Mathematics

Number and Algebra

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Order, Order!

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Aim

- I can order and compare numbers to 1 000 000.

Success Criteria

- I can determine the value of each digit in a number.
- I can use a place value grid to compare numbers.
- I can put numbers in a given order.

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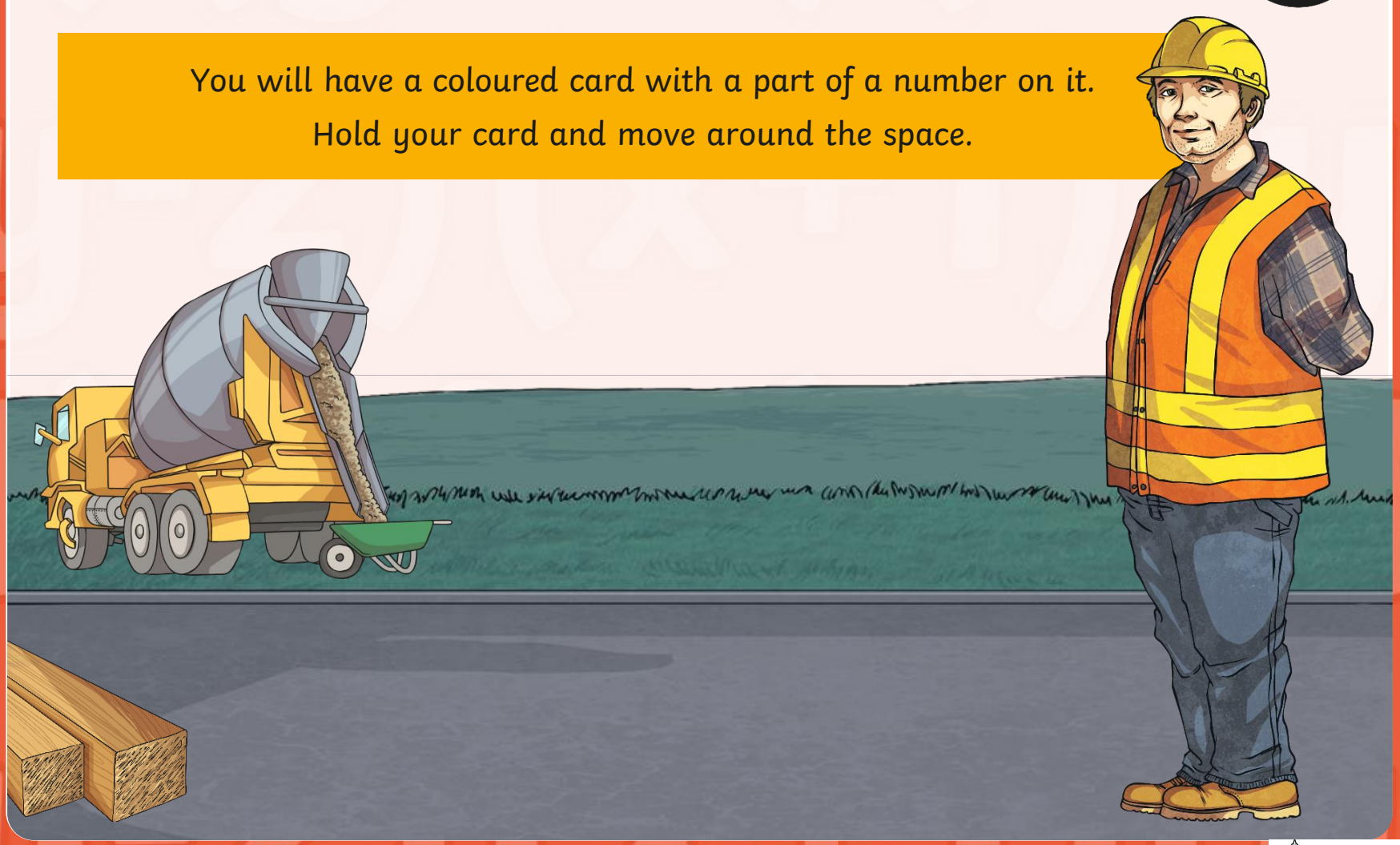
Build a Number

You will have a coloured card with a part of a number on it.
Hold your card and move around the space.



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Build a Number

When I blow the whistle, get into a group of 6.

Each person in your group should have a different coloured card.

If it is not possible to get into a group of 6, just make sure everyone in your group has a different coloured card.

Look at the parts of numbers on your cards.

What number can you build from the different parts?

I will choose a winner based on different criteria each time.

It might be the highest number, the lowest number or the number closest to 500 000.

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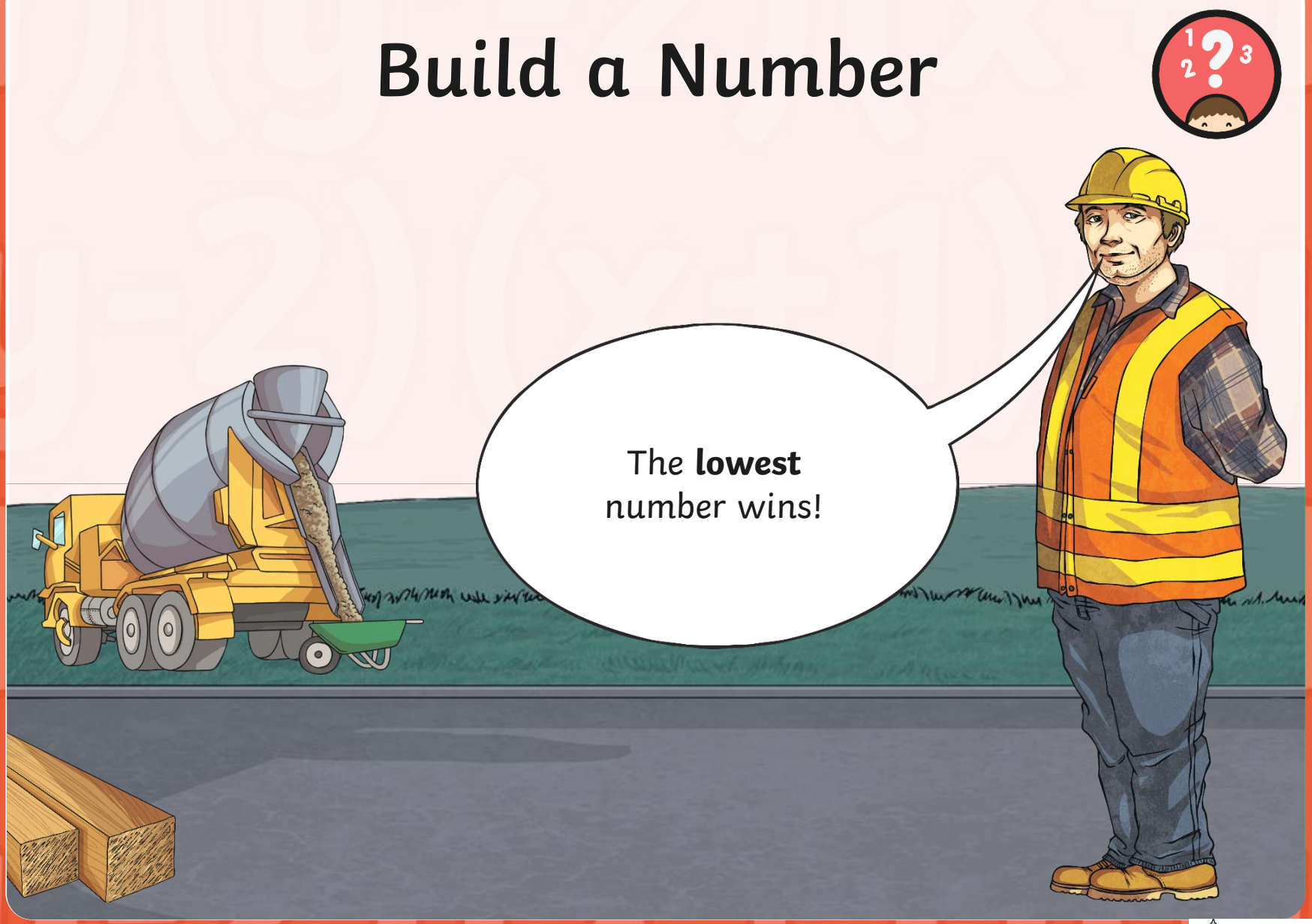
Build a Number



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Build a Number

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Ordering Numbers

When ordering numbers, we need to compare the value of the digits in each place. We can do this using a place value grid to help us.

Look at this table. It shows the takings at an amusement park over a week.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
$12 875	$10 423	$12 785	$9 758	$13 853	$19 758	$21 758

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Ordering Numbers

Entering the amounts into a place value grid helps to compare the value of the digits.

Day	Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
Monday			1	2	8	7	5
Tuesday			1	0	4	2	3
Wednesday			1	2	7	8	5
Thursday				9	7	5	8
Friday			1	3	8	5	3
Saturday			1	9	7	5	8
Sunday			2	1	7	5	8

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Ordering Numbers

Monday and Wednesday both have 2s in the thousands column, so we look at their hundreds digits. Monday has an 8, so this is the next biggest number in the set, while Wednesday has a 7 in the hundreds column, making it the next number in the set.

Day	Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
Monday			1	2	8	7	5
Tuesday			1	0	4	2	3
Wednesday			1	2	7	8	5
Thursday				9	7	5	8
Friday			1	3	8	5	3
Saturday			1	9	7	5	8
Sunday			2	1	7	5	8

Tuesday had a 0 in the ten thousands column, so this number comes next.

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Ordering Numbers

Here are the numbers in order:

Day	Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
Sunday			2	1	7	5	8
Saturday			1	9	7	5	8
Friday			1	3	8	5	3
Monday			1	2	8	7	5
Wednesday			1	2	7	8	5
Tuesday			1	0	4	2	3
Thursday				9	7	5	8

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Explain Yourself

Look at this set of numbers:

3 576 283 **3 756 382** **3 567 382** **3 765 283**

If you put them in order from highest to lowest, which number would be third?

Explain your choice to a partner, and explain how you ordered the numbers.

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Explain Yourself

3 **5**76 283 **3 756 382** 3 **5**67 382 **3 765 283**

To order the numbers, compare the digits. All the numbers have 3 millions, so we need to compare the digits in the hundred thousands place.

We can see that 2 of the numbers have 5s in the hundred thousands place, and 2 of the numbers have 7s in the hundred thousands place.

We know that the numbers with 7s in the hundred thousands place are higher than the numbers with 5s, so we then move on to compare the digits in the ten thousands place.

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Explain Yourself

3 576 283 **3 756 382** 3 567 382 **3 765 283**

Looking at the 2 highlighted numbers, we can see that one has a 5 in the ten thousands place, whereas the other number has a 6 in the ten thousands place.

This means that 3 765 283 is bigger than 3 756 382.
So we can put these two numbers in order.

3 765 283, 3 756 382

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Explain Yourself

3 5**7**6 283 3 5**6**7 382

We now just need to compare the ten thousands digits in the remaining two numbers.

We can see that the first number has a 7 in the ten thousands place, whereas the second number has a 6 in the ten thousands place.

This means that 3 576 283 is bigger than 3 567 382.
We can order these numbers now.

3 765 283, 3 756 382, 3 576 283, 3 567 382.

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Explain Yourself

3 765 283, 3 756 382, **3 576 283**, 3 567 382.

This means that 3 576 283 would appear third in this list!

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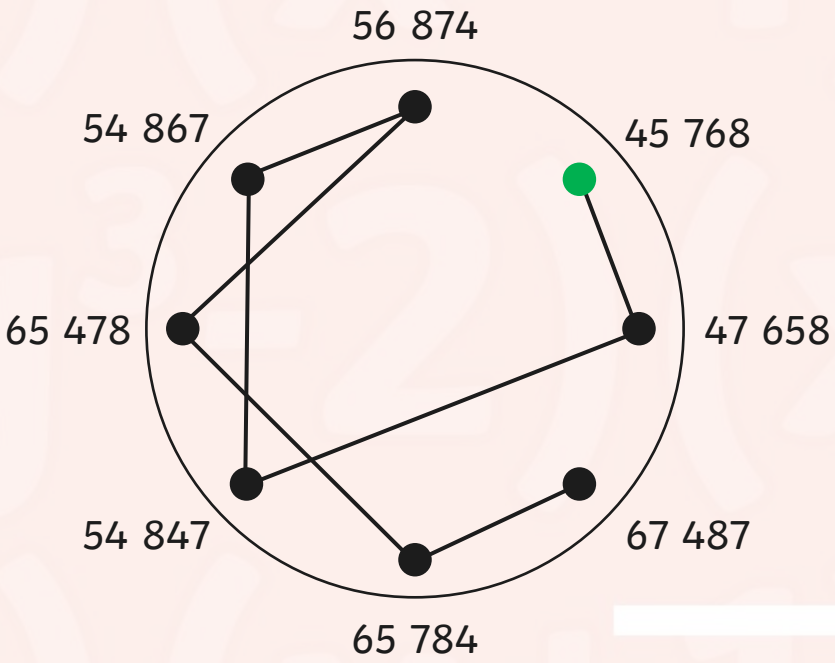
Connect the Dots

Whole Class

Can you order these numbers smallest to largest by connecting the dots?
Start at the green dot.



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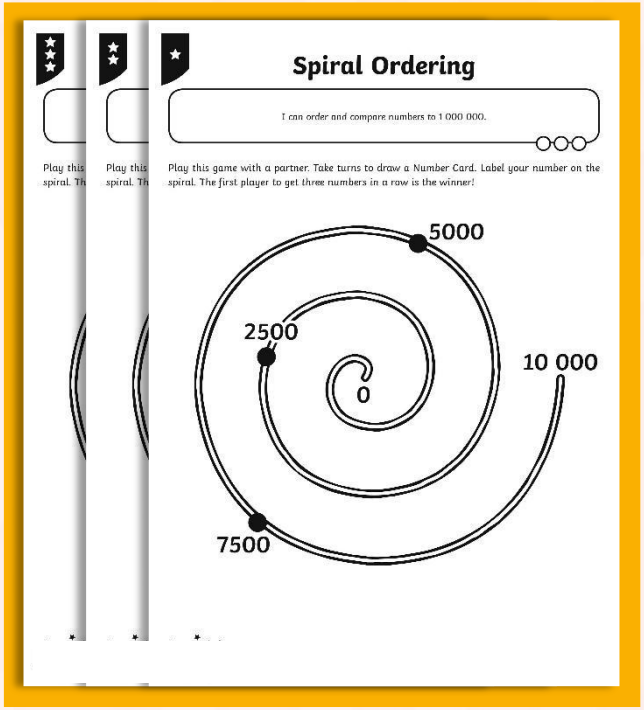
Spiral Ordering

Play this game in pairs.

On your **Spiral Ordering Activity Sheet** you will see a spiral numbered from zero.

Take turns to draw a Number Card. Label your number on the spiral. The first person to get 3 numbers in a row, with none of their partner's numbers between them, is the winner.

When you order your numbers, it is helpful to think about where the halfway point of the spiral is, and which number would be there. You could also work out the numbers that would be one quarter and three quarters along the spiral.



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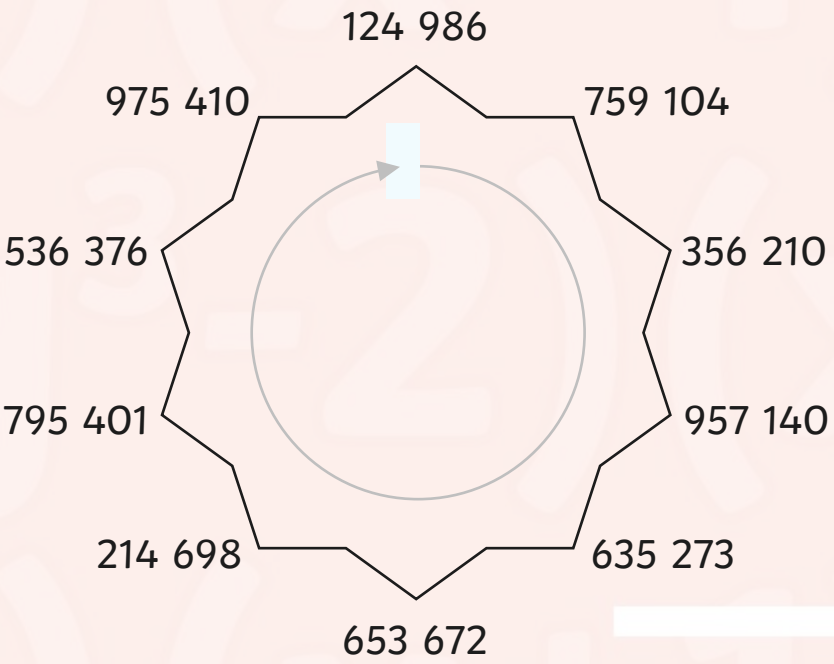
Star Swap

The numbers on the points of this star are in order from lowest to highest. However, two opposite pairs of numbers have been swapped. Can you work out which opposite pairs need to be swapped to get the numbers in order?



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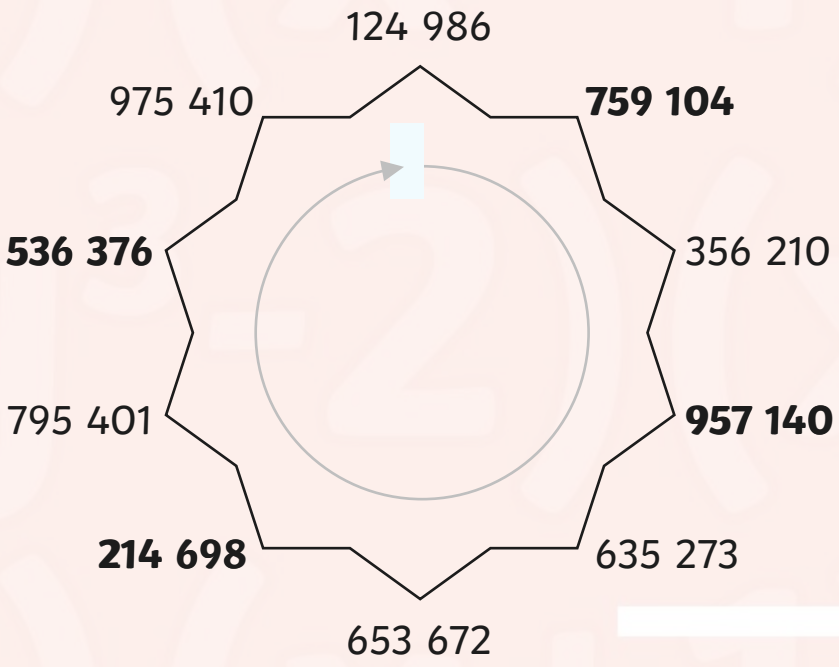
Star Swap

Did you work out which pairs of numbers had been swapped?



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