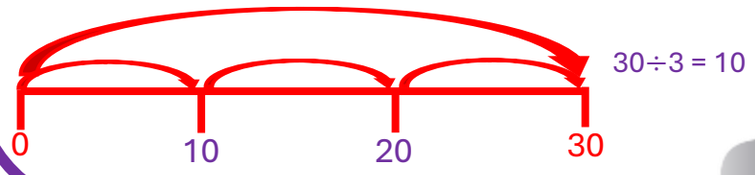
Year 7 Maths Topics 4 & 5
Place Value and FDP Equivalence

Week 1

This week we are going to practice reading and writing numbers up to one billion. Here are the place value headings.

	Millions			Thousands			Hundreds		
B	HM	TM	M	HTh	TTh	Th	H	T	O

We can compare numbers using inequalities
< reads as "less than" **>** reads as "greater than."
We are also going to find numbers on a number line. We will do this by dividing the big jump by the number of smaller jumps and then counting along the number line.



Week 2

This week we are going to find the range and median of a set of numbers.

To calculate the **range** you need to subtract the largest number from the smallest number.
E.g. 4, 1, 5, 6, 9, 3 The range = 9-1 = 8

To calculate the **median** of a set of numbers, first you need to put the numbers in order and then find the middle value. If there is not a middle value, you need to find halfway between the middle two values.
E.g. ~~1, 3~~, 4, 5, ~~6, 9~~ median = 4.5

We are also going to look at place value of decimals and put them onto a number line.

Ones	Tenths	Hundredths	Thousandths
O	t^{th}	h^{th}	th^{th}

Week 3

This week we are learning to round numbers. The rules of rounding are;
0, 1, 2, 3, 4 round down
5, 6, 7, 8, 9 round up
We can round to the nearest power of 10, for example, to the nearest 100 or 1000, OR to a number of significant figures by looking at the number to the right and using the rules.
E.g. 8367 to the nearest 100 ≈ 8400
8367 to 1 significant figure ≈ 8000

Standard form is used as a shorter way of writing long numbers. It is written in the form $A \times 10^n$ where A is a number between 1-10 and n is an integer.
E.g. $5 \times 10^7 = 50\,000\,000$
$4.73 \times 10^6 = 4\,730\,000$
$4.9 \times 10^{-4} = 0.00049$
The power tells you how many places the decimal moves

Week 4

In this topic we will look at the equivalence of fractions, decimals and percentages. This week we turn fractions into decimals. Using our place value knowledge from the last topic we know the first columns after the decimal point are the tenth and hundredth columns, so any fraction over 10 or 100 can be written as the numerator after the decimal point.
E.g. $\frac{1}{10} = 0.1$ $\frac{7}{10} = 0.7$ $\frac{67}{100} = 0.67$ $\frac{43}{100} = 0.43$

We will also use **equivalent fractions** to help turn other fractions into decimals. We can change the fractions by multiplying the denominators and numerators by the same number.
E.g. $\frac{2}{5} \overset{\times 2}{=} \frac{4}{10} = 0.4$ and $\frac{1}{4} \overset{\times 25}{=} \frac{25}{100} = 0.25$

Week 5

This week we will practice more equivalent fractions in general, remembering that whatever we do to the top we do the same to the bottom.
We will also start to look at **percentages** which means "out of 100" and use a hundred square to help us.
E.g. 35% = $\frac{35}{100}$ AND 84% = $\frac{84}{100}$

We will also look at how we can use equivalent fractions to **simplify** our answers. This time we will divide the denominators and numerators by the same number.
E.g. 60% = $\frac{60}{100} = \frac{6}{10} = \frac{3}{5}$

We will look at Pie Charts to see how they use fractions and percentages.

Week 6

This week we will look at fractions as division so we can convert other fractions into decimals. To turn a fraction into a decimal you do the "top divided by the bottom"
E.g. $\frac{1}{8} = 1 \div 8 = 0.125$ $\frac{1}{3} = 1 \div 3 = 0.33333\ldots$

We will link our knowledge to write all three forms together such as
$\frac{2}{5} = 0.4 = 40\%$ and $\frac{3}{4} = 0.75 = 75\%$

For higher learners we will have a look at fractions, decimals and percentages over one.
Numerator – top number of a fraction
Denominator – bottom number of a fraction

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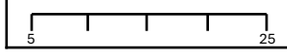
Week 1

Questions	Answers
What place value column is between hundred thousands and thousands?	Ten thousands
How do you say this number 6,284,935?	Six million, two hundred and eighty four thousand, nine hundred and thirty five.
How do you read 35< 49?	35 is less than 49
How do you write 48 is greater than 27 using symbols?	48 > 27
What calculation gives you the size of each interval? 	20 ÷ 4 = 5

Week 2

Questions	Answers
How do you find the range of a set of numbers?	Largest subtract smallest
The middle value in an ordered list is called what?	Median
Calculate the range of these numbers 24, 36, 17, 21, 28,	36 – 17 = 19
Calculate the median of these numbers 24, 36, 17, 21, 28,	~~17~~, ~~21~~, 24, ~~28~~, ~~36~~ median = 24
Write twenty three hundredths as a decimal	0.23

Week 3

Questions	Answers
Which numbers will round a number down?	0,1,2,3,4
Which numbers will round a number up?	5,6,7,8,9
What would 9264 rounded to the nearest hundred be?	9300 (because the 6 tells the 2 to round up)
What would 6182 rounded to one significant figure be?	6000 (because the 1 tells the 6 to round down – stays the same)
In standard form what does the front number have to be?	Between 1 and 10

Week 4

Questions	Answers
How do you turn fractions over 10 or 100 into a decimal?	By writing the numerator after the decimal point
What is $\frac{8}{10}$ as a decimal?	0.8
What is 0.63 as a fraction?	$\frac{63}{100}$
How do you work out an equivalent fraction?	By multiplying the top and bottom by the same number
$\frac{4}{5} = \frac{?}{10}$	$\frac{4}{5} = \frac{8}{10}$

Week 5

Questions	Answers
What does percent mean?	Percentage means "out of 100"
Write 87% as a fraction	$\frac{87}{100}$
Write $\frac{45}{100}$ as a percentage.	45%
How do you simplify a fraction?	By dividing the top and bottom by the same number to make the numbers smaller.
Can you write 80% as a simplified fraction?	$\frac{80}{100} = \frac{8}{10} = \frac{4}{5}$

Week 6

Questions	Answers
How do you use division to turn a fraction into a decimal?	You do the top divided by the bottom
What is the name for the top number of a fraction?	Numerator
What is the name for the bottom number of a fraction?	Denominator
Use a calculator to turn $\frac{3}{8}$ into a decimal	$3 \div 8 = 0.375$
Can you link $\frac{3}{5}$ as a decimal and percentage	$\frac{3}{5} = \frac{6}{10} = \frac{60}{100} = 0.6 = 60\%$