For the final two weeks of the summer term we will be setting you problem solving activities that require you to use a range of your maths skills.

Because the activities may be quite varied, there will be no models on these sheets. However, there will be further explanations on the daily videos. As in previous weeks, the activities will get progressively more challenging.

At the end of each of these activities is a link to where you can read example answers submitted by other children.

Today the focus is MULTIPLICATION.

## ACTIVITY 1

## Birthday Sharing

It's Sahila's birthday and she is having a party.
Show us how you could answer these questions using:

- words
- pictures
- numbers
- objects
- other ways...


Sahila has 18 cupcakes for the party tea and she would like to share them out equally onto two plates for the table.

How many cakes will go on each plate?


Sahila has invited nine children to her party.
They are going to play a game in pairs. Each pair will need a balloon.
How many balloons will they need?


Sahila is going to give everyone five juggling balls to take home after the party.

Will 55 balls be enough?

You can find example answers at https://nrich.maths.org/14052/solution

## ACTIVITY 2

## Multiplication Squares

In the $2 \times 2$ multiplication square below, the boxes at the end of each row and the foot of each column give the result of multiplying the two numbers in that row or column.

| 7 | 5 | 35 |
| :--- | :--- | :--- |
| 3 | 4 | 12 |
| 21 | 20 |  |

The $3 \times 3$ multiplication square below works in the same way. The boxes at the end of each row and the foot of each column give the result of multiplying the three numbers in that row or column.

|  |  |  | 15 |
| :--- | :--- | :--- | :--- |
|  |  |  | 108 |
|  |  |  | 224 |
| 144 | 8 | 315 |  |

The numbers 1-9 may be used once and once only.
Can you work out the arrangement of the digits in the square so that the given products are correct?

## ACTIVITY 3

## All the Digits

This represents the multiplication of a 4-figure number by 3 .


The whole calculation uses each of the digits 0-9 once and once only.
The 4 -figure number contains three consecutive numbers, which are not in order. The third digit is the sum of two of the consecutive numbers.

The first, third and fifth figures of the five-digit product are three consecutive numbers, again not in order. The second and fourth digits are also consecutive numbers.

Can you replace the stars in the calculation with figures?

