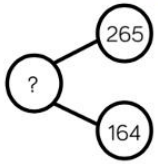
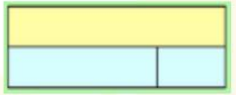
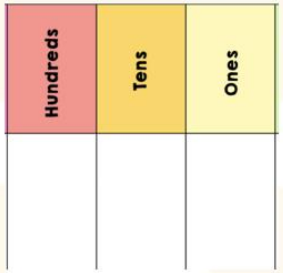
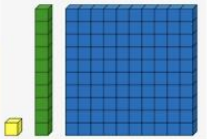
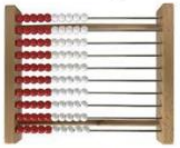
Maths in Group 4 at International School Haarlem

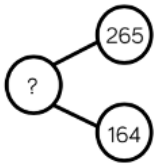
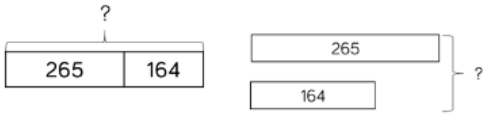
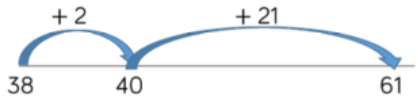
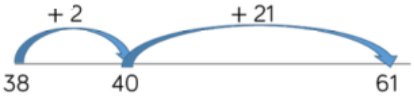
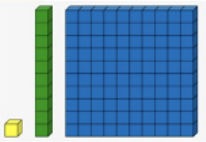
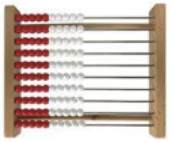
At International School Haarlem we aim to provide children with consistent and secure mathematical language, representations, and methods as they move up through the groups. These progress alongside their mathematical understanding and in combination with a range of concrete resources.

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 4. In addition, it shows the concrete materials the children will use to support their learning and comprehension.

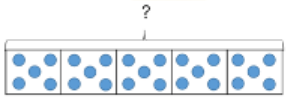
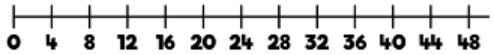
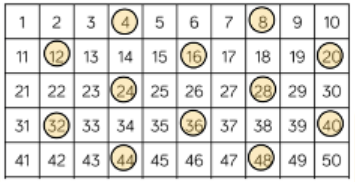
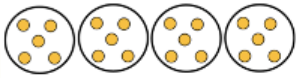
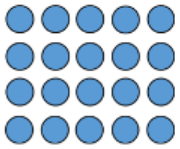
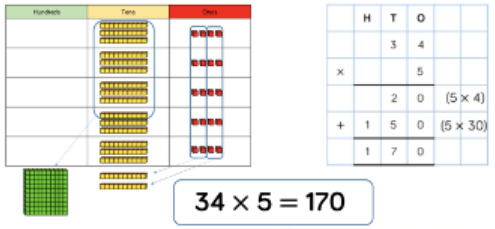
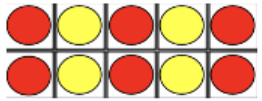
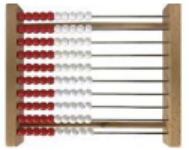
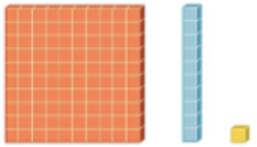
Place Value

National Curriculum Goals	Key Vocabulary	Representations	Concrete Resources
Group 4 • count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number • recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • compare and order numbers up to 1000 • identify, represent and estimate numbers using different representations • read and write numbers up to 1000 in numerals and in words • solve number problems and practical problems involving these ideas	Group 4 *Zero* *Ones* *Tens* *Hundreds* *Partition* *-teen number* *-ty number* *Place value* *Value* *Place holder* *Compare* *Equal to / the same as (=)* *Smaller / fewer / less / is less than (<)* *Smallest / fewest / least* *More / bigger/ larger / greater / greater than (>)* *Most / biggest / largest /greatest* *Order* *Ascending* *Descending* *Before / 1 less / 10 less / 100 less* *After / 1 more / 10 more / 100 more* *Skip counting / counting by / counting in / times tables / multiples of* *Round to the nearest 10 / 100* *Round up* *Round down* *Number* *Number in words* *Digit* *Symbol* *How many?*	Group 4 **Part-whole model**  **Bar model**  **Place value chart**  	Group 4 **Bead strings**  **Number lines (unlabelled)**  **Base ten**  **Place value counters**  **Counting rack**  **Snapcubes**  **Counters**  **Place value cards** 

Addition & Subtraction

National Curriculum Goals	Key Vocabulary	Calculation Methods / Representations	Concrete Resources
Group 4 • add and subtract numbers mentally, including: ▪ a three-digit number and ones ▪ a three-digit number and tens ▪ a three-digit number and hundreds • add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction • estimate the answer to a calculation and use inverse operations to check answers • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	Group 4 *Add / Total / Plus / Together / Altogether / Addition / Sum / More* *Take away / Minus / Less / Subtract / Fewer / Difference / Left over* *Is / Equal / Is equal to* *# more / counting on / how many more?* *# less / counting back / how many less?* *Number sentence / Number problem / Equation* *Digit* *Fact family* *Number bond* *Number facts* *Next multiple of ten* *Previous multiple of ten* *Missing number* *Inverse* *Crossing 10 / exchange / crossing 100*	Group 4 **Part-whole model**  **Bar model**  **Number line**  **Hundred square**  **Column method**  	Group 4 **Bead strings**  **Number lines (unlabelled)**  **Base ten**  **Counting rack**  **Cubes**  **Counters**  **Place value counters** 

Multiplication & Division

National Curriculum Goals	Key Vocabulary	Calculation Methods / Representations	Concrete Resources
Group 4 • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods • solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	Group 4 *Doubling* *Halving* *Repeated addition* *Multiplication* *Multiply* *Multiplied by / times / groups of* *Multiple* *Array(s) – Row and Column* *Division* *Dividing / divide by / divide into* *Grouping / equal groups of* *Sharing / share equally* *Left / left over / remainder* *Number sentence / Number problem / Equation* *Fact family* *Multiplication fact* *Division fact* *Inverse* *Number pattern*	Group 4 **Bar model**  **Number line (unlabelled)**  0 4 8 12 16 20 24 28 32 36 40 44 48 **Hundred square**  **Groups**  **Arrays**  $5+5+5+5=20$ $4\times5=20$ $5\times4=20$ **Expanded column method**  $34\times5=170$	Group 4 **Numicon**  **Counters**  **Place value counters**  **Counting rack**  **Base ten** 

Fractions

National Curriculum Goals

Group 4

- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit number or quantities by 10
- recognise, find, and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- recognise and show, using diagrams, equivalent fractions with small denominators
- add and subtract fractions with the same denominator within one whole (for example: $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)
- compare and order unit fractions, and fractions with the same denominators
- solve problems that involve all of the above

Key Vocabulary

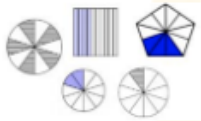
Group 4

Whole
Fraction
Half / $\frac{1}{2}$
Quarter / $\frac{1}{4}$
Third / $\frac{1}{3}$
Two quarters $\frac{2}{4}$
Three quarters / $\frac{3}{4}$
Fifth / $\frac{1}{5}$
Sixth / $\frac{1}{6}$
Eighth / $\frac{1}{8}$
Ninth / $\frac{1}{9}$
Tenth / $\frac{1}{10}$
Twelfth / $\frac{1}{12}$
Numerator
Denominator
Unit fractions
Non-unit fractions
Decimals
Divide
Parts
Split
Equal / Equally
Non-equal
Equivalent / equivalence
Shaded
Amount
Groups
Share

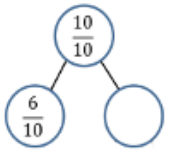
Representations

Group 4

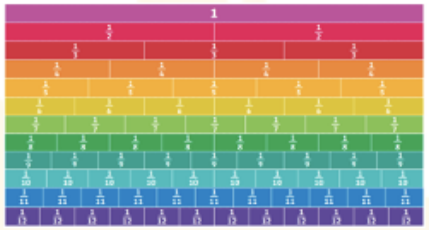
Shapes



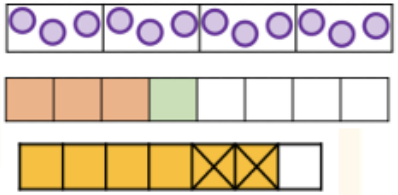
Part-whole model



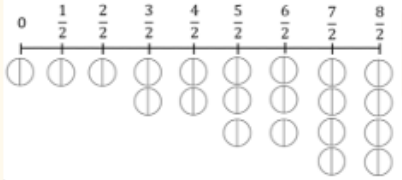
Fraction wall

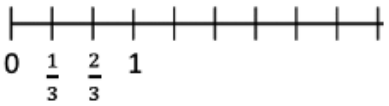


Bar model



Number lines





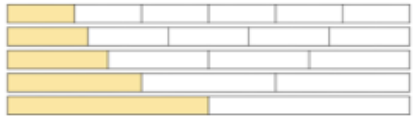
Concrete Resources

Group 4

Paper shapes

Foam shapes

Strips of paper



Snapcubes

Counters

Number lines