grid of numbers shown below. See if you can find anything unusual about the numbers in the square.

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

This square is called a magic square because the numbers in each row, in each column, and in each diagonal all sum to the same thing, called the magic number. In this case the magic number is 34. The artist Albrecht Dürer (1471 - 1528) is credited with being the first European to publish a magic square, by including the square shown above in his copper engraving, "Melancholia I". See if you can find the year the piece was completed, hidden somewhere in the magic square.

1. The magic square below is composed of the digits 1 through 9 (exactly once each) but some have been left out. Fill in the missing numbers in the correct places.

8		6
	5	
4		2

2. The numbers 1, 3, 7, 8, 9, 10, 14, and 15 have been removed from the magic square below. Put them back in the correct locations.

	14		4
11		6	
	10		5
13	2		

3. The numbers 6, 10, 11, 12, 13, 14, 15, and 16 have been removed from the magic square below. Put them back in the correct locations.

9		3	
4			5
	1	8	
7			2