

Multiplication and Division at Blackhorse Primary

11. Number ELG

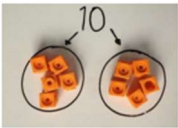
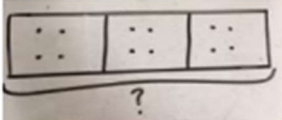
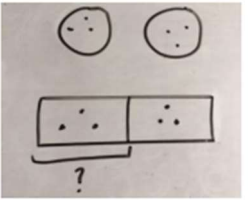
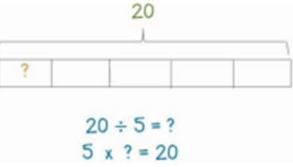
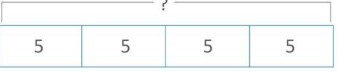
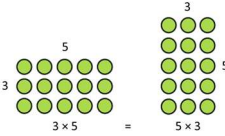
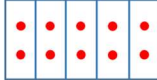
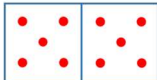
Children at the expected level of development will:

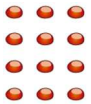
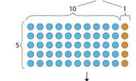
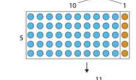
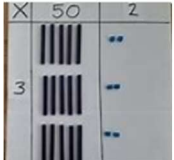
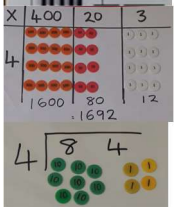
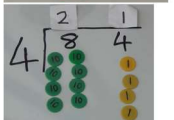
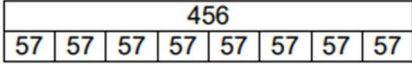
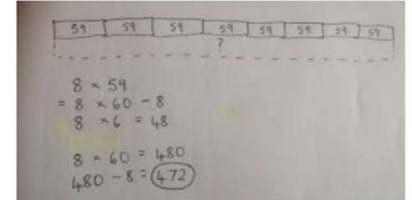
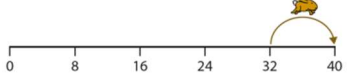
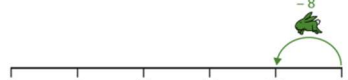
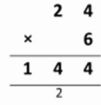
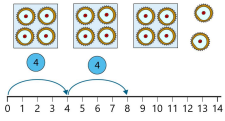
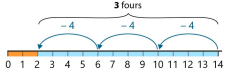
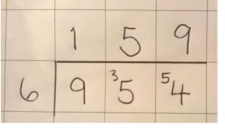
- Have a deep understanding of number to 10, including the composition of each number.
- Subitise (recognise quantities without counting) up to 5.
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including **double facts**.

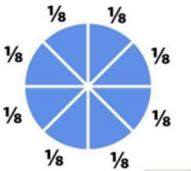
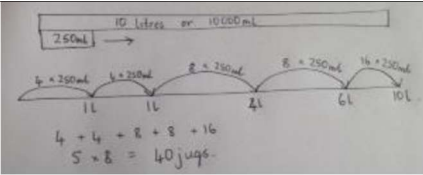
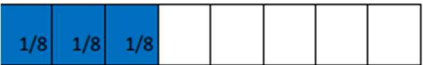
12. Numerical Patterns ELG

Children at the expected level of development will:

- Verbally count beyond 20, recognising the pattern of the counting system.
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
- Explore and represent patterns within numbers up to 10, including evens and odds, **double facts and how quantities can be distributed equally**

	Physical apparatus	Bar Model	Mental strategies	Written method	Fractions
End of Year 2 • Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. Find $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of numbers, quantities.	Sharing hoops and counters  Use of counters to make arrays  Bead bars/bead strings/ Rekenrek  Numicon  Clock faces for counting in 5s.  Money – 2p, 5p, 10p	Three groups of...  Six divide into 2 equal groups  Moving into unitising.  	Skip Counting Recall of 2, 5 and 10 times tables and division facts Inverse operations and number families If I know $3 \times 5 = 15$ what else do know?	Informal written method in Y2 Number Lines counting for multiplication   Counting back for division Arrays for both   	Halving numbers e.g., Half of 12 = 6 Halving two digit even numbers using Numicon e.g., Half of 42 = 21 Finding $\frac{1}{4}$, $\frac{1}{3}$ and $\frac{2}{4}$, $\frac{3}{4}$ of numbers.

	Physical apparatus	Bar Model	Mental strategies	Written method	Fractions
End of Year 4 - Recall multiplication and division facts for multiplication tables up to 12×12 - Use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1; dividing by 1; multiplying together three numbers - Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. - Short division of a 2/3-digit number by a 1-digit number.	Counters for arrays  Counters for 2 digit by 1, moving into images of rectangles    Numicon for division with remainders/factors  Place Value counters/dienes  	 $57 \times 8 = 456$ 	End of Year 3 – know 1,2,4,5,7,9,10 times table under 6 seconds End of Year 4 – know all times tables up to 12×12 under 6 seconds Skip Counting Use knowledge of commutativity and known facts. Use of distributive law  $5 \times 8 = 4 \times 8 + 8$ Subtracting one multiple:  $4 \times 8 = 5 \times 8 - 8$ Applying known facts e.g. or 12×7 to calculate 24×7, 120×7 If I know $30 \div 3$, then I can do $300 \div 3$ $2 \times 3 =$ $2 \times 30 =$ $2 \times 300 =$ $20 \times 3 =$ $200 \times 3 =$ Partitioning  $10 \times 4 = 40$ $5 \times 4 = 20$ $40 + 20 = 60$ Near doubles Use of factors e.g., $5 \times 2 \times 3 = 10 \times 3$ Adjusting for x by 9,11,19,21 etc	24×6 becomes  Answer: 144 $14 \div 4 =$ (using number line)    $954 \div 6 = 159$ Use an inverse operation and estimations to check their answers.	Find unit fractions and non-unit fractions of numbers using times tables facts. Such as $\frac{1}{3}$ of 15 = $\frac{2}{3}$ of 15 =

	Physical apparatus	Bar Model	Mental strategies	Written method	Fractions
End of Year 6 - Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication - Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, - Multiply one-digit numbers with up to two decimal places by whole numbers - Use written division methods in cases where the answer has up to two decimal places - Perform mental calculations, including with mixed operations and large numbers - Multiply simple pairs of proper fractions, writing the answer in its simplest form - Divide proper fractions by whole numbers	Place Value counters Fraction wall Fraction number lines Pie Charts 	 $3 \times \frac{1}{3}$ 	If I know that $273 \times 32 = 8736$ then how can you use it to solve 273×16 2.73×32 $87.36 \div 2.73$ $8736 \div 0.32$ Work out $8.4 \times 3 + 8.4 \times 4$ $93 \times 0.2 + 93 \times 0.8$ Near doubles Rounding and adjusting	Use an inverse operation and estimations to check their answers.   $2331 \div 37 = 63$  $432 \div 15 = 28.8$  $6854 \div 37$ = 185 remainder 9 = $185 \frac{9}{37}$ 	Multiply simple pairs of proper fractions, writing the answer in its simplest form $3 \times \frac{1}{8} =$ $\frac{3}{1} \times \frac{1}{8} = \frac{3}{8}$ Divide proper fractions by whole numbers $\frac{1}{2} \div 3 =$ $\frac{1}{2} \div \frac{3}{1} =$ $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$