

**Jarrow Cross CE Primary School Numeracy Assessment – Year 5**  
(Notes & guidance; non-statutory)

<b>NUMBER &amp; PLACE VALUE</b>	<b>E</b>	<b>D</b>	<b>S</b>
read & write numbers to at least 1 000 000 and determine the value of each digit			
count forwards & backwards in steps of powers of 10 for any given number up to 1 000 000			
interpret negative numbers in context			
count forwards & backwards with positive and negative whole numbers, including through zero			
round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000, 100 000			
solve number problems and practical problems that involve all of the above			
read Roman numerals to 1000 (M) and recognise years written in Roman numerals			
compare and order numbers to at least 1 000 000 using <, >, =			
recognise & describe linear number sequences including those involving fractions & decimals & find the term-to-term rule in words			
<b>ADDITION &amp; SUBTRACTION</b>			
add & subtract whole numbers with more than four digits, including using column method			
add & subtract numbers mentally with increasingly large numbers			
use rounding to check answers to calculations			
solve addition & subtraction multi-step problems in contexts			
derive and recall sums and differences of decimals to one decimal place			
derive and recall what must be added to a one decimal place number to make the next whole number			
derive and recall what must be added to any 4-digit number to make the next multiple of 1000			
add & subtract any pair of decimals up to one decimal place			
derive and recall doubles and halves of decimals to one decimal place			
add near doubles of decimals to one decimal place			
<b>MULTIPLICATION &amp; DIVISION</b>			
identify multiples and factors & find all factor pairs of a number & common factors of 2 numbers			
know & use the vocabulary of prime numbers, prime factors & composite (non-prime) numbers			
establish whether a number up to 100 is prime & recall prime numbers to 19			
multiply numbers up to 4 digits by a 1 or 2-digit number using a formal written method including long multiplication (for 2-digit numbers)			
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 in different ways (as fractions, decimals or by rounding)			
multiply & divide numbers mentally using known facts			
multiply & divide numbers involving decimals by 10, 100 and 1000			
recognise & use square numbers and the notation for squared ( <sup>2</sup> )			
recognise & use cube numbers & the notation for cubed ( <sup>3</sup> )			
solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes			
solve problems involving all 4 operations including understanding the meaning of =			
solve problems involving multiplication & division, including scaling by simple fractions and problems involving simple rates			
double three-digit multiples of 10 to 500 and find corresponding halves			
multiply and divide two-digit numbers by 4 and 8			
multiply two-digit numbers by 5 and 20			
multiply by 25 and 50			
double three-digit multiples of 10 to 500 and find the corresponding halves			
multiply pairs of multiples of 10			
estimate and use inverse operations to check answers to multiplication and division calculations with Y5 criteria			
multiply & divide by powers of 10 in scale drawings			
multiply & divide by powers of 1000 in converting between units			
construct equivalent statements ( $4 \times 35 = 2 \times 2 \times 35$ $3 \times 3 \times 9 \times 10 = 9^2 \times 10$ )			
use = to indicate equivalence ( $13 + 24 = 12 + 25$ $33 = 5 \times ?$ )			
<b>FRACTIONS</b>			
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 & hundredths			
recognise mixed numbers and improper fractions and convert from one form to the other & write mathematical statements >1 as a mixed number ( $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$ )			
add & subtract fractions with the same denominator and denominators that are multiples of the same number			
multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams			
read & write decimal numbers as fractions			

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identify the value of each digit in numbers given to two decimal places			
recognise and use thousands and relate them to tenths, hundredths and decimal equivalents			
round decimals with two decimal places to the nearest whole number			
round decimals with two decimal places to one decimal place			
read, write & compare numbers with up to three decimal places			
solve problems involving numbers up to three decimal places			
recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred”			
write percentages as a fraction with denominator 100			
write percentages as a decimal fraction			
solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{1}{5}$ , $\frac{2}{5}$ , $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25			
add & subtract fractions through a variety of increasingly complex problems including those that exceed 1 as a mixed number			
count forwards & backwards in simple fractions			
use decimals & fractions, including bridging 0, on a number line			
mentally add & subtract tenths & 1-digit whole numbers & tenths			
find complements of 1 using 1 and 2-place decimal using related facts (83+17=100 so 0.83+0.17=1			
solve puzzles involving decimals			
make connections between fractions, decimals & percentages			
<b>MEASURES</b>			
convert between different units of metric measure: <b>km &amp; m, cm &amp; m, cm &amp; mm, g &amp; kg, l &amp; ml</b>			
understand and use equivalences between metric units and common imperial units: <b>inches, pounds and pints</b>			
measure and calculate the perimeter of composite rectilinear shapes in cm and m			
calculate area of squares and rectangles including using standard units, square cm (cm <sup>2</sup> ) and square m (m <sup>2</sup> ) and estimate the area of irregular shapes			
compare the area of squares and rectangles using <, >, =			
estimate the area of irregular shapes			
estimate volume & capacity using apparatus (unix cubes, water)			
solve problems involving converting between units of time			
use all four operations to solve problems involving measure (e.g. <b>length, mass, volume, money</b> ) using decimal notation including scaling.			
calculate missing measure questions algebraically ( 4+2b = 20 for a rectangle of sides 2cm and b cm and perimeter of 20cm			
calculate the area of scaled drawings using given measurements			
<b>GEOMETRY: PROPERTIES OF SHAPE</b>			
identify 3-D shapes from 2-D representations, including cubes & cuboids			
measure angles in degrees (°) & draw given angles			
estimate and compare acute, obtuse and reflex angles			
identify angles at a point and one whole turn (total 360°)			
identify angles at a point on a straight line and ½ a turn (total 180°)			
identify angles with other multiples of 90°			
use the properties of rectangles to deduce related facts and find missing lengths and angles			
distinguish between regular and irregular polygons based on reasoning about equal sides and angles			
accurately draw lines with a ruler to the nearest mm			
conjecture about the angles formed between sides, and between diagonals and parallel sides, and other properties of quadrilaterals (using geometry ICT tools where possible)			
use angle sum facts & other properties to make deductions about missing angles & relate these to missing number problems			
<b>GEOMETRY: POSITION &amp; DIRECTION</b>			
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			
<b>STATISTICS</b>			
read, interpret and complete information in tables, including timetables			
solve comparison, sum & difference problems using information presented in a line graph			
decide which representations of data are most appropriate & why			