## Fractions, Decimals, Percentages 2:

This week we are revising fractions  $(\frac{1}{2})$  decimals (0.5) and percentages (50%). It is important that we understand the link between a fraction, a decimal and a percentage.

**Fractions:** Numerator on top of a denominator e.g  $\frac{1}{2}$ 

We cannot add or subtract fractions when the denominator is different. You will remember that we always try to find the lowest common denominator (LCD) when adding or subtracting fractions.

e.g 
$$\frac{5}{10} + \frac{3}{5} =?$$
 changes to  $\frac{5}{10} + \frac{6}{10} =?$ 

Now both fractions have the same denominator so we can add them. (But remember the <u>value</u> of the fraction has not changed)

Look back at your fraction wall and see can you recognise equivalent Fractions. Tip: Use you ruler on the fraction wall to help.

e.g
$$\frac{4}{6} = \frac{2}{3}$$
 or  $\frac{6}{8} = \frac{3}{4}$  etc.

Whole $\frac{1}{1}$														
$\frac{1}{2}$								$\frac{1}{2}$						
13						$\frac{1}{3}$ $\frac{1}{3}$					13			
14					$\frac{1}{4}$			$\frac{1}{4}$			$\frac{1}{4}$			
$\frac{1}{5}$			15	1 5			$\frac{1}{5}$ $\frac{1}{5}$			1 5				
$\frac{1}{6}$				<u>1</u> 6		$\frac{1}{6}$	<u>1</u> 6		1 6				<u>1</u> 6	
18		18	18		1 8	1 <u>8</u>		18		1 8		1 8		
1 10		$\frac{1}{10}$		1 10	1 10	$\frac{1}{10}$	$\frac{1}{10}$	1	0	1	0	1 10	1 10	
1 12	1	2	1 12	1/12	1/12	$\frac{1}{12}$	1 12	1 12	11	2	$\frac{1}{12}$	1	$2 \frac{1}{12}$	

**Decimals:** Every number has a decimal point, sometimes we see them and sometimes we don't. When we write a number let's say '576', it could also be written as 576.0 or 576.00 and so on. But to save us always having to write a decimal after every number we just write it as '576' and this is known as a 'whole number'.

If I go into a shop and pay €576 and 74 cent for an item I then write this number as a decimal number: €576.74



Anything to the left of the decimal point is made up of whole numbers.

Anything to the right of the decimal point is made up of <u>fractions or</u> <u>pieces of numbers</u>.

The value of a decimal number is as follows:



## Units · tenths hundredths thousandths

$$\frac{1}{10}$$
'S  $\frac{1}{100}$ 'S  $\frac{1}{1000}$ 'S

5.954 represents how many bars of chocolate Mr. Roughan has.

This basically means he has 5 full bars, with 9/10's of a bar, 3/100's of a bar and 4/1000's of a bar.

So if I wanted to change this to a fraction I would write it as:

$$5 \frac{934}{1000}$$

<u>\*Remember our rhyme when converting decimals to fractions</u> <u>"How many rows after the decimal point equals how many 0's"</u>

More ex	xamples: 0.14 = $\frac{14}{100}$	$0.709 = \frac{709}{1000}$
4.095	$= 4 \frac{95}{1000}$	$0.450 = \frac{450}{100}$
0.007	$=\frac{7}{1000}$	

## Percentages:

We know that '**per cent'** means per hundred, so when a fraction is written as hundredths, it's easy to change it to a percentage:

4/100 = 0.04 = 4%

65/100 = 0.65 = 65%

94/100 = 0.94 = 94%

Unfortunately not all fractions will be over a 100  $\otimes$ 

\*For fractions that are not over 100 we need to multiply the top and bottom by the same 'number' to put it over a 100

(sometimes it will not always be possible to put a fraction over a hundred for example 7/45, there is nothing we can multiply 45 by to change it to 100)

For example:

4/10, we must multiply the top and bottom by 10 to put it over 100 = 40/100 = 0.40 = 40%

1/4, We must multiply the top and bottom by 25 to put it over 100 = 25/100 = 0.25 = 25%

Can you figure out what we need to multiply 7/20 by to put it over a 100???

\*\*Remember our strategy: 
$$\frac{\#}{100} = \#\%$$
$$\left(\frac{49}{100} = 49\%\right)$$