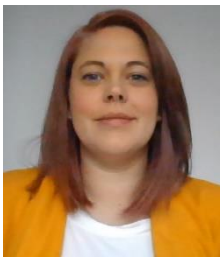
Welcome to Ely College Maths Department

Meet the Maths Team



Miss R Afford

Mr E Chamberlain

Mrs S Collings

Miss S Denney

Mrs S Goodey

Mr M Grezio

Miss R Longstaff

Ms T Rahman

Mrs S Shepherd

Miss S Vicol

Mrs B Vassalluzzo

We would like to get to know you

What is your name?

Do you have a favourite number? If you do what number is it? Why is this number important to you?

What is your proudest mathematical moment?

How do maths lessons make you feel?

How does maths impact the world around us?

What we would like you to do

Problem Solving

Please try to solve two of the below tasks.

Task 1 - 1, 2, 3, 4

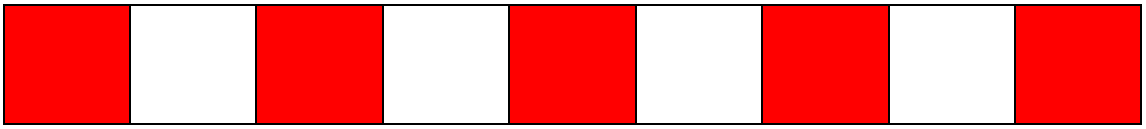
Using the digits 1, 2, 3 and 4 and +, - , x and ÷ symbols make the numbers from 1 to 30.
Each of the numbers has to be used every time, for example 1 + 2 + 3 + 4 = 10.

Task 2 - Zios and Zepts

On the planet Vuv there are two sorts of creatures. The Zios have 3 legs and the Zepts have 7 legs.
The great planetary explorer Nico, who first discovered the planet, saw a crowd of Zios and Zepts. He managed to see that there was more than one of each kind of creature before they saw him. Suddenly they all rolled over onto their backs and put their legs in the air.
He counted 52 legs. How many Zios and how many Zepts were there?

Task 3 - Chicken and Sheep

A farmer looks across a field of chicken and sheep. He counts 26 heads and 74 legs. How many chicken and sheep does he have?



Task 4 - Repeating Patterns

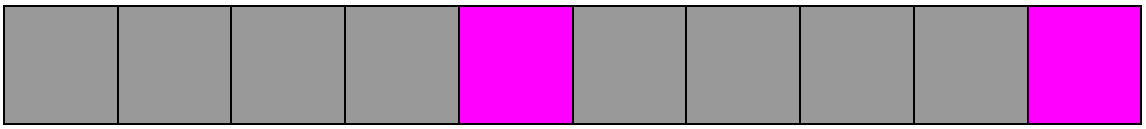
The pattern above has been made from squares of two colours.

What colour will the 17th cube in the sequence be?

What about the 20th? 100th cube?

Can you convince someone else you are right?

Can you find a way of predicting the colour of any square?



Task 5 - Path Pattern

Heather is laying a new path. She is using a mixture of grey and pink slabs. Above is her pattern.

How many pink slabs would she need if her path had a total of:

24 slabs?
40 slabs?
100 slabs?

How do you know your answers are correct?

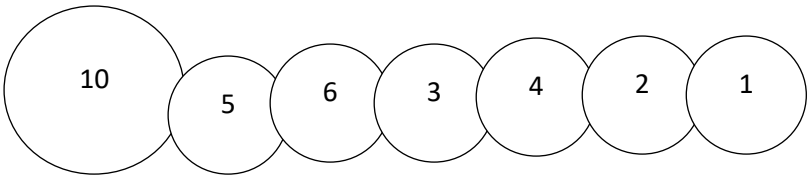
Task 6 - Always, Sometimes, Never

All prime numbers are odd.
If the digits of any number add up to a multiple of 3, then the number is divisible by 3.
Multiplying by any number always makes the result larger.
Adding something to a number always makes it larger.
Subtracting something from a number always makes it smaller.
Dividing a number by something always makes it smaller.

Task 7 - $4cm^2$

How many different shapes with and area of $4cm^2$ can you draw?

Task 8 - Caterpillars



Caterpillars don't live beyond 100 years old.

A caterpillar age is written on the head. The body parts are made in the following way:

If the number is even, half it
If the number is odd, add one

The pattern continues until you reach 1.

An age 10 caterpillar has 6 body parts.

What patterns do you notice with caterpillars with other ages?

How old is the longest caterpillar?

Become a mathematician

Now that you have tried to complete some tasks please pick your favourite one and answer the below questions.

1. Which task was your favourite? Why?

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2. What strategy did you use to try and solve your task?

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3. Was there a different way you could have used to solve your problem?

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4. How did you convince yourself that you had the correct answer?

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5. If someone else was about to try and solve the same problem, what advice would you give them?

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Thank you for completing this work. We hope you enjoyed it.

Please bring your work with you to your first maths lesson.

We are looking forward to seeing you in September.