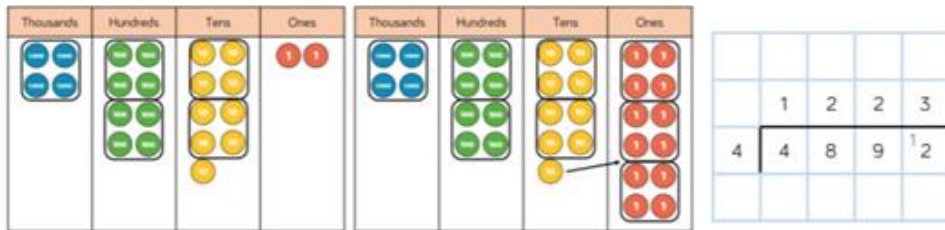


Tuesday 24<sup>th</sup> March 2020

LO: To investigate patterns and create rules when dividing a 3-digit number

In today's task, you will be exploring dividing a 3-digit number by a 1-digit number. You can use any objects that you have at home to help you divide each partition within a number, or you can use a pictorial method, such as this:



$$4892 \div 4 = 1223$$

1. First, draw the table below in your maths book (using a pencil and a ruler), then complete the table with 3-digit numbers of your own, dividing them by 2 - which 3-digit numbers can be divided equally by 2 and which numbers give a remainder of 1?

| Calculation                   | Gives a <u>whole number</u> answer | Gives a <u>remainder of 1</u> |
|-------------------------------|------------------------------------|-------------------------------|
| $269 \div 2 = 134 \text{ r}1$ |                                    | 269                           |
| $466 \div 2 = 233$            | 466                                |                               |
|                               |                                    |                               |
|                               |                                    |                               |
|                               |                                    |                               |
|                               |                                    |                               |

- a) What is the same about the numbers with a whole number answer?
- b) Can you come up with a rule?
- c) Do you think you could spot multiples of 2 without needing to complete the division calculation? How?

2. Now take the task to the next level and have a go at this challenge:



Using the interactive spinners (which can be found at <https://nrich.maths.org/6717>), dice, or just your imagination, decide which number you are going to divide by. This is your **divisor**. Using the same method, generate a 3-digit number. This is your **dividend**. Divide your dividend by your divisor and record in a new table, like the one you drew for the previous activity.

Using the same divisor, generate at least 4 more 3-digit numbers and divide them by your divisor, recording your answers in your table.

- a) What is the same about the numbers with a whole number answer?
- b) Can you come up with a rule?
- c) Do you think you could spot multiples of the divisor you chose without needing to complete the division calculation? How?