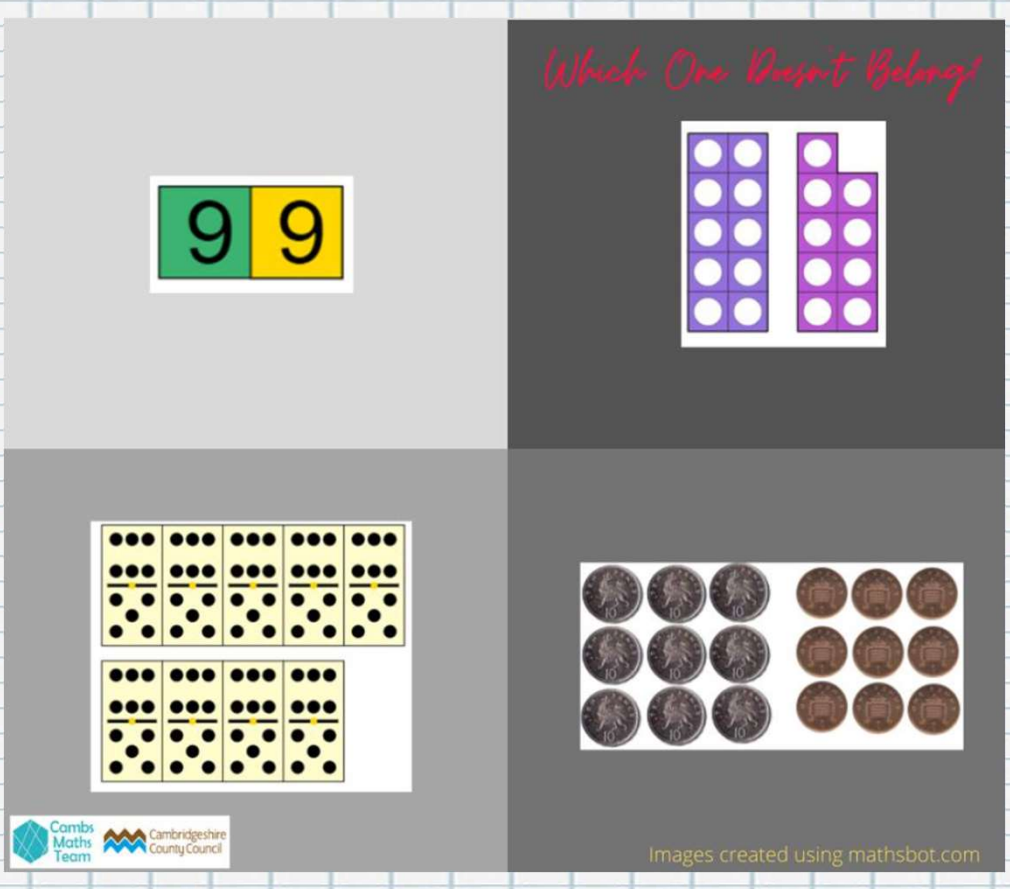
Monday 17th January 2022

Which One Doesn't Belong?

Monday - Which One Doesn't Belong?



Which One Doesn't Belong?

This week's WODB challenge focusses on representations of numbers. This task can be used to inspire conversations about quantity, comparison and/or representation of place value.

Tuesday 18th January 2022

Maths Eyes

Tuesday - Maths Eyes

Maths Eyes

Cambs Maths Team

- Maths Eyes activities are designed to help make connections and 'see' where maths is in the world around us.
- Images and real-life experiences seen through 'Maths Eyes' promote engagement, enthusiasm and creativity, as well as building confidence, in maths.
- Using mathematical language to describe what can be seen, and speculate about what cannot, broadens reasoning skills and logical thinking.
- Cross curricular links can be made and progression in learning can be evident by comparing the responses of learners at different ages and stages.
- Prompts and suggestions can be provided or adapted, if required, depending on the intended topic focus or experience that the learner has.
- Sharing ideas and collaborative discussions can generate an even greater range of responses after individual reflections.

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Tuesday - Maths Eyes

Maths Eyes

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How many whole crayons can you see? How many different coloured crayons have been used? How many whole crayons do you think were used to make this arrangement? If you made an arrangement with the missing parts, what might it look like? What else do you wonder?

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Wednesday 19th January 2022

Maths Challenge!
(pick your level)

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Weekly Maths Challenges Years 1 & 2

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Challenge

Weekly Maths Challenge

Mix and Match

Try and make different outfits by mixing the shirts, shorts and shoes.

You could have a blue shirt, with red shorts and yellow trainers.

How many different outfits can you make?

YEAR OF PROBLEM SOLVING

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Weekly Maths Challenge

Mix and Match

Try and make different outfits by mixing the shirts, shorts and shoes.

You could have a blue shirt, with red shorts and yellow trainers.

How many different outfits can you make?

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Challenge Prompts

This is a combinations challenge. Children are encouraged to create as many different outfits as they can using blue, red and yellow clothes.

The following questions and prompts might help when you introduce this challenge:

- Do you know what the question is asking you to do?
- How can you record the different outfits that you make?
- Can you make an outfit that uses all three colours? How many three-colour outfits can you make?
- Can you make outfits that use just two of the colours?
- How many two-colour outfits can you make?
- It can be made easier by using pictures of each item and swapping them over

Solution

Weekly Maths Challenge

Mix and Match

Here are some example solutions. How many outfits did you make?

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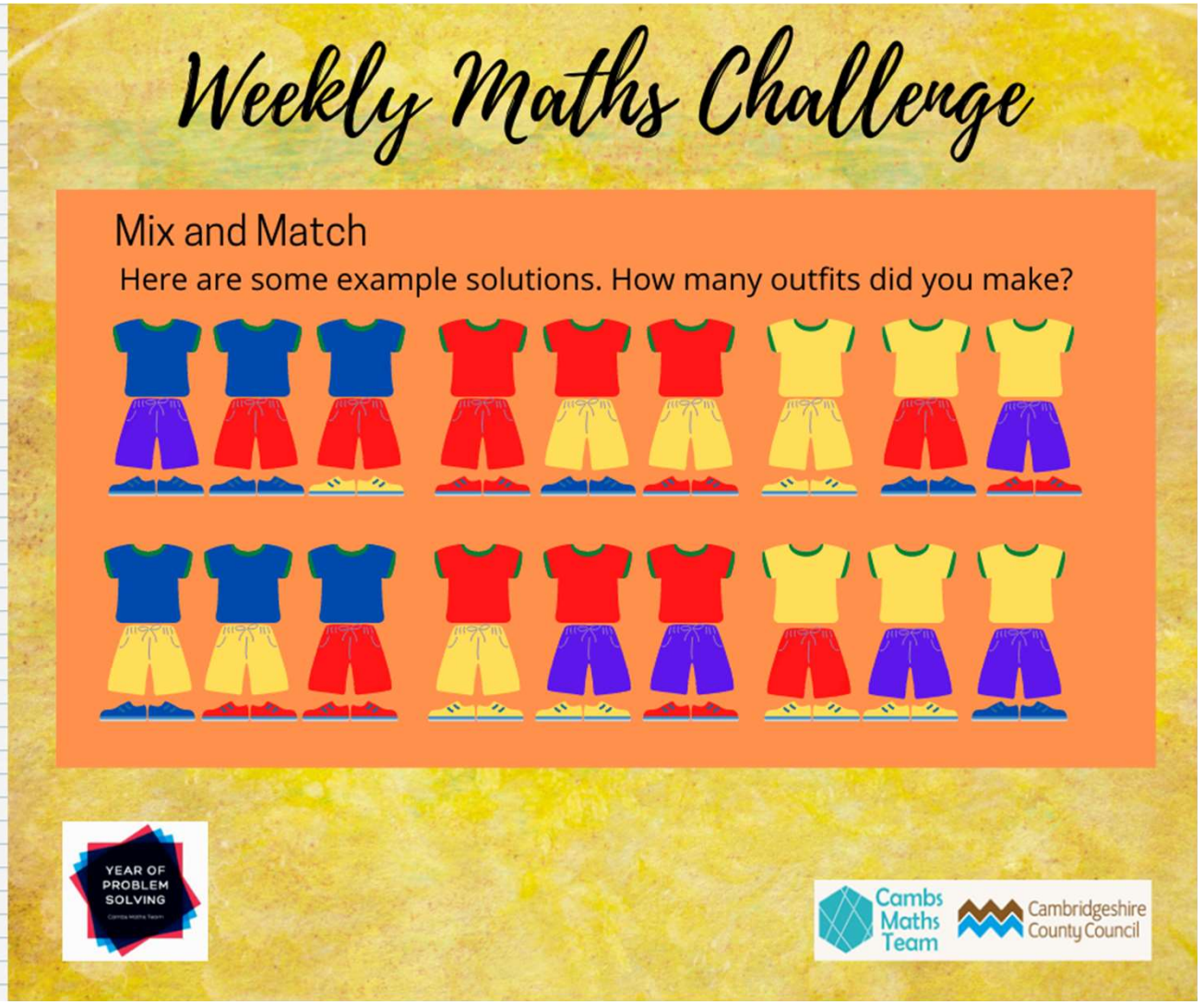
Solution Prompts

Here are some solutions to the 'Mix and Match' challenge.
You can also record your results/tries in a table with columns for shirts, shorts and trainers.

It can also be adapted, by adding rules or limitations on the combinations, e.g. The shirt and shorts can't be the same colour.

- How did your pupils get on?
- Did they work systematically?
- Did they find solutions that are not shown here?

Here's a prompt for you to discuss with your pupils.
It is actually possible to have 27 different solutions. I wonder if you can tell which outfits are missing from this picture?



Weekly Maths Challenges Years 3 & 4

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Challenge

Weekly Maths Challenge

Use each of the digits 1 to 5 once.
Replace each letter by one of the digits.
Make the total in each frame the same value.

Use each of the digits 1 to 7 once.
Replace each letter by one of the digits.
Make the total in each frame the same value.

Use each of the digits 1 to 9 once.
Replace each letter by one of the digits.
Make the total in each frame the same value.

YEAR OF PROBLEM SOLVING

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Weekly Maths Challenge

Use each of the digits 1 to 5 once.
Replace each letter by one of the digits.
Make the total in each frame the same value.

Use each of the digits 1 to 7 once.
Replace each letter by one of the digits.
Make the total in each frame the same value.

Use each of the digits 1 to 9 once.
Replace each letter by one of the digits.
Make the total in each frame the same value.

YEAR OF PROBLEM SOLVING

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Challenge Prompts

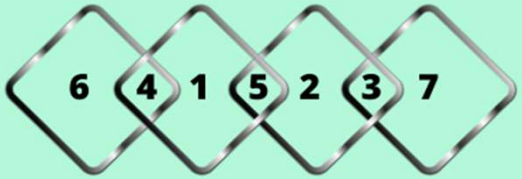
The following questions and prompts might help when you introduce this challenge to your pupils:

- Do you understand the problem? Which position (letter/digit) will you start with?
- Do you have to place the digits in the order that they are given?
- Is there more than one combination or arrangement that will be correct?
- How will you record your solution?

Blank frames and digits might be helpful in getting started, trying out ideas or recording solutions - what else could be used?

Solution

Weekly Maths Challenge



Are these the only possible solutions?

What happens if you reverse the order of the digits?

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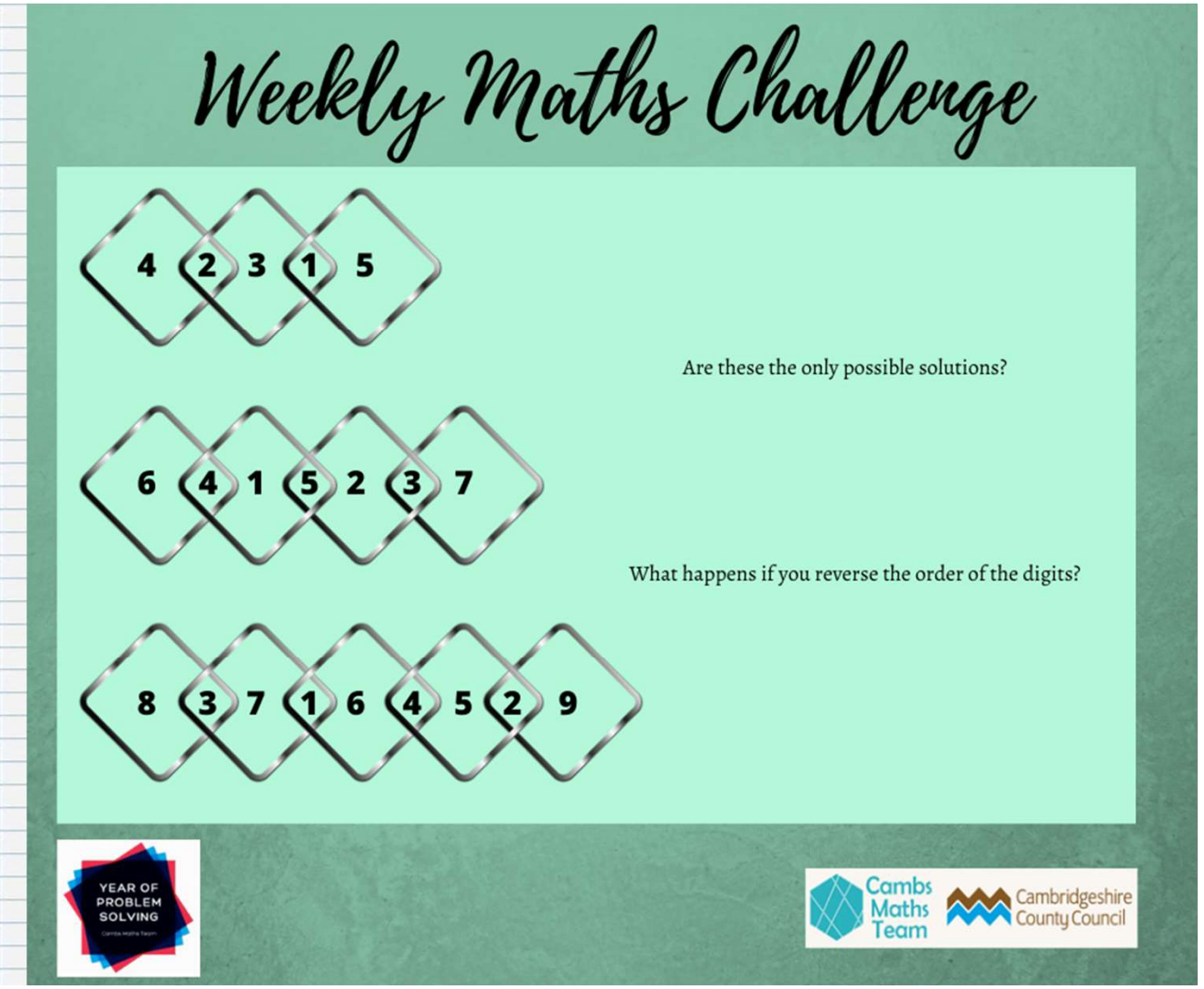
Solution Prompts

Here are some solutions to the weekly maths challenge.

- Did you find any others?
- How did you find and record your solution?
- Was it useful to have any resources or templates to help to try out ideas?
- Would it still be possible to solve if your consecutive numbers started at 2 and went to 10 instead of 1 to 9?



Weekly Maths Challenges Years 5 & 6

YEAR OF PROBLEM SOLVING

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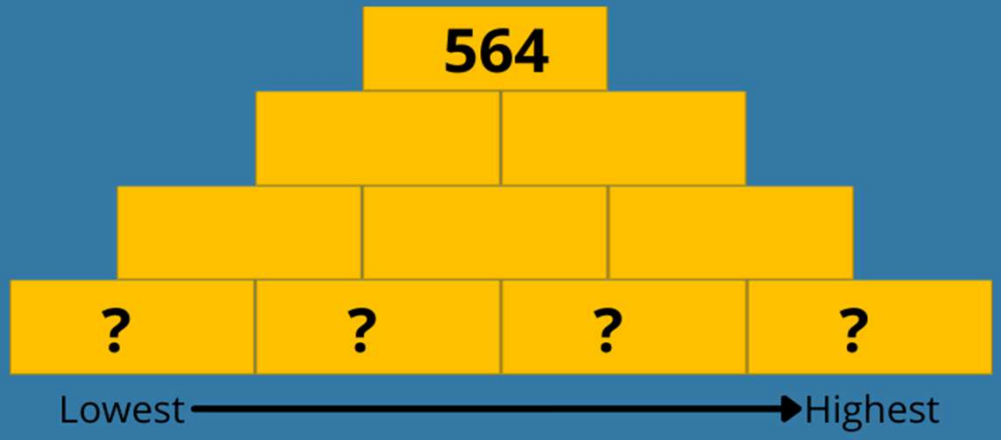
Challenge

Weekly Maths Challenge

Each number in the wall is made by adding the 2 below it. Which 4 consecutive two digit numbers were placed along the bottom of the wall?



YEAR OF PROBLEM SOLVING

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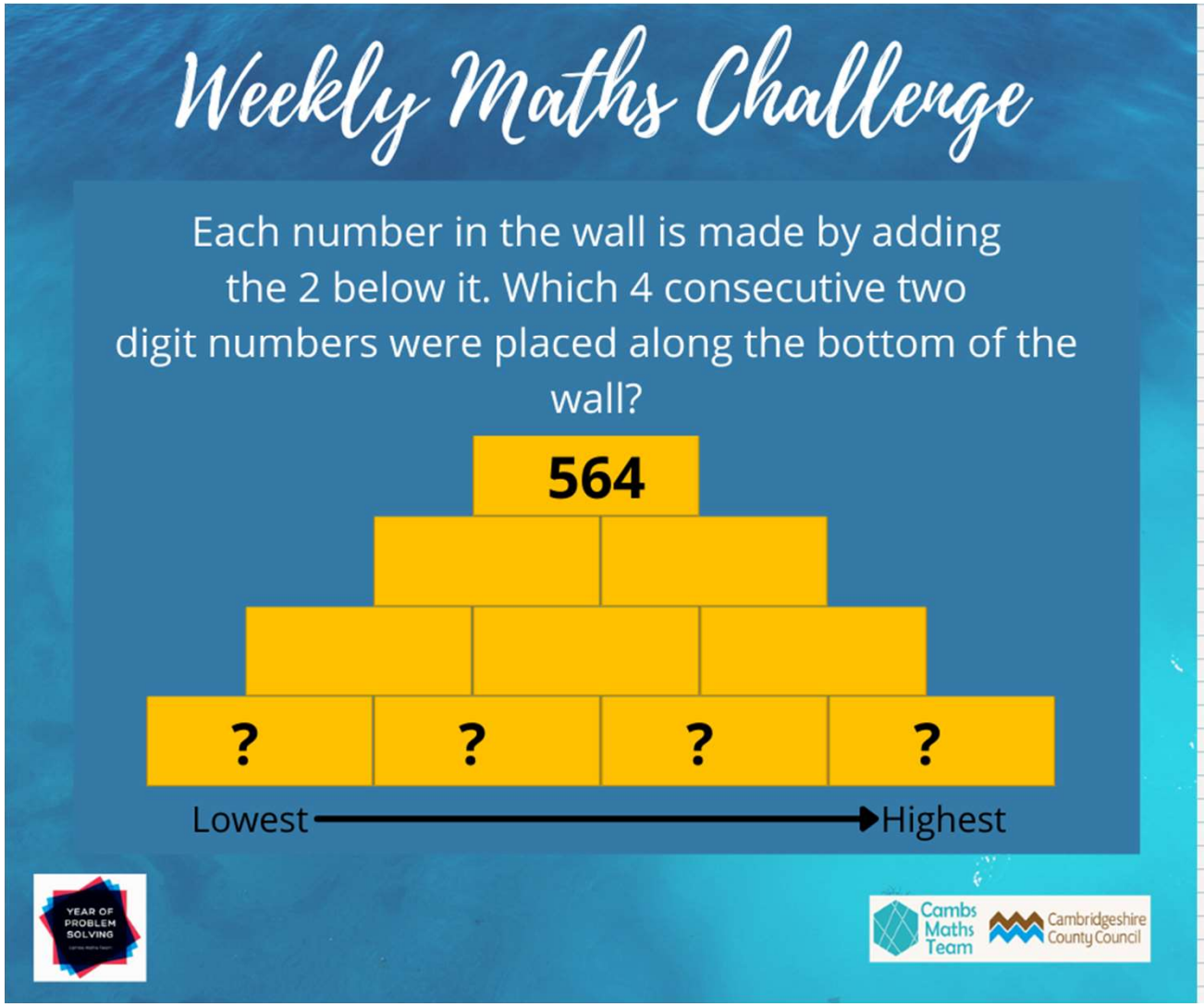


Challenge Prompts

This could be started with a modelled example using only 3 consecutive numbers along the bottom and only have 3 rows. It would be good to demonstrate trial and improvement strategies to the children e.g. I know that the numbers ..., … & … gave an answer above the number at the top so I know I can discount all of these options etc.

Here are some prompts / questions that you may want to share with your pupils:

- Who discovered the answer with the fewest number of attempts? What was good about their strategy?
- Which mental calculation strategies did you use to help you add the numbers together?

Extension

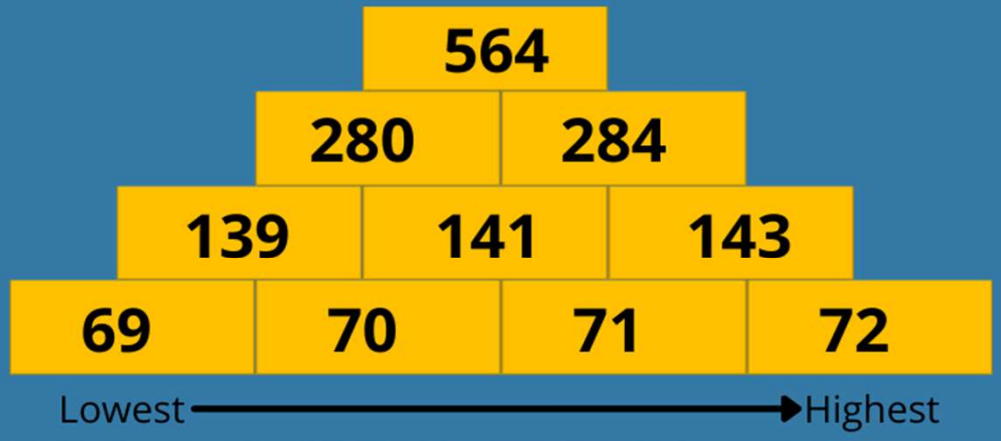
- Asif says “I think you will get the same number at the top if you reverse the position of the numbers along the bottom row.” Can you explain why he is right?
- Using the same 4 numbers, but this time arranging them in a different order along the bottom row, can you find the largest and smallest totals at the top of the wall?

Solution

Weekly Maths Challenge

Solution

Did you investigate what happened if you re-arranged the consecutive numbers? How many different totals did you come up with?



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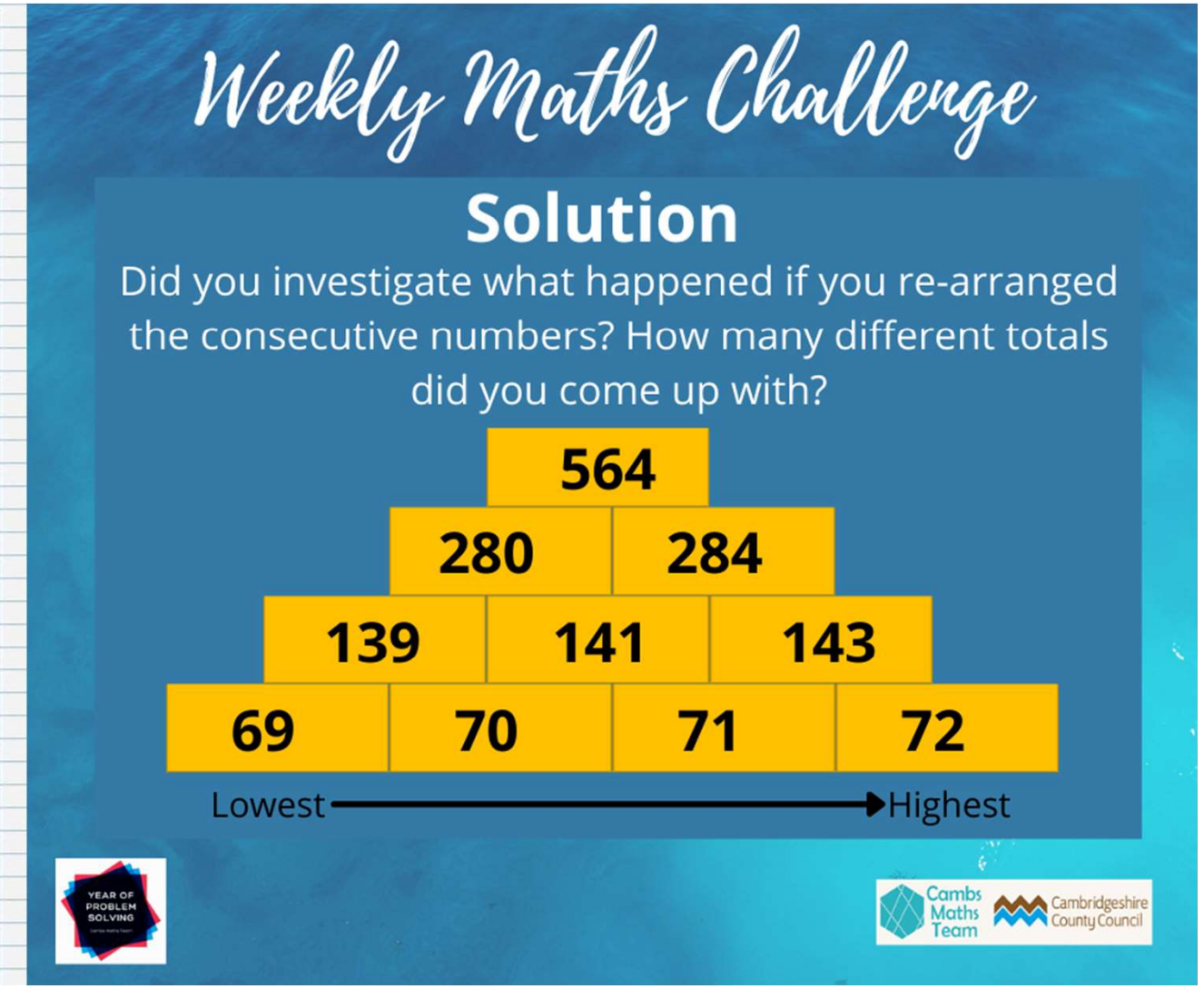
Solution Prompts

Here you will find the solution to the Y5/6 challenge.

Here are some prompts / questions you may want to share with your pupils:

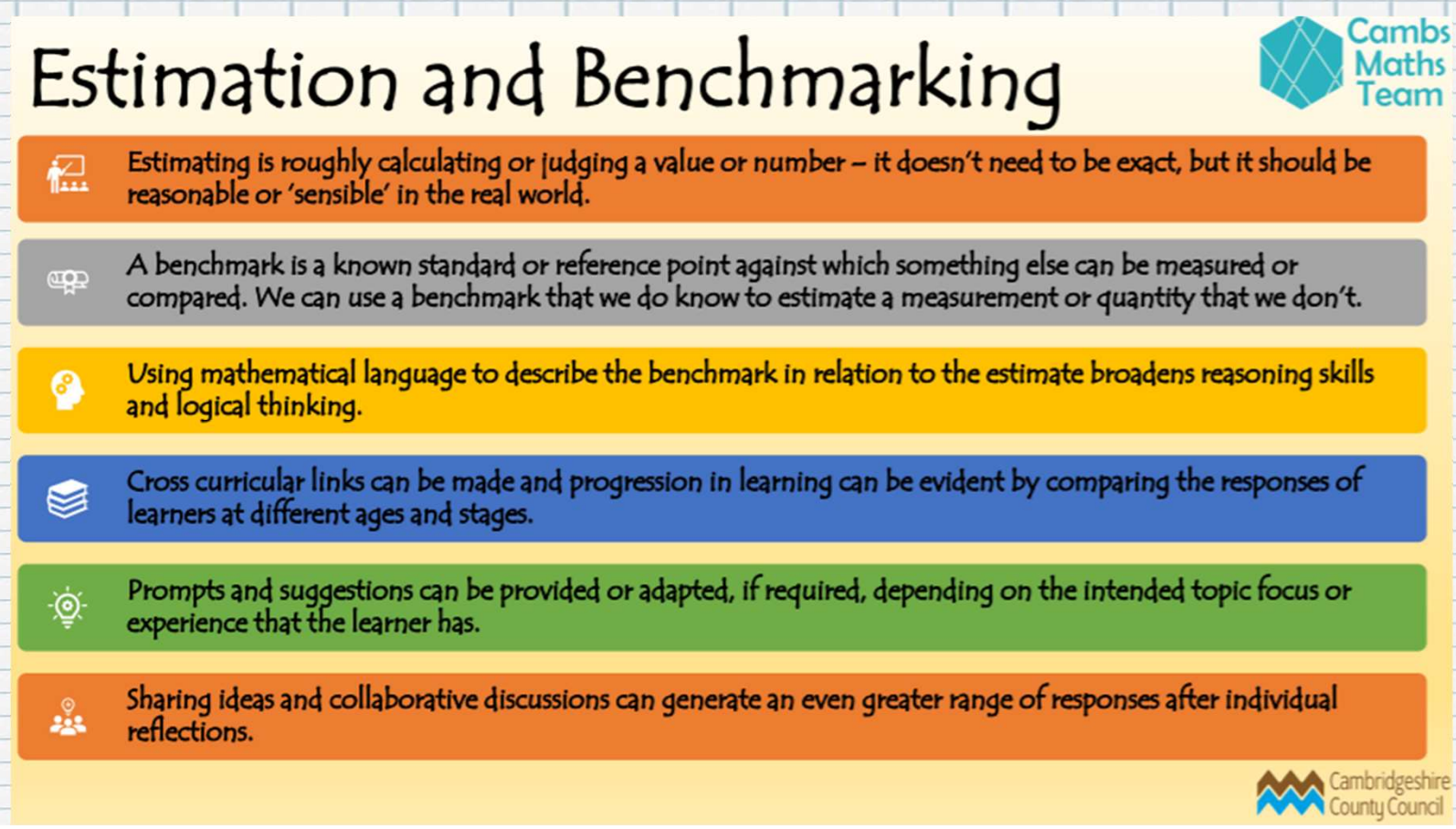
- Can you spot any patterns between the answers in each row of the problem?
- What do you think would happen to those patterns if there were 5 consecutive numbers along the base of the wall? Check your prediction.
- Asif says, “With 4 consecutive numbers along the base of the wall the number at the top will always be even.” Do you agree with Asif?



Thursday 20th January 2022

Estimation and Benchmarking

Thursday - Estimation and benchmarking



Thursday - reasoning prompts

Encouraging mathematical thinking and reasoning:

Describing
What do you notice?
How many can you see?
How do these pine cones compare with yesterday's beads?

Reasoning
How many do you think there are? Why do you think that?
Will it be more or less than 20? A lot more/less? Or a little more/less?
Will it be between 15 and 20? A little or a lot more than this? Or less than this?
How many can you see? How many do you think are hidden?
Was your guess more or less than the actual count?
Was your guess very close/way out? Why do you think that was?
Can you put the estimates in order on the board/washing line?
Were most people close or far out?

Thursday - Estimation and benchmarking

Cambs Maths Team

The world's smallest possum species has been found again on Australia's Kangaroo Island after the devastating bush fires of last summer.

These pygmy possums weigh just 7g each. How does this compare to a pet you might have?

How could you estimate the length of the tail? What about the size of a foot? How does the human hand in the photograph help you?

What other estimations could you make?

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Friday 21st January 2022

Times Tables focus

- Which times tables award are you working towards?

Practise your skills on TTRockstars:

https://ttrockstars.com/

Some more games here:
http://www.maths-games.org/times-tables-games.html

Times table support here:
https://home.oxfordowl.co.uk/maths/primary-multiplication-division/help-with-times-tables/

Sutton School's Gem Certificates of Times Table Excellence

1		Sky Blue Topaz	doubling with equipment
2		Swiss Blue Topaz	doubling and halving with equipment
3		Pink Imperial Topaz	doubling without equipment
4		Reddish-pink Imperial Topaz	halving and 10 x
5		Mystic Topaz	doubling, halving and 10 x
6		Azotic Topaz	divide by 10
7		Black Opal	2 x, 5 x, 10 x multiplication and division facts
8		Emerald	2 x, 3 x, 4 x, 5 x, 10 x multiplication and division facts
9		Ruby	2 x, 5 x, 10 x, 3 x, 4 x, 6 x, 7 x, 8 x multiplication and division facts.
10		Sapphire	all multiplication and division facts to 12 x 12
11		Diamond	all multiplication and division facts to 12 x 12 and complete the grid in under five minutes
12		Blue Diamond	elite level in all areas of multiplication and division

STRIVE