

The maths focus in home learning is open investigations or problem solving. The below activities have been chosen from Nrich and are based on number and place value skills.

1. Four digit Targets

You have two sets of the digits from 0 to 9.

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

The idea is to arrange these digits in the five boxes to make four-digit numbers as close to the target number as possible.

You may use each digit once only.

largest odd number

largest even number

largest multiple of 3

smallest multiple of 5

number closest to 5000

2. Three Neighbours

Take three numbers that are 'next door neighbours' when you count. These are called consecutive numbers. *(e.g. 2, 3, 4)*

Add them together. *(2 + 3 + 4 = 9)*

What do you notice? *(Answer is odd)*

Take another three consecutive numbers and add them together.

What do you notice?

Can you prove that this is always true by looking carefully at one of your examples?

3. Square Subtraction

- Choose any number. (e.g. number = 3)
- Square your chosen number. (3^2 or $3 \times 3 = 9$)
- Subtract your starting number. ($9 - 3 = 6$)
- Is the number you're left with odd or even? (Answer is even)
- Create a model or a picture of your calculation using your original number. E.g. use a pattern of dots to represent your number.

Can you use this to prove that your result is always true (always odd or even) and not just true for the number that you chose to start with?

4. Missing Digits

In the calculation below, K, L, M, N and P each denote a single digit.

Find K, L, M, N and P.

$$\begin{array}{r} \\ \\ \times \\ \hline 4 \end{array}$$

Each of these investigations can also be viewed on Nrich at the below URLs. The Nrich pages also have tips and possible answers.

1. <https://nrich.maths.org/6342>
2. <https://nrich.maths.org/8108>
3. <https://nrich.maths.org/8065>
4. <https://nrich.maths.org/12864>

If your children would like to continue practising their number and place value skills, they can access the following sections on IXL: 'Place values and number sense' and 'Addition and subtraction'. URL: <https://uk.ixl.com/math/year-6>