Year Five – end of year maths expectations

Place Value			
count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	
read, write, order and compare numbers with up to three decimal places	solve problems involving number up to three decimal places	solve number problems and practical problems that involve all of the above	
Addition and Subtraction			
add and subtract whole numbers with more than 4 digits, including using formal written methods (column + and -)	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	add and subtract numbers mentally with increasingly large numbers	solve addition/subtraction multi-step problems in contexts, deciding which operations and methods to use and why
Multiplication and Division			
identify multiples and factors, including finding all factor pairs of a number	identify common factors of two numbers	establish if a number up to 100 is prime and recall prime numbers up to 19	multiply and divide numbers mentally drawing upon known facts
know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})	Solve problems involving multiplication and division including using knowledge of factors and multiples, squares and cubes	Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates
divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers	
Fractions			
compare and order fractions whose denominators are all multiples of the same number	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	add and subtract fractions with the same denominator and denominators that are multiples of the same number
recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 5	recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal	solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25	

<table>
<tr><td colspan="4">Measurement</td></tr>
<tr><td>complete, read and interpret information in tables, including timetables.</td><td rowspan="2">estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water]</td><td rowspan="2">understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints</td><td>draw given angles, and measure them in degrees (o)</td></tr>
<tr><td>solve problems involving converting between units of time</td><td>know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles</td></tr>
<tr><td>use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</td><td>convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)</td><td>calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes</td><td>identify:
angles at a point and one whole turn (total 360o)
angles at a point on a straight line and 2
1 a turn (total 180o)
other multiples of 90o</td></tr>
<tr><td colspan="4">Geometry – Properties of Shape</td></tr>
<tr><td>identify 3-D shapes, including cubes and other cuboids, from 2-D representations</td><td colspan="2">use the properties of rectangles to deduce related facts and find missing lengths and angles</td><td>distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</td></tr>
<tr><td colspan="4">Geometry – Position and Direction</td></tr>
<tr><td colspan="4">identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.</td></tr>
<tr><td colspan="4">Statistics</td></tr>
<tr><td colspan="4">solve comparison, sum and difference problems using information presented in a line graph</td></tr>
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