

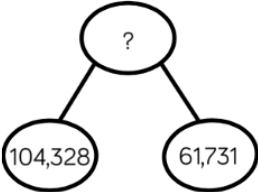
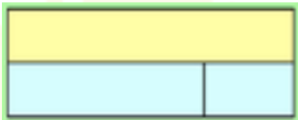

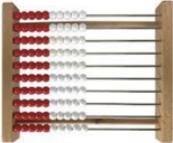

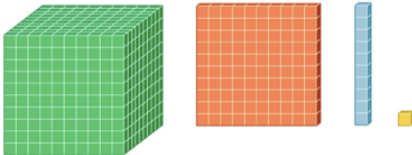

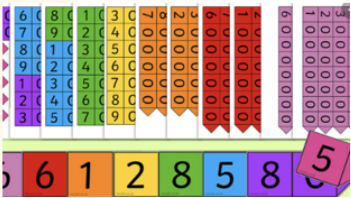


Maths in Group 6 at International School Haarlem

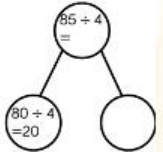
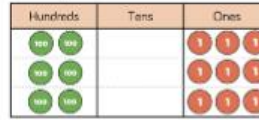
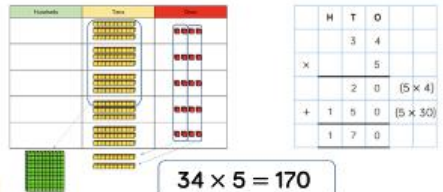

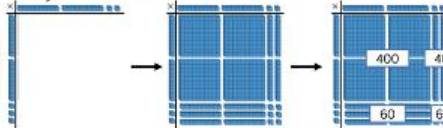
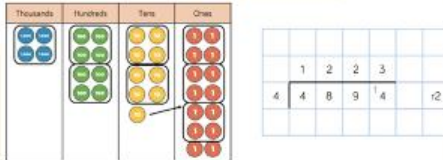

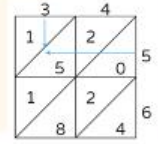
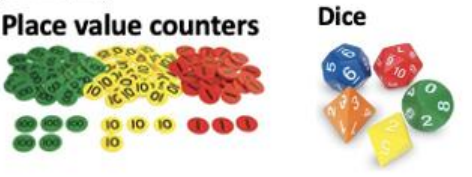
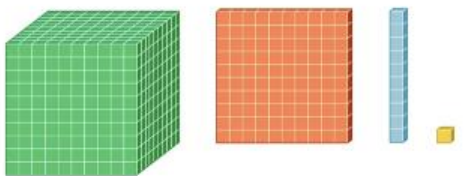
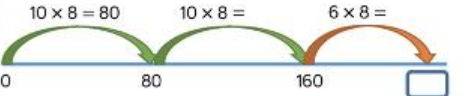


At International School Haarlem we aim to provide children with consistent and secure mathematical language, representations, and methods as they move up through the groups. These progress alongside their mathematical understanding and in combination with a range of concrete resources.

This document shows the National Curriculum goals alongside the mathematical language (new vocabulary in blue), representations, and methods the children are expected to have covered by the end of Group 6. In addition, it shows the concrete materials the children will use to support their learning and comprehension.


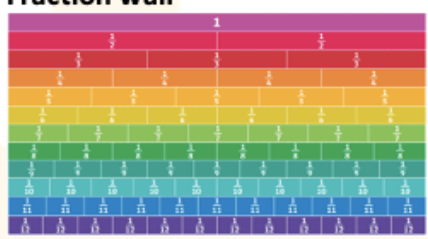
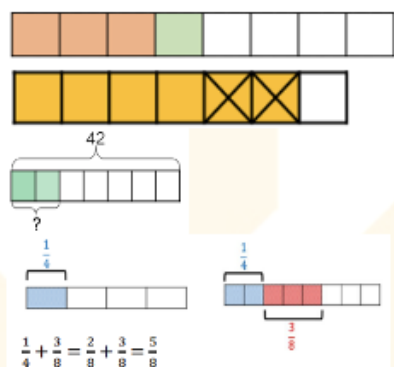
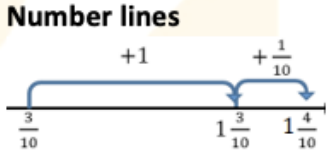

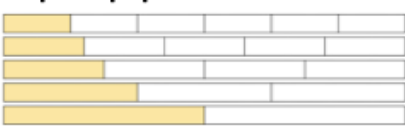
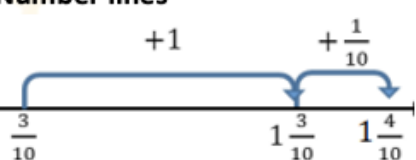

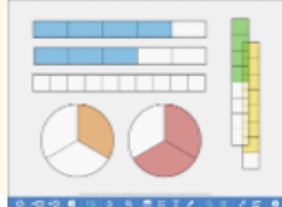
Place Value

National Curriculum Goals	Key Vocabulary	Representations	Concrete Resources																												
<p>Group 6</p> <ul style="list-style-type: none"> • read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit • count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 • interpret negative numbers in context, count forwards and 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 and 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 	<p>Group 6</p> <p><i>Zero</i> <i>Tenths</i> <i>Hundredths</i> <i>Thousandths</i> <i>Ones</i> <i>Tens</i> <i>Hundreds</i> <i>Thousands</i> <i>Tens of thousands</i> <i>Hundreds of thousands</i> <i>Million</i> <i>Partition</i> <i>Negative number</i> <i>Positive number</i> <i>Place value</i> <i>Value</i> <i>Place holder</i></p> <p><i>Compare</i> <i>Equal to / the same as (=)</i> <i>Smaller / fewer / less / is less than (<)</i> <i>Smallest / fewest / least</i> <i>More / bigger/ larger / greater / greater than (>)</i> <i>Most / biggest / largest /greatest</i> <i>Order</i> <i>Ascending</i> <i>Descending</i></p> <p><i>Estimate / approximate</i> <i>Round to the nearest 10 / 100 / 1000 / 10 000 / 100 000</i> <i>100 less / 1000 less / 10 000 less</i> <i>100 more / 1000 more / 10 000 more</i> <i>Skip counting / counting by / counting in / times tables / multiples of / factors / products</i> <i>Digit / Roman numerals</i></p>	<p>Group 6</p> <p>Part-whole model</p>  <p>Bar model</p>  <p>Place value chart</p> <table border="1" data-bbox="1128 778 1599 995"> <thead> <tr> <th>Thousands</th> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> <th>Tenths</th> <th>Hundredths</th> <th>Thousandths</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths								<p>Group 6</p> <p>Counters Place value counters</p>  <p>Counting rack</p>  <p>Dice</p>  <p>Base ten</p>  <p>Number lines (unlabelled)</p>  <p>Place value cards</p>  <p>Place value chart</p> <table border="1" data-bbox="1630 1257 2011 1426"> <thead> <tr> <th>Thousands</th> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> <th>Tenths</th> <th>Hundredths</th> <th>Thousandths</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths							
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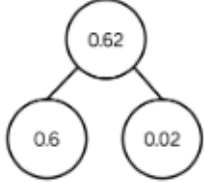
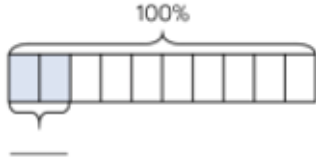
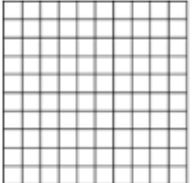


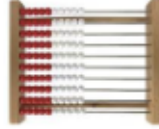
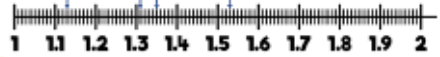
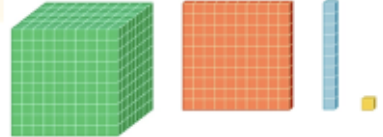
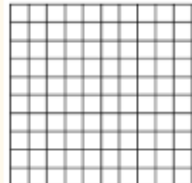
Multiplication & Division

National Curriculum Goals	Key Vocabulary	Calculation Methods / Representations	Concrete Resources
<p>Group 6</p> <ul style="list-style-type: none"> identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers establish whether a number up to 100 is prime and recall prime numbers up to 19 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 multiply and divide numbers mentally drawing upon known facts 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 multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 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 their knowledge of factors and multiples, squares and cubes solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. 	<p>Group 6</p> <p><i>Doubling</i> <i>Halving</i></p> <p><i>Repeated addition</i> <i>Multiplication</i> <i>Multiply</i> <i>Multiplied by / times / groups of / factor / product</i> <i>Multiple</i> <i>Array(s) – Row and Column</i></p> <p><i>Division</i> <i>Dividing / divide by / divide into</i> <i>Grouping / equal groups of</i> <i>Sharing / share equally</i> <i>Left / left over / remainder</i></p> <p><i>Number sentence / Number problem / Equation</i></p> <p><i>Fact family / factor pairs</i> <i>Multiplication fact</i> <i>Division fact</i> <i>Inverse</i> <i>Commutative</i> <i>Non-commutative</i></p> <p><i>Square / squared</i> <i>Cube / cubed</i></p> <p><i>Number pattern</i></p>	<p>Group 6</p> <p>Part-whole model</p>  <p>Groups</p>  <p>Expanded column method</p>  <p>Column method</p>  <p>Area model</p>  <p>Short division (with grouping)</p>  <p>Long division</p>  <p>Lattice method</p> 	<p>Group 6</p> <p>Place value counters</p>  <p>Base ten</p>  <p>Number lines (unlabelled)</p>  <p>Multiplication squares</p>  <p>Hundred square</p> 

Fractions

National Curriculum Goals	Key Vocabulary	Representations	Concrete Resources
<p>Group 6</p> <ul style="list-style-type: none"> 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 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: $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$) add and subtract fractions with the same denominators that are multiples of the same number multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams 	<p>Group 6</p> <p><i>Whole</i> <i>Fraction</i></p> <p><i>Numerator</i> <i>Denominator</i></p> <p><i>Unit fractions</i> <i>Non-unit fractions</i></p> <p><i>Proper fraction</i> <i>Improper fraction</i> <i>Mixed numbers</i></p> <p><i>Fractions of a set</i></p> <p><i>Integer</i></p> <p><i>Divide</i> <i>Parts</i> <i>Split</i> <i>Equal / Equally</i> <i>Equivalent / equivalence</i></p> <p><i>Convert</i> <i>Operators</i></p>	<p>Group 6</p> <p>Part-whole model</p>  <p>Fraction wall</p>  <p>Bar models</p>  <p>Number lines</p> 	<p>Group 6</p> <p>Counters</p>  <p>Strips of paper</p>  <p>Number lines</p>  <p>Fraction tiles</p>  <p>Fraction app</p> 

Decimals & Percentages

National Curriculum Goals	Key Vocabulary	Representations	Concrete Resources																												
<p>Group 6</p> <ul style="list-style-type: none"> read and write decimal numbers as fractions (for example: $0.71 = \frac{71}{100}$) recognise and use thousandths and relate them to tenths, hundredths, and decimal equivalents round decimals with two decimal places to the nearest whole number and to one decimal place read, write, order, and compare numbers with up to three decimal places solve problems involving numbers with up to three decimal places 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 $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25. 	<p>Group 6</p> <p><i>Fraction</i> <i>Whole</i> <i>Integer</i></p> <p><i>Decimal</i> <i>Decimal point</i></p> <p><i>Percentages - %</i></p> <p><i>Tenths – 0.1</i> <i>Hundredths – 0.01</i> <i>Thousandths – 0.001</i></p> <p><i>Compliments to 1</i></p> <p><i>Halves</i> <i>Quarters</i></p> <p><i>Representation</i></p> <p><i>Place holder</i> <i>Exchange</i></p> <p><i>Equivalent</i></p> <p><i>Convert</i></p>	<p>Group 6</p> <p>Part-whole model</p>  <p>Bar model</p>  <p>Place value chart</p> <table border="1" data-bbox="1120 818 1585 1026"> <thead> <tr> <th>Thousands</th> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> <th>Tenths</th> <th>Hundredths</th> <th>Thousandths</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Hundredth Square</p> 	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths								<p>Group 6</p> <p>Counters</p>  <p>Place value counters</p>  <p>Counting rack</p>  <p>Number lines (labelled and unlabelled)</p>  <p>Base ten</p>  <p>Hundredth Square</p>  <p>Place value chart</p> <table border="1" data-bbox="1619 1249 2000 1417"> <thead> <tr> <th>Thousands</th> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> <th>Tenths</th> <th>Hundredths</th> <th>Thousandths</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths							
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