Teacher Page

The text and image for this task are found on the next page. The source of this problem is The Nrich Maths Project. If you send students to the page on their site, they will also see the solutions and teacher resources. Just to be safe, I've copied and pasted the text here.

MAKE A COPY OF THIS DOCUMENT (under FILE, find MAKE A COPY) and THEN DELETE THIS TEACHER PAGE from your copy. Your document link will then be ready to share with students.

HOW TO SHARE WITH STUDENTS: Click on SHARE and "Get shareable link." Students will be able to view the problem.

HELPFUL LINKS:

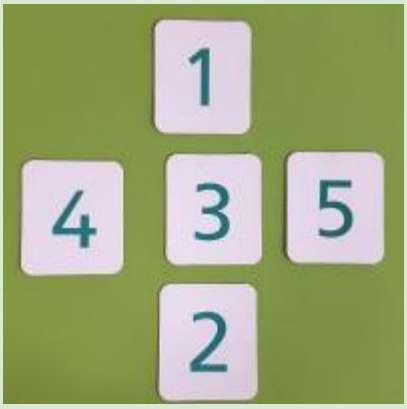
HINTS FOR STUDENTS

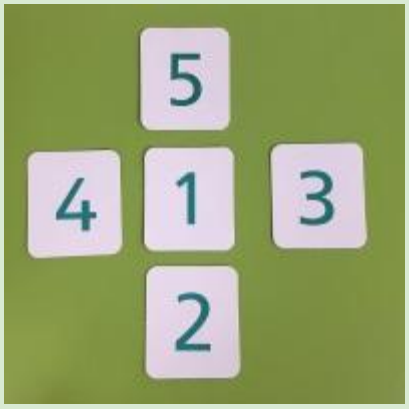
TEACHER RESOURCES

SOLUTION

Magic Crosses

Here are pictures of two crosses:





What do you notice about the two crosses?
What is the same?
What is different?

Both crosses use the digits 1, 2, 3, 4, and 5.

The left cross has a horizontal total of 12 and a vertical total of 6.
The right cross has a horizontal total of 8 and a vertical total of 8.

We call the cross on the right *a magic cross*, because its horizontal total is equal to its vertical total.

Can you find any more magic crosses using the digits 1, 2, 3, 4 and 5?
Can you find all the possibilities?
Can you convince yourself you have found them all?

Here are some questions you might like to consider:

Are there any magic crosses that use the numbers 2, 3, 4, 5, 6?
OR 3, 4, 5, 6, 7?
OR 98, 99, 100, 101, 102?

How many magic crosses can you find with the number 50 in the middle?

What if the numbers went up in 2s instead?
OR 3s?
OR 10s, or 20s, or 100s?

Perhaps you have some questions of your own that you would like to explore too!