Year 8 Unit 1 Knowledge Organiser – Understanding Percentages, Percentages and Fractions as Operators and Ratio

Understanding Percentages			
1	Fraction	The amount of parts of a whole.	
2	Numerator	The top number in a fraction.	
3	Denominator	The bottom number in a fraction.	
4	Decimal	A number that uses a decimal point followed by digits to show a number less than a whole.	
5	Order	Putting things into their correct place following a rule.	
6	Equivalent	Equal in value.	
7	Order	Putting things into their correct place following a rule.	
Inequalities			
1	$x <$	x is less than	
2	$x \leq$	x is less than or equal to	
3	$x >$	x is greater than	
4	$x \geq$	x is greater than or equal to	
5	$x \neq$	x does not equal	
Converting Fractions Decimals and Percentages			
1	$\frac{1}{1}$	1	100%
2	$\frac{1}{2}$	0.5	50%
3	$\frac{1}{4}$	0.25	25%
4	$\frac{3}{4}$	0.75	75%
5	$\frac{1}{5}$	0.2	20%
6	$\frac{1}{8}$	0.125	12.5%
7	Fractions to decimals	Divide the numerator by the denominator using the bus stop method.	
8	Decimals to fractions	Write the number as a fraction, the denominator is determined by the place value of the last digit.	
9	Decimals to percentages	Multiply by 100.	
10	Percentages to decimals	Divide by 100.	
11	Percentages to fractions	Write the percentage over 100 and simplify.	
12	Fractions to percentages	Change the denominator to the equivalent fraction over 100.	
Calculating with Percentages			
1	Percentage	Out of 100.	%
2	Finding 10%	Divide by 10.	
3	Finding 1%	Divide by 100.	
4	Multiplier	A percentage converted to a decimal in order to use in calculations.	
5	Percentage increase	To make a number larger by a given percentage.	
6	Percentage decrease	To make a number smaller by a given percentage.	
7	Percentage change	$\frac{Difference}{Original} \times 100$	
8	Reverse Percentages	When you are given the value after a percentage increase, and you need to find the original value.	
Ratio			
1	Ratio	Ratio compares a part of the whole to another part of the whole.	
2	Simplify a ratio	Divide both parts of a ratio by the highest common factor.	
3	Sharing a ratio	To divide a quantity by a given ratio.	
4	Multiple	The result of multiplying a number by another number.	
5	Factor	A number that divides into another number without leaving a remainder.	
6	Highest Common Factor (HCF)	The greatest number that is a factor of two or more other numbers.	

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