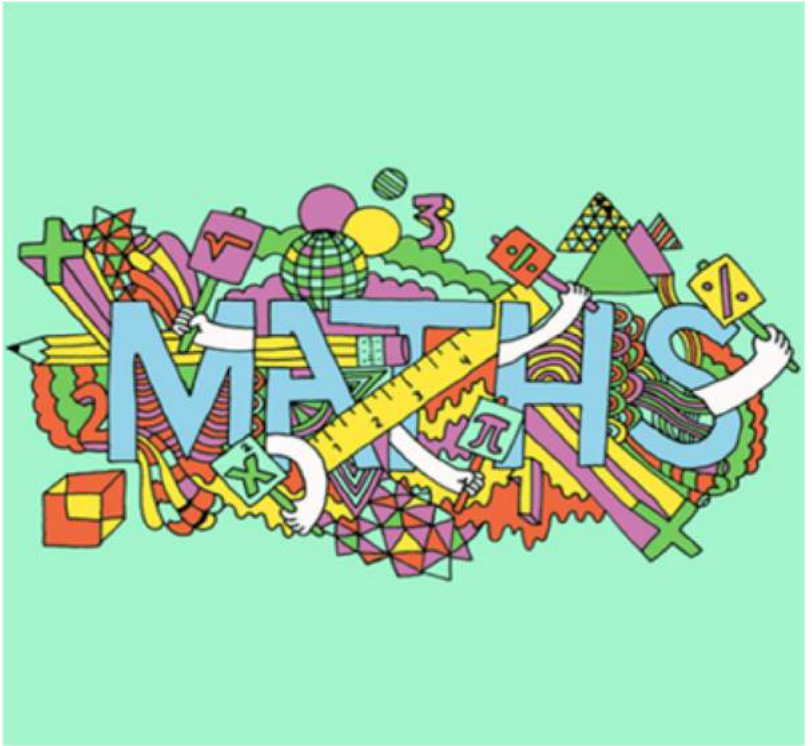
The PACE Academy Trust Family Maths Challenge 2021

CAN YOU ESCAPE THE MATHS ROOM?

The Maths Team at PACE Academy Trust proudly presents our Family Maths Challenge No.1, Spring 2021

We have set three challenges that can be accessed by all the family working together. The tasks aim to bring out the fun and creativity that can be found in maths, and we hope you enjoy having a go at them!



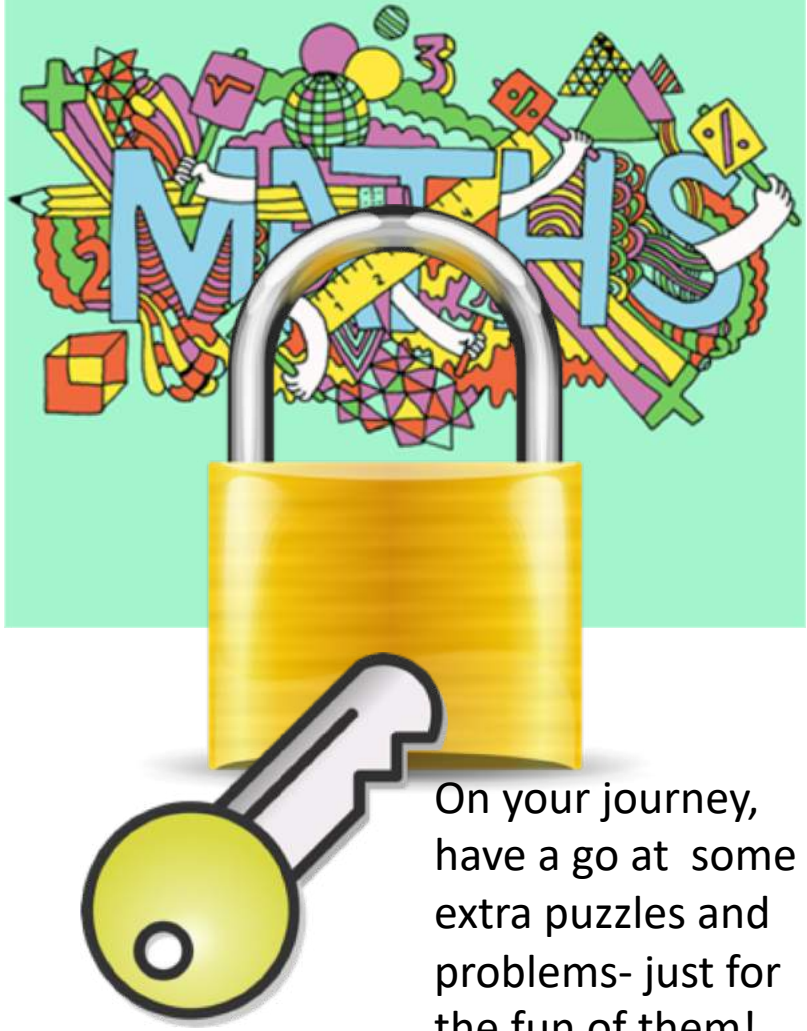
Are you ready for a challenge?

NEW VALLEY

Once you step into the challenges you will be caught in the maths room

Collect three keys to escape!

1. Number Ninja



On your journey, have a go at some extra puzzles and problems- just for the fun of them!

Challenge one is recorded online. For Challenges Two and Three, we would love for you to share your fun with us. This could be by emailing a photograph, drawing, write up or by presenting a poster that is a combination of these things.

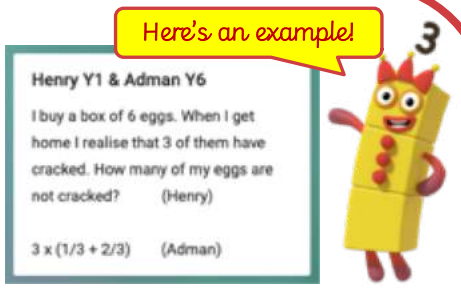
2. Problem Solver!

3. Data Hero

CHALLENGE 1

Number ninja

My answer is 3, what could my question be?



Click Me!

Click this link to access the New Valley Padlet. In the 'title' section, write your first name and year group. Don't forget to write your siblings' names if you are working with them! Write your answers in the 'write something' section. You can write more than one in the same box!

You could write number sentences or word problems. If you are higher up the school, challenge yourself to use multi-step problems, order of operations, fractions, decimals or percentages!

CHALLENGE 2

Problem solver

a) For families with younger children

The fox, the hen & the corn

Once upon a time a farmer went to market and bought a fox, a hen and a sack of corn.

The farmer came to a river which needed to be crossed by boat. He could take only one of his purchases - the fox, or the hen, or the sack of corn - in the boat at a time.
If left together on either side of the riverbank, the fox would eat the hen, or the hen would eat the corn.

Can you find a way for the farmer to get all of them across the river safely? How could you present your solution?

CHALLENGE 3

Data hero

census 2021

This counting challenge is inspired by the census which is happening this year...but, what is the census?

Click on the links below to find out!

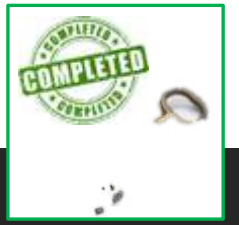
Click Me!

Early Years & KS1 video
Lower KS2 video
Upper KS2 video

For this challenge, you are going to survey changes in your local area over time. Scroll down through the next couple of pages. They will take you through how to complete this challenge and give you lots of ideas!

NEW VALLEY

NEW VALLEY



The answer to my question is 3.
What could my question have been?

NEW VALLEY

Challenge One 1

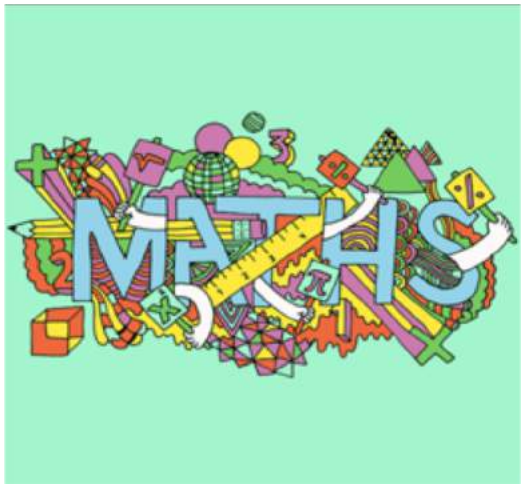
How many questions can you think of? Which is the most creative?
Click on the link or scan the Qr code to add your question to our shared answer board.

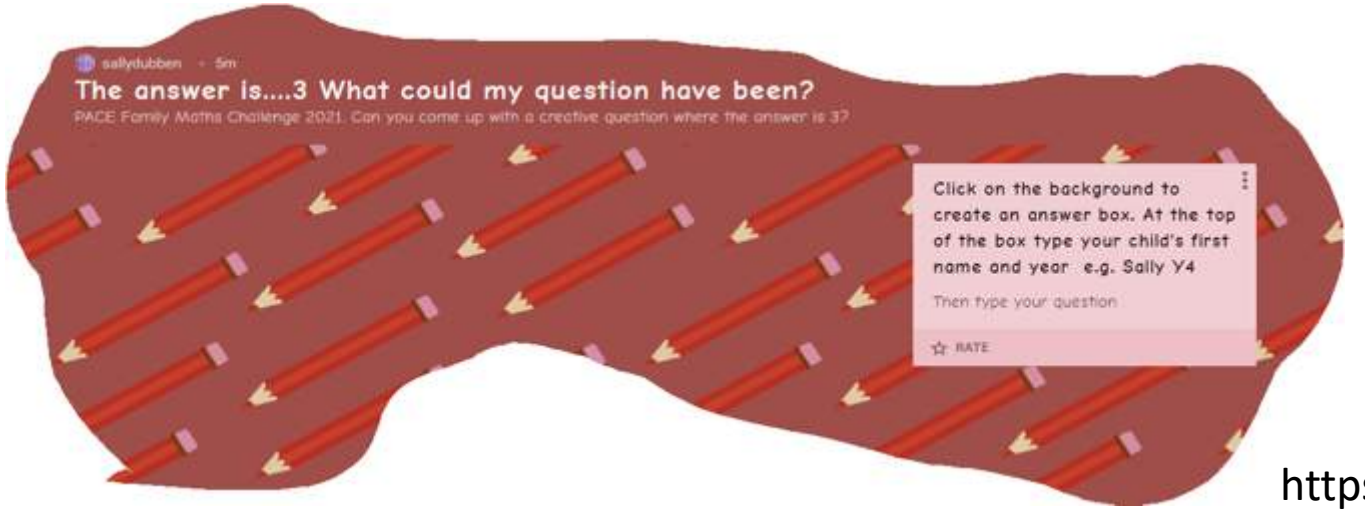
Ali Y2 If Austin has 12 pencils and his brother has 9 pencils, how many more pencils does Austin have than his brother?

MH Y1 What am I left with if I take 17 from 20?

Naomi Y6 If 6 (h + 5) - 4= 44, what is the value of h?

Jo Y4 I am thinking of a number. If I multiply my number by 5 then add 20 and double it, my answer is 70. What number did I start with?





H Y5 On a treasure map, the chest is found in the centre of a square with co-ordinates (3.6) (6.6) (6,_) and (3.3). Fill in the missing coordinate.

https://padlet.com/sallydubben/8jz5zldjau4o2dvp

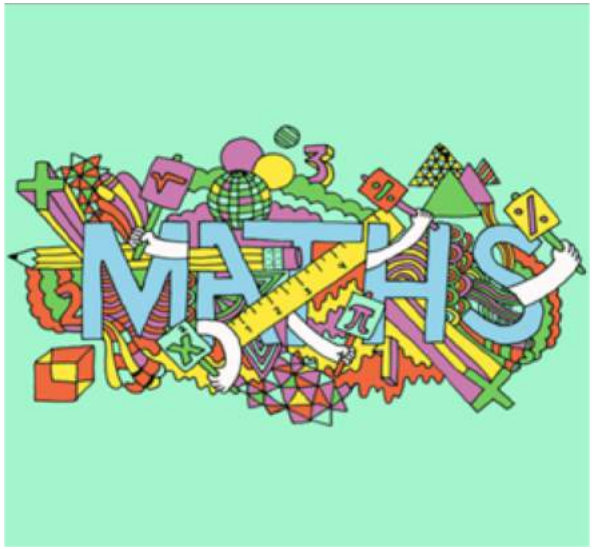
Problem Solver B (For families with older children)

The river crossing puzzle.

NEW VALLEY

Challenge Two 2

A family of four go for a walk. There are two adults and two children. They reach a river and want to cross it. They find a little boat to row across in. The boat is very small. It can only carry one adult or two children at a time. How can the family cross the river ?



- Try acting this out outside
- Take a photographic record
- Try drawing your answer

Record your answer in a table

What if there were more children or more adults? Can you work out a way to predict how many journeys will be needed to get any group to get across?

Like this challenge? Want a similar one?
Try this:
https://www.mathsisfun.com/puzzles/the-collapsing-bridge.html

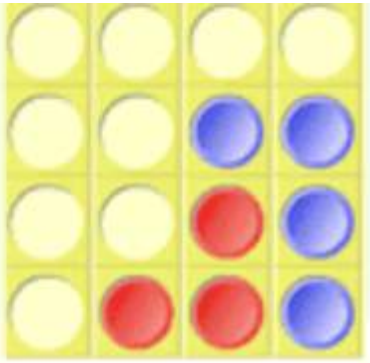
And don't forget to send your 'work' to your teacher

Take a games break!

NEW VALLEY

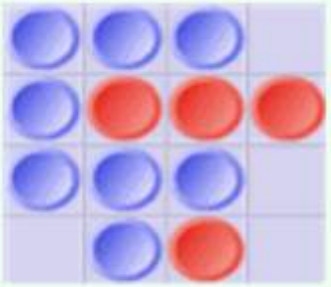
4 In A Line!

Called "Connect 4" by Hasbro. Play against computer or another human. A great challenge.



Reversi

Also called "Othello", this game has millions of people addicted. We also have several different versions!



Maths Match Game Test your memory AND your maths skills all in one game!

Using any letter only once, what are the largest and smallest numbers that you can write down in words?

Example: EIGHTY
But not NINETY as N is used twice

Data Hero: **Let's Count our Local Area**

**The census gives us a snapshot of England and Wales every 10 years,
which allows us to compare changes over time.**

Home project: Survey changes in our local area over time.

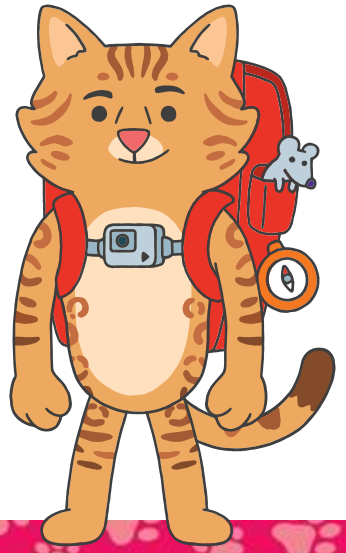
- Look at changes during the day: conduct the same survey in the morning, afternoon or evening.
- Look at changes over time: Conduct two surveys at different dates.
- Record the history of your home, street, or anywhere in your local area.

NEW VALLEY

Challenge Three 3

Preparation

- What shall we count?
- Why have we chosen this?
- Where shall we conduct our survey?
- Where shall we plan our stopping points?
- What do we expect to find?



Let's Count our Local Area

Conducting our survey

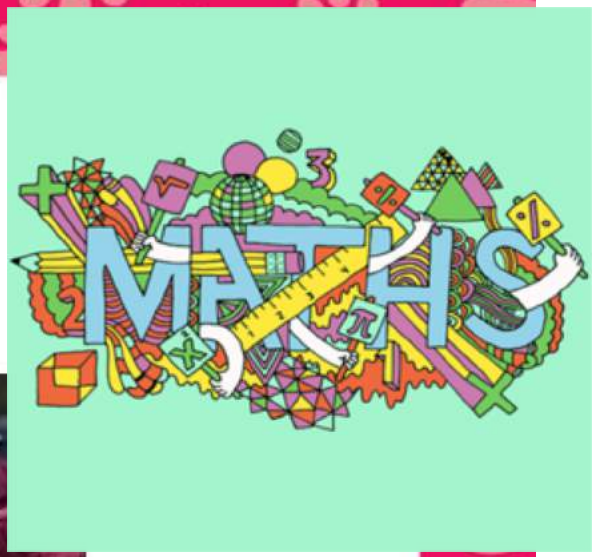
At each stopping point we will:

- Count our items
- Take pictures
- Use our senses: What can we smell? What can we hear?
- How does each place make us feel? Happy, less happy? Why?

NEW VALLEY

Let's count our local area

Looking for changes



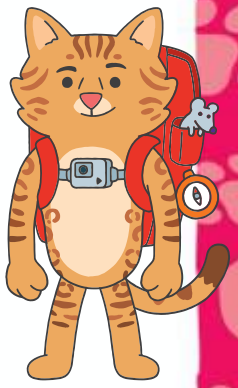
- Can we see any evidence of change?
- Is anything new in this area, which wasn't there before?
- Are there differences in the winter or summer? Why?
- Are there differences at different times of day? Why?

PICTOGRAM

Subject	Number of sightings
Cars	
Dogs	
Cats	
Buses	
Vans	

=2
=2
=2
=2
=2

NEW VALLEY



- What does this pictogram show?
- What does this pictogram mean?
- Is this what we would expect?
- Would we expect the road to be busier at the beginning and end of the day, rather than the middle of the day?

Let's Count our Local Area

Let's count the items we surveyed:

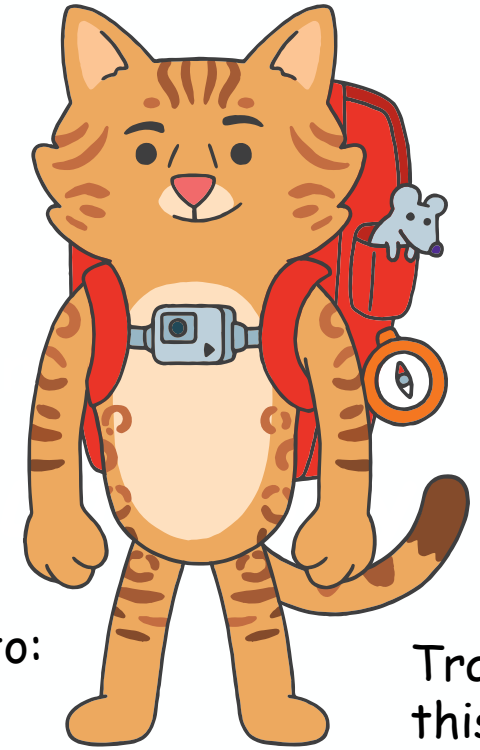
Object	Tally	Frequency

NEW VALLEY

Let's count our local area

Did our findings match our expectations?

Why do we think this was?



Let's discuss our emotional responses to:

- What we saw on our survey.
- What we heard on our survey.
- What we smelled on our survey.

Don't forget to send your findings to your teacher!

Is there anything we would like to change?

- What about traffic?
- Would we like to reduce traffic?
- How would we do this?

Traffic causes air pollution. Can we reduce this:

- Fewer cars (where possible)?
- Cut down on idling engines?
- Use public transport (where possible)?
- Walk or cycle (where possible)?