Northampton International Academy
Curriculum Overview - Maths

Why Teach Mathematics?

We believe that mathematics will allow students to establish life-long skills to make informed decisions and choices throughout their lives. Our curriculum aims to support children in securing conceptual understanding through:

- making rich connections across mathematical ideas to develop fluency, reasoning and solving increasingly sophisticated problems
- using concrete manipulatives to support conceptual understanding
- the use of variation to help children notice and understand pattern and structure
- fostering and maintaining a curiosity about mathematics in the world around us
- creative teaching approaches and rich tasks
- developing an appreciation of the beauty and elegance of mathematics
- applying their mathematical knowledge to other areas of the curriculum

We want our children to be able to think like mathematicians and provide them with the necessary financial literacy and mathematical knowledge in preparation for the next step in their educational journey and ultimate employment.

Teaching for Understanding

Teaching that focuses on developing a **secure** and deep understanding, including the use of **practical** resources and **iconic representations**, supports the learning and memorisation of mathematical concepts. This approach encourages learners to feel confident and capable in their mathematical abilities, fostering a positive and inclusive learning environment

Belief

All learners need to **believe they can succeed** and also believe that their teacher, and parents, believe they can succeed. Adopting a **growth mindset** is at the heart of a 'Can Do Maths' approach including the use of **'yet'** and knowing that **making mistakes** is an essential **part of learning**.

Hard Work

Success comes from **hard work**. It's as simple as that! Mathematics can be difficult at times, but success can be achieved through hard work.

Curriculum Planning

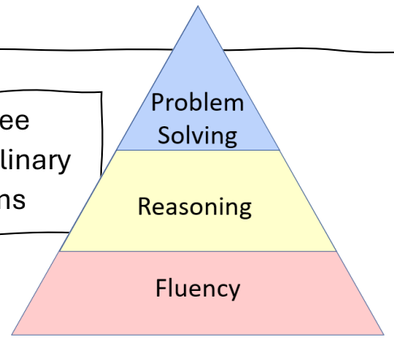
The maths curriculum topics are taught through units of work in the following areas.

Each year group starts in September with a focus on number and place value.

Each unit has a sequence of 'manageable steps' which sets out the sequence of learning to ensure that children have high success rates in achieving the unit objectives.

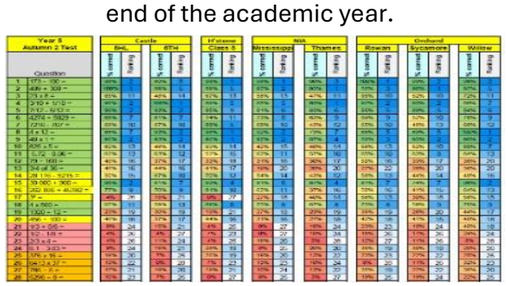
Substantive Topic & Year Taught	1	2	3	4	5	6
Number and Place Value						
Addition and Subtraction						
Multiplication and Division						
Fractions, Decimals, Percentages						
Ratio and Proportion						
Measurement						
Measurement: Time						
Measurement: Money						
Geometry						
Position						
Statistics						
Algebra						

Three Disciplinary Aims



Arithmetic Focus

Arithmetic tests are taken in the first week of each half term with each question assessing a particular skill to show progress directly between corresponding questions in each test. Question Level Analysis (QLA) helps to identify where pupils need additional support to achieve the expected age-related objectives by the end of the academic year.



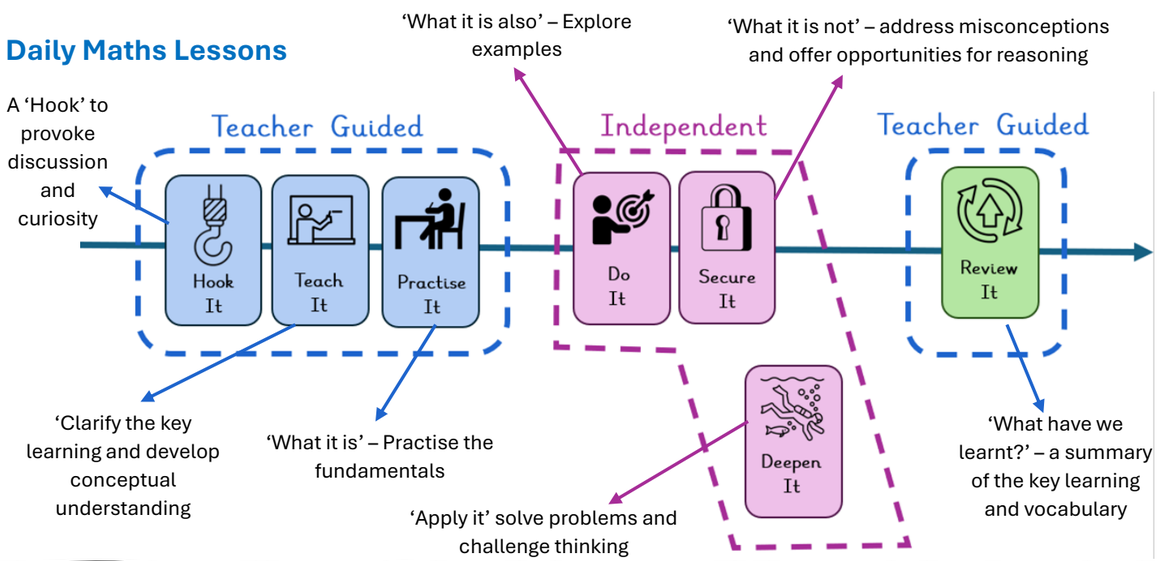
Lesson Structure

Each class has two maths sessions each day. The main lesson is where children learn the substantive content in manageable steps and a maths on track session which provides opportunity for practice and retrieval as well as immediate interventions to support children to keep up with the current learning.

Daily Maths Lessons Intelligent Practice	
'Learning Together'	'Support and Challenge'

Daily Maths on Track Session Deliberate Practice
Arithmetic / Intervention / Practice / Retrieval

Daily Maths Lessons



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Curriculum Overview - Maths

Place Value	Addition and Subtraction	Multiplication and Division	Fractions, Decimals and Percentages	Geometry: Properties of Shapes	Geometry: Position and Direction	Measurement	Statistics	Ratio and Proportion	Algebra

	W	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Autumn	1	1	Number and Place Value: up to at least 20	1	Number and Place Value	1	Number and Place	1	Number and Place Value	1	Number and Place Value	1	Number and Place Value
	2											2	Addition and Subtraction
	3									2	Decimals	3	Decimals
	4	2	Geometry: Properties of Shapes	2	Geometry: Properties of Shapes								
	5					2	Geometry: Properties of Shapes	2	Geometry: Properties of Shapes	3	Geometry: properties of Shapes	4	Multiplication and Division
	6	3	Addition and Subtraction	3	Addition and Subtraction: Addition								
	7									4	Addition and Subtraction		
	8					3	Multiplication and Division	3	Multiplication and Division: Multiplication Tables			5	Geometry: Position and Direction
	9	4	Number and Place Value: up to 100	4	Addition and Subtraction: Subtraction					5	Multiplication and Division: Powers of 10	6	Fractions, Decimals and Percentages
	10												
	11					4/5	Addition and Subtraction: Mental Methods	4	Addition and Subtraction: Mental Methods				
	12	5	Addition and Subtraction: Facts 7-11	5	Geometry: Properties of Shapes							7	Geometry: Properties of Shapes (Angles)
	13				Multiplication and Division					6	Multiplication and Division: Properties of Number		
	14												
	15	6	Geometry: Properties of Shapes	6	Geometry: Position and Direction								
Spring	16	7	Addition and Subtraction: Facts 11-16	7	Multiplication and Division: Multiplication Tables	6	Fractions	5	Multiplication and Division: Multiplication Tables	7	Multiplication and Division: Written Methods	8	Geometry: Properties of Shapes
	17												
	18					7/8	Addition and Subtraction: Written Methods	6	Addition and Subtraction: Written Methods			9	Fractions: Calculating
	19			8	Measurement: Length and Mass								
	20	8	Measurement: Length							8	Geometry: Position and Direction		
	21												
	22	9	Addition and Subtraction: Facts 17-20	9	Fractions	9	Multiplication and Division	7	Multiplication and Division: Written Methods	9	Fractions, Decimals and Percentages	10	Ratio and Proportion
	23											11	Measurement: Converting Units
	24	10	Fractions	10	Measurement: Time					10	Measurement: Length, Mass and Capacity	12	Measurement: Area and Volume
	25												
	26	11	Geometry: Position and Direction	11	Measurement: Money	10	Measurement: Money	8	Geometry: Properties of Shapes (Angles)			13	Algebra
	27												
Summer	28	12	Addition and Subtraction	12	Statistics	11	Fractions: Calculating	9	Decimals	11	Fractions: Calculating	14	Statistics
	29												
	30	13	Measurement: Time	13	Measurement: Capacity and Temperature	12	Measurement: Time					15	Targeted Revision
	31							10	Fractions			16	NC Test Week
	32											17	Problem Solving
	33	14	Multiplication and Division	14	Place Value	13	Measurement: Length, Mass and Capacity	11	Addition and Subtraction: Decimals	12	Measurement: Area and Volume	Moving Up	Place Value
	34			15	Addition and Subtraction			12	Measurement: Time and Converting Units				Multiplication and Division
	35	15	Measurement: Money					13	Measurement: Length, Mass & Capacity	13	Geometry: Properties of Shapes		Fractions, Decimals and Percentages
	36					14	Geometry: Properties of Shapes (Angles)	14	Measurement: Perimeter and Area				Geometry
	37			16	Geometry and Measurement								Measurement
	38	16	Measurement: Mass and Capacity	17	Multiplication and Division	15	Statistics	15	Geometry: Position and Direction	14	Measurement: Time		Algebra
	39			18	Fractions			16	Statistics	15	Statistics		Problem Solving

Northampton International Academy
Reception Curriculum Map 2021-22 - Maths

Mathematics

Number

Numerical Patterns

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.
By providing frequent and varied opportunities to build and apply this understanding – such as using manipulatives, including small pebbles and tens frames for organising counting – children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

		Autumn	Spring	Summer
Key Knowledge and Skills	Counting	- Begin to say numbers one after the other, some of which are in the right order (ordinality) - Recognise numerals that are personally significant - Begin to recognise numerals 0 to 5 - Point or touch (tags) each item when counting, saying one number for each item, using the stable order of 1,2,3,4 (one-to-one correspondence). Re-arranging objects to support this. - Use some number names and number language within play - Introduce larger numbers used in different contexts to encourage a fascination with large numbers - Understand the principle of order irrelevance when counting (it does not matter which object you start with when you begin to count and that the total remains the same.) - Understand the abstraction principle by counting different sized objects, treating them the same numerically, and counting things that can't be seen	- Begin to recognise numerals 0 to 10 - Point or touch (tags) each item, saying one number for each item, using the stable order of 1-10 (one-to-one correspondence) - Enjoy rote counting verbally as far as they can go - Enjoy reciting numbers from 0 to 10 (and beyond) and back from 10 to 0 - Start counting forwards and backwards from any given number - Increase confidence putting numerals in order 0 to 10 (ordinality)	- Confidently recognise numerals 0 to 10 - Confidently put numerals in order 0 to 10 (ordinality) - Verbally count beyond 20, recognising the pattern of the counting system
	Cardinality	- In everyday situations, take or give two or three objects from a group - Subitise one, two and three objects (without counting) - Count up to five items, recognising that the last number said represents the total counted so far (cardinal principle) - Link numerals with amounts up to 5 and maybe beyond - Explore using a range of their own marks and signs to which they ascribe mathematical meanings	- Engage in subitising numbers to four and maybe five - Count out up to 10 objects from a larger group	- Match the numeral with a group of items to show how many there are (up to 10) - Subitise (recognise quantities without counting) up to 5
	Comparison	- Begin to compare and recognise changes in numbers of things, using words like more, lots or 'same' - Compare two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. You've got two, I've got two. Same!	- Use number names and symbols when comparing numbers, showing interest in large numbers - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity	- Estimates of numbers of things, showing understanding of relative size
	Composition	- Begin to use understanding of number to solve practical problems in play and meaningful activities - Through play and exploration, begin to learn that numbers are made up (composed) of smaller numbers - Begin to recognise that each counting number is one more than the one before - Separate a group of three or four objects in different ways, beginning to recognise that the total is still the same - Begin to understand zero	- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts and double facts) - Show awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects - In practical activities, add one and subtract one with numbers to 10	- Have a deep understanding of number to 10, including the composition of each number - Begin to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees six raisins on a plate as three and three - Automatically recall (without reference to rhymes, counting or other aids) some number bonds to 10 (including subtraction facts and double facts) - Begin to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and "+" or "-"
	Pattern	- Join in and anticipate repeated sound and action patterns - Express interest in what happens next using the pattern of everyday routines - Begin to sort objects to one attribute (e.g. colour, size) - Spot patterns in the environment - Join in with simple patterns in sounds, objects, games and stories dance and movement, predicting what comes next - Explore and add to simple linear patterns of two repeating items, e.g. stick, leaf (AB)	- Begin to identify the pattern "rule" (AB / ABC etc) - Create their own spatial patterns showing some organisation or regularity - Explore and add to simple linear patterns of three repeating items, e.g. stick, leaf, stone (ABC)	- Explore and represent pattens within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally - Choose familiar objects to create and recreate repeating patterns beyond AB patterns (e.g. ABB, ABBC), find errors in these patterns and begin to identify the unit of repeat
	Spatial Awareness	- Move own body and toys around objects and explore fitting into spaces - Begin to remember their way around familiar environments - Respond to spatial and positional language - Explore how things look from different viewpoints including things that are near or far away - Respond to and use language of position and direction - Predict, move and rotate objects to fit the space or create the shape they would like	- Investigate turning and flipping objects in order to make shapes fit and create models; predicting and visualising how they will look (spatial reasoning) - Recognise rotation - Bending and folding to explore properties of shapes	- Use spatial language, including following and giving directions, using relative terms and describing what they see from different viewpoints (forwards, backwards, up, down, left, right and turn) - Make simple maps of familiar and imaginative environments, with landmarks - Recognition of symmetry - Cutting of shapes to explore properties
	Shape	- Choose puzzle pieces and try to fit them into spaces - Recognise that two objects have the same shape - Make simple constructions - Choose items based on their shape which are appropriate for the purpose - Respond to and name common 2D and 3D shapes	- Develop awareness of shape similarities and differences between objects - Attempt to create arches and enclosures when building, using trial and improvement to select blocks - Partition and combine shapes to make new shapes with 2D and 3D shapes - Make patterns out of shapes	- Use informal language and analogies, (e.g. heart-shaped and hand-shaped leaves), as well as mathematical terms to describe shapes - Compose and decompose shapes, learning which shapes combine to make other shapes - Use own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build, describing properties - Recognise and count faces, vertices and edges in 3D shapes
	Measures	- Explore differences in sizes (big/small/medium) in length, weight and capacity e.g. "You're taller than me" - Talk about immediate past and future - Anticipate times of the day such as mealtimes or home time - In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items - Recall a sequence of events in everyday life and stories	- Become familiar with measuring tools in everyday experiences and play - Compare different sizes of units (measuring the growth of sunflowers, filling different sized containers) - Use of non-standard units of measures, exploring and comparing units of different sizes - Order and sequence events using everyday language related to time (clocks, seasons, calendars)	- Enjoy tackling problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy - Introduction of standard measures - link to measuring devices (accuracy, application of measuring devices) - Begin to experience measuring time with timers and calendars
	Statistics	- Forms sets in which objects in each set are identical and objects in the other sets are different - Follow verbal rules for sorting scaffolded by an adult. (These may be made with shifting criteria; nevertheless, they play an essential role in number, through the unitising process.) - "Fix" a simple sort with mistakes.	- Sort objects according to an explicit attribute. - Sort consistently by a single attribute and re-classify by different attributes. - Sort consistently and exhaustively by an attribute, given or created, and uses the terms "some" and "all." - Compare category frequencies (most and least popular). - Visually compares two graphs (pictograms, ten frames, tally charts, block diagrams, sorting diagrams e.g. Venn)	- Classify objects by multiple attributes in a single sort. "I'll put the big triangles here, the little ones next to them, then the big circles there and then the little circles." - Record the outcome of a sort - Counting in fives (tallying) - Make graphs by classifying and representing data in those categories (pictograms, ten frames, tally charts, block diagrams, sorting diagrams e.g. Venn) - Use of the language of probability e.g. more/less and predict outcomes
Number Early Learning Goal		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.		
Numerical Patterns Early Learning Goal		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.		

Northampton International Academy
Maths Curriculum Manageable Steps – Year 1

Autumn

Number and Place Value	• **Count** at least **20** objects • **Represent numbers** from 10 to at least 20 • Explore the **structure** of numbers up to at least 20 • **Represent** numbers to at least 20 on a **number line** • **Estimate** numbers on a **number line** • **Count forwards** from a given number to another given number • **Count backwards** from a given number to another given number • **Read** numbers 0 - 20 in **words** and **write** using **numerals** • **Read** numbers 0 - 20 in **numerals** and **write** in **words** • **Compare** numbers identifying which one is **more** • **Compare** number identifying which one is **less** • **Order numbers** • Find **1 more** than a number up to at least 20 • Find **1 less** than a number up to at least 20
Geometry	• **Recognise 2 –D shapes** • Recognise and name **rectangles** • Recognise and name **squares** • Recognise and name **circles** • Recognise and name **triangles** • **Compare 2-D** shapes and explain how they are similar or different
Addition and Subtraction	• **Add 1** to numbers **up to 20** • **Subtract 1** from numbers **up to 20** • **Write addition problems** by combining two sets using + and = • **Write subtraction problems** by taking away, using - and = • **Partition 5** • Find and represent all addition number facts of 5 • Find and represent all subtraction number facts of 5 • **Partition 6** • Find and represent all addition number facts of 6 • Find and represent all subtraction number facts of 6
Number and Place Value	• **Count up to 100** • Explore the **structure** of numbers **up to 100** • Recognise the **patterns** in the number sequence **1-100** • **Represent** numbers on a **number line** • **Estimate** numbers on a **number line** • **Count forwards** from a given number to another given number. • **Count backwards** from a given number to another given number • **Compare** numbers identifying **which one is more** • **Compare** numbers identifying **which one is less** • **Order numbers** • Find **1 more** than a number • Find **1 less** than a number
Addition and Subtraction	• **Partition 7** • Find and represent all addition number facts of 7 • Find and represent all subtraction number facts of 7 • **Partition 8** • Find and represent all addition number facts of 8 • Find and represent all subtraction number facts of 8 • **Partition 9** • Find and represent all addition number facts of 9 • Find and represent all subtraction number facts of 9 • **Partition 10** • Find and represent all addition number facts of 10 • Find and represent all subtraction number facts of 10
Geometry	• Recognise **3 –D** shapes • Recognise and name **cuboids** • Recognise and name **cubes** • Recognise and name **pyramids** • Recognise and name **spheres** • **Compare 3-D shapes** and explain how they are similar or different

Spring

Addition and Subtraction	**Partition 11** Find and represent all addition number facts of 11 Find and represent all subtraction number facts of 11 **Partition 12** Find and represent all addition number facts of 12 Find and represent all subtraction number facts of 12 **Partition 13** Find and represent all addition number facts of 13 Find and represent all subtraction number facts of 13 **Partition 14** Find and represent all addition number facts of 14 Find and represent all subtraction number facts of 14 **Partition 15** Find and represent all addition number facts of 15 Find and represent all subtraction number facts of 15 **Partition 16** Find and represent all addition number facts of 16 Find and represent all subtraction number facts of 16
Measurement: Length	**Compare lengths** using the language of longer than and shorter than **Order lengths** **Measure length** using non-standard units **Compare heights** using the language of taller than and shorter than **Order heights** **Measure heights** using non-standard units **Measure lengths** and **heights** using common standard units
Addition and Subtraction	**Partition 17** Find and represent all addition number facts of 17 Find and represent all subtraction number facts of 17 Find and represent all addition number facts of 18 Find and represent all subtraction number facts of 18 **Partition 19** Find and represent all addition number facts of 19 Find and represent all subtraction number facts of 19 **Partition 20**
Fractions	Recognise a half as one of two equal parts of an object or shape Find **1/2** of **objects** Find **1/2** of an **amount** Recognise a quarter as one of four equal parts of an object or shape Find **1/4** of **objects** Find **1/4** of an **amount**
Geometry: Position and Direction	Use mathematical language to **describe position** Use mathematical language to **describe movement** along a **straight line** Use mathematical language to **describe** a turn, including **whole** and **half turns** Use mathematical language to **describe** a turn, including **quarter turns** Use mathematical language to **describe** a turn, including **three-quarter turns**

Summer

Addition and Subtraction	**Add two single digit** numbers **within 10** **Add two single digit** numbers **bridging 10** **Add ten** and a **single digit number** **Add 9** and a **single** digit number **Subtract** a **single** digit number from a **single** digit number **Subtract** a **single** digit number from a **2-digit** number less than 20 **without bridging** 10 **Subtract** a **single** digit number from a **2-digit** number less than 20 **bridging** 10 **Subtract 10** from a **two-digit** number up to 20 **Subtract 9** from a **two-digit** number up to 20 Find the **difference** between two numbers
Measurement: Time	Know and use the **days of the week** Know and use the **months of the year** Recognise and use **language** relating to **dates** **Tell** the time **to the hour** **Draw** hands on a clock face to show time **to the hour** **Tell** the time to **half past** the hour **Draw** hands on a clock face to show time to **half past** the hour **Sequence** events in chronological order within the **same day** **Sequence** events in chronological order within the **same week** **Measure time** **Compare** times using **quicker, slower, earlier, later**
Multiplication and Division	**Double** numbers up to at least 10 **Halve** numbers up to (at least) 20 Count (from zero) in equal **steps of 2s** Count (from zero) in equal **steps of 5s** Count (from zero) in equal **steps of 10s** Use **equal groups** for multiplication Use **arrays** for multiplication Use **grouping** for division Use **sharing** for division **Decide** whether to **multiply or divide** to represent problems
Measurement: Money	Recognise and know the value of the **1p coin** Recognise and know the value of the **2p coin** Recognise and know the value of the **5p coin** Recognise and know the value of the **10p coin** Recognise and know the value of the **20p coin** Recognise and know the value of the **50p coin** Recognise and know the value of the **£1 coin** Recognise and know the value of the **£2 coin** Recognise and know the value of the **£5 note** Recognise and know the value of the **£10 note** Recognise and know the value of the **£20 note**
Measurement: Mass and Capacity	Compare **mass** of objects, **heavier /lighter** than **Order** objects by **mass** **Measure** the **mass** of objects using **non-standard** units **Measure** the mass of objects using **standard** units **Compare capacity** of containers **Measure capacities** using **non-standard** units **Measure capacities** using **standard** units

Northampton International Academy
Maths Curriculum Manageable Steps – Year 2

Autumn

Number and Place Value
- Represent **2-digit** numbers
- **Recognise** the **value** of digits in **2-digit** numbers
- Partition 2-digit numbers in **different** ways
- **Read 2-digit** numbers in **words** and **write** using **numerals**
- **Read 2-digit** numbers in **numerals** and **write** in **words**
- **Identify 2-digit** numbers on a **number line**
- **Represent 2-digit** numbers on a **number line**
- **Estimate** numbers on a **number line**
- **Compare** any two **2-digit** numbers using < > and =
- **Order 2-digit** numbers with **different tens** from smallest to greatest
- **Order 2-digit** numbers with the **same tens** from smallest to greatest
- **Order 2-digit numbers**
- **Find 10 more** than a given number

Geometry
- Identify and describe the properties of **pentagons, hexagons and octagons**
- Identify **symmetry** properties of **2-D shapes** using **vertical** lines
- Identify and describe the properties of **3-D shapes** including the number of **vertices**
- Identify and describe the properties of **3-D shapes** including the number of **edges**
- Identify and describe the properties of **3-D shapes** including the number of **faces**

Addition and Subtraction: Addition
- Show that **addition** is **commutative**
- Recall and use **addition facts** of two single digits **bridging 10**
- Recall and use **addition** facts of **single digit doubles**
- Use **addition** facts of **10** to **derive** facts of **100**
- **Add ones to 2-digit** numbers
  - using **number facts** where the tens don't change
  - using **bridging**
  - by **rounding** to ten then **compensating**
- **Add multiples of ten to 2-digit** numbers using number facts
- **Add two 2-digit** numbers
  - by **counting on** in tens then 1s
  - using **partitioning** and **recombining** (no regrouping)
  - using **partitioning** and **recombining**
  - by **rounding** to the nearest ten then **compensating**
  - choosing an **efficient** strategy
- Add **three single digit** numbers

Addition and Subtraction: Subtraction
- Understand why **subtraction** is **not commutative**
- Recall subtraction facts of **two single digits** within 10
- Recall subtraction facts of **2-digit** numbers (20 or less) subtract a single digit **not bridging** 10
- Recall subtraction facts of 2-digit numbers (20 or less) subtract a single digit **bridging** 10
- Use subtraction facts of 10 to subtract multiples of ten from 100
- Subtract ones from 2-digit numbers using number facts where the tens don't change
- Subtract ones from 2-digit numbers using bridging
- Subtract ones from 2-digit numbers by rounding to ten then compensating
- Subtract multiples of ten from 2-digit numbers using number facts
- Subtract two 2-digit numbers by counting back in tens then 1 s
- Subtract two 2-digit numbers by rounding to the nearest ten then compensating
- Subtract by finding the difference between two numbers - counting on
- Derive addition and subtraction facts using inverse operations

Geometry
- Identify and describe the properties of cylinders
- Identify and describe the properties of cones
- Identify and describe 2-D shapes on the surface of 3-D shapes
- Compare and sort 3-D shapes and explain how they are similar or different
- Compare and sort 2-D shapes and explain how they are similar or different

Multiplication and Division
- Count in steps of 3 from zero
- Show and use the connection between multiplication and repeated addition
- Create multiplication statements to describe and solve equal grouping problems
- Use arrays to solve multiplication problems
- Show and use the commutativity of multiplication
- Create division statements to describe and solve grouping problems
- Create division statements to describe sharing and solve problems
- Show that division is not commutative

Geometry: Position
- Use mathematical language to describe position
- Use mathematical language to describe direction of a turn, including meaning of clockwise and anticlockwise
- Understand and use the language of right angles to describe the size of turn
- Interpret and devise instructions for following a simple route
- Order combinations of mathematical objects in patterns and sequences

Spring

Multiplication and Division: Multiplication Tables
- Build the 2x table and count in steps of 2 from zero
- Recall and use multiplication facts for the 2 times table
- Recall and use division facts for the 2 times table
- Recognise and use odd and even numbers
- Build the 10x table and count in steps of 10 from zero
- Recall and use multiplication facts for the 10 times table
- Recall and use division facts for the 10 times table
- Build the 5x table and count in steps of 5 from zero Tables
- Recall and use multiplication facts for the 5 times table
- Recall and use division facts for the 5 times table
- Use factor, factor, product relationship to derive multiplication and division statements

Measurement: Length and Mss
- Read scales in divisions of ones and twos,
- Read scales in divisions of fives and tens
- Measure the mass of objects (kg) Measure the mass of objects (g)
- Estimate the mass of objects
- Compare the mass of objects using >, < and =
- Order the mass of objects
- Measure lengths (m)
- Measure lengths (cm)
- Compare lengths using >, < and =
- Order lengths
- Measure heights (cm)
- Compare heights using >, < and =

Fractions
- Recognise one third as one of three equal parts of a shape and use fraction notation
- Find 1/3 of objects
- Find 1/3 of an amount
- Recognise two quarters as two of four equal parts, or two of one quarter of a shape and use fraction notation
- Find 2/4 of objects
- Find 2/4 of an amount
- Recognise that a half is equivalent to two quarters
- Recognise three quarters as three of four equal parts, or three of one quarter of a shape and use fraction notation
- Find 3/4 of objects
- Find 3/4 of an amount

Measurement: Time
- Tell the time using quarter past the hour on an analogue clock
- Tell the time using quarter to the hour on an analogue clock
- Draw the hands on a clock to show quarter past/to the hour on an analogue clock
- Know and use the fact that there are 60 minutes in 1 hour
- Tell the time to five-minute intervals past the hour on an analogue clock
- Draw the hands on a clock to show five-minute intervals past the hour on an analogue clock
- Tell the time to five minute intervals to the hour on an analogue clock
- Draw the hands on a clock to show five-minute intervals to the hour on an analogue clock
- Order or sequence intervals of time, including the fact that there are 24 hours in one day

Measurement: Money
- Combine £1, £2, £5 and £10 use the symbol for pounds (£)
- Find the sum of different amounts of pounds
- Combine 1p, 2p and 5p coins to make different totals
- Combine 10p, 20p and 50p coins to make different totals
- Find the sum of different amounts of pence
- Find different combinations of coins that equal the same amounts of money
- Calculate change from 50p
- Calculate change from £1

Summer

Statistics
- Interpret a table
- Construct a tally chart
- Interpret a pictogram where the symbol represents a single item
- Construct a pictogram where the symbol represents a single item
- Interpret a pictogram where the symbol represents 2 items
- Construct a pictogram where the symbol represents 2 items
- Interpret a pictogram where the symbol represents 5 or 10 items
- Construct a pictogram where the symbol represents 5 or 10 items
- Interpret a block diagram
- Construct a block diagram

Measurement: Capacity and Temperature
- Measure capacity using litres
- Measure capacity using millilitres
- Estimate capacity using litres
- Estimate capacity using millilitres
- Compare capacity, > and <
- Order capacities
- Measure temperature

Place Value
- Read, write, compare and order 2-digit numbers
- Find 10 more or less of a 2-digit number

Addition and Subtraction
- Recall and use addition and subtraction facts to 10 and know that addition is commutative

Addition and Subtraction
- Add two 2-digit numbers

Addition and Subtraction
- Subtract two 2-digit numbers

Geometry and Measurement
- Identify and describe the properties of 2-D and 3-D shapes, including the number of edges, vertices and faces
- Tell the time to quarter to/past and 5-minute intervals
- Calculate change and combine coins to make amounts

Multiplication and Division
- Understand how multiplication and divison can be represented and know that multiplication is commutative Know and use multiplication and division facts for 2, 5 and 10 multiplication tables
- Read scales in divisions of 1, 2, 5 and 10

Fractions
- Recognise and find one half, one third and one quarter

Northampton International Academy
Maths Curriculum Manageable Steps – Year 3

Autumn

Number and Place Value
- Represent 3-digit numbers
- Recognise the value of digits in 3-digit numbers
- Partition 3-digit numbers in different ways
- Read 3-digit numbers in words and write using numerals
- Read 3-digit numbers in numerals and write in words
- Read 3-digit numbers in words and write using numerals including zero as a place holder
- Read 3-digit numbers in numerals and write in words, including zero as a place holder
- Identify 3-digit numbers on a number line
- Represent 3-digit numbers on a number line
- Count in steps of 50 and 100 from zero
- Count up in steps of 10 from any 2 or 3-digit number
- Count back in steps of 10 from any 3-digit number
- Count up in steps of 100 from any 2 or 3-digit number
- Count back in steps of 100 from any 3-digit number
- Find 10 more than a given number
- Find 10 less than a given number
- Find 100 more than a given number
- Find 100 less than a given number
- Compare any two 3-digit numbers
- Order 3-digit numbers with different hundreds
- Order 3-digit numbers with the same hundreds
- Order 3-digit numbers
- Find tenths of whole numbers and express as fractions and decimals
- Count up in tenths and position them on a number line
- Count down in tenths and position them on a number line

Geometry
- Identify and draw horizontal lines
- Identify and draw vertical lines
- Identify and draw parallel lines
- Identify and draw perpendicular lines
- Draw common 2D shapes
- Name and describe 3D shapes
- Make 3D shapes using modelling materials

Multiplication and Division
- Build the 3x table
- Recall and use multiplication facts for the 3 times table
- Recall and use division facts for the 3 times table
- Build the 4x table and count in steps of 4 and multiples of 4 from zero
- Recall and use multiplication facts for the 4 times table
- Recall and use division facts for the 4 times table
- Build the 8x table and count in steps of 8 and multiples of 8 from zero
- Recall and use multiplication facts for the 8 times table
- Recall and use division facts for the 8 times table

Addition and Subtraction: Mental Methods
- Add ones to three-digit numbers using number facts where the tens don't change
- Add ones to three-digit numbers using bridging
- Add ones to three-digit numbers by rounding to ten then compensating
- Add tens to three-digit numbers using number facts, where the hundreds don't change
- Add tens to three-digit numbers using bridging
- Add hundreds to three-digit numbers using number facts
- Add 99 to three-digit numbers using rounding to the nearest hundred and then compensating
- Add two 3-digit numbers using rounding to the nearest hundred and then compensating
- Add two 3-digit numbers by partitioning and recombining (no regrouping)
- Add two 2-digit numbers where the sum exceeds 100, choosing an efficient mental strategy
- Subtract ones from three-digit numbers using number facts where the tens don't change
- Subtract ones from three-digit numbers using bridging
- Subtract ones from three-digit numbers by rounding to ten then compensating
- Subtract tens from three-digit numbers using number facts where the hundreds don't change
- Subtract tens from three-digit numbers using bridging
- Subtract hundreds from three-digit numbers using number facts
- Subtract from three-digit numbers using rounding and compensating
- Subtract two 3-digit numbers using partitioning no exchanging
- Subtract by finding the difference between two 3-digit numbers with the same hundreds digits
- Subtract by finding the difference between two numbers with different hundreds digits

Spring

Fractions
- Recognise and represent unit fractions Recognise and represent non-unit fractions
- Compare two proper fractions which have the same denominator Order a set of proper fractions which have the same denominator Compare two unit fractions
- Order a set of unit fractions
- Compare two proper fractions which have the same numerator >1 (small denominator) Order a set of proper fractions which have the same numerator >1 (small denominator) Recognise and show equivalent proper fractions (denominators multiples of each other)

Addition and Subtraction Written Methods
- Use column addition for two 3-digit numbers when regrouping is required in the ones column
- Use column addition for two 3-digit numbers when regrouping is required in the tens column
- Use column addition for two 3-digit numbers when regrouping is required in multiple columns
- Use column addition for 3-digit and 2-digit numbers when regrouping is required in the ones column
- Use column addition for 3-digit and 2-digit numbers when regrouping is required in the tens column
- Use column addition for 3-digit and 2-digit numbers when regrouping is required in multiple columns
- Choose efficient methods to add numbers with up to 3-digits
- Use column subtraction for 3-digit numbers when exchanging is required in the tens column
- Use column subtraction for 3-digit numbers when exchanging is required in the hundreds column
- Use column subtraction for 3-digit numbers when exchanging is required in multiple columns
- Use column subtraction for 3-digit and 2-digit numbers when exchanging is required in the tens column
- Use column subtraction for 3-digit and 2-digit numbers when exchanging is required in the hundreds column
- Use column subtraction for 3-digit and 2-digit numbers when exchanging is required in multiple columns
- Choose efficient methods to subtract numbers with up to 3-digits

Multiplication and Division
- Multiply 2-digit numbers by 10 using place value
- Multiply 1-digit numbers by multiples of 10 using place value
- Use the distributive law to multiply a teens number by a one-digit number
- Use the distributive law to multiply a two-digit number by a one-digit number
- Multiply 2-digit numbers by a 1-digit number using a formal written method (regroup ones)
- Multiply 2-digit numbers by a 1-digit number using a formal written method (regroup tens)
- Multiply 2-digit numbers by a 1-digit number using a formal written method (multiple)
- Use efficient methods to multiply a two-digit number by a one-digit number
- Divide near multiples by 2, 3, 4, 5, 8, 10 with remainders
- Divide a 3-digit multiple of ten by 10 using place value
- Use known facts and place value when dividing mentally by 2, 3, 4, 5, and 8 e.g. 120 ÷ 4
- Use partitioning to divide by a single digit number where the quotient is a teens number
- Use multiplication or division to solve scaling or correspondence problems

Measurement: Money
- Use combinations of coins to make amounts beyond £1
- Add amounts in pence expressing the answer using £ and p (regrouping in the tens)
- Add amounts in pounds and pence
- Subtract pence from £2
- Subtract pence from £5
- Subtract pounds and pence from £5
- Subtract pounds and pence from £10
- Calculate change beyond £1

Summer

Fractions
- Find unit fractions of a number of objects
- Find unit fractions of an amount
- Find non-unit fractions of a number of objects
- Find non-unit fractions of an amount
- Add fractions with the same denominator within one whole
- Subtract fractions with the same denominator within one whole

Measurement: Time
- Read Roman numerals up to XII
- Know the number of seconds in a minute and multiple minutes
- Know the number of days in each month, year and leap year
- Tell the time to one-minute intervals past the hour on an analogue clock
- Draw the hands on a clock to show one-minute intervals past the hour on an analogue clock
- Tell the time to one-minute intervals to the hour on an analogue clock
- Draw the hands on a clock to show one-minute intervals to the hour on an analogue clock
- Read analogue time and record using digital format
- Read digital time and write using 'to' and 'past'
- Sequence events using a.m. and p.m.
- Compare times given in seconds, minutes and/or hours
- Calculate the duration of events less than one hour
- Calculate the duration of events more than one hour

Measurement: Length and Mass
- Use a ruler to measure lengths in millimetres
- Compare the length of two objects
- Order lengths
- Add lengths
- Subtract lengths
- Find the perimeter of a 2-D shapes by measuring
- Compare mass
- Order mass
- Add and subtract mass
- Measure capacity
- Add and subtract capacities
- Use scaling with measures

Geometry: Angles
- Understand that angle is a description of turn
- Understand that angles are a feature of shapes
- Identify a right angle as a quarter turn
- Identify when a shape has a right angle
- Recognise that 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 a complete turn
- Identify angles that are less than or greater than a right angle

Statistics
- Interpret a pictogram where the symbol represents multiple items
- Construct a pictogram where the symbol represents multiple items Statistics
- Interpret a bar chart
- Construct a bar chart Interpret data in a table
- Create a table to show data

Northampton International Academy
Maths Curriculum Manageable Steps – Year 4

Autumn

Number and Place Value
- Represent 4-digit numbers
- Recognise the value of digits in 4-digit numbers
- Read 4-digit numbers in words and write using numerals
- Read 4-digit numbers in numerals and write in words
- Read 4-digit numbers in words and write using numerals including zero as a place holder
- Read 4-digit numbers in numerals and write in words, including zero as a place holder Identify 4-digit numbers on a number line
- Represent 4-digit numbers on a number line
- Count in multiples of 25
- Count up in multiples of 1000 from any number
- Find 1000 more than a given number
- Find 1000 less than a given number
- Compare two 4-digit numbers
- Order 4-digit numbers with different thousands
- Order 4-digit numbers with the same thousands
- Round 2-digit numbers to the nearest 10
- Round 3-digit numbers to the nearest 10
- Round 4-digit numbers to the nearest 10
- Round 3-digit numbers to the nearest 100
- Round 3 and 4-digit numbers to the nearest 100
- Round 4-digit numbers to the nearest 1000
- Count backwards through zero to include negative numbers

Geometry
- Identify and describe an equilateral triangle
- Identify and describe an isosceles triangle
- Identify and describe a scalene triangle
- Identify and describe a parallelogram
- Identify and describe a rhombus
- Identify and describe a trapezium
- Identify and describe a kite
- Identify lines of symmetry of a 2D shape
- Identify a line of symmetry of a pattern and for a diagram of a reflection
- Use a line of symmetry to complete a symmetrical shape

Multiplication and Division: Multiplication Tables
- Build the 6x table and count in steps of 6 and multiples of 6 from zero
- Recall and use multiplication facts for the 6 times table
- Recall and use division facts for the 6 times table
- Build the 9x table and count in steps of 9 and multiples of 9 from zero
- Recall and use multiplication facts for the 9 times table
- Recall and use division facts for the 9 times table
- Build the 7x table and count in steps of 7 and multiples of 7 from zero
- Recall and use multiplication facts for the 7 times table
- Recall and use division facts for the 7 times table
- Know and use the effect of multiplying by 0
- Know and use the effect of multiplying by 1 Know and use the effect of dividing by 1

Addition and Subtraction: Mental Methods
- Add ones to 4-digit numbers (where the thousands change)
- Add tens to 4-digit numbers (where the hundreds change)
- Add tens to 4-digit numbers (where the thousands change)
- Add hundreds to 4-digit numbers (where the thousands change)
- Add 3-digit number to 4-digit number using rounding to the nearest hundred and then compensating
- Add two 4-digit numbers using rounding to the nearest thousand and then compensating
- Add two 3-digit numbers where the sum exceeds 1000, choosing an efficient mental strategy

- Subtract ones from 4-digit number (where the hundreds change)
- Subtract ones from 4-digit number (where the thousands change)
- Subtract tens from 4-digit number (where the hundreds change)
- Subtract tens from 4-digit number (where the thousands change) Subtract hundreds from 4-digit number (where the thousands change)
- Subtract 3-digit number from 4-digit number using rounding to the nearest hundred and then compensating
- Subtract 4-digit number from a 4-digit number using rounding to the nearest thousand and then compensating
- Subtract by finding the difference between two 4-digit numbers by counting on

Spring

Multiplication and Division: Multiplication Tables
- Build the 11x table and count in steps of 11 from zero
- Recall and use multiplication facts for the 11 times table
- Recall and use division facts for the 11 times table
- Build the 12x table and count in steps of 12 from zero
- Recall and use multiplication facts for the 12 times table
- Recall and use division facts for the 12 times table
- Use knowledge of factor pairs (commutativity) when multiplying mentally three numbers together, such as 2 x 6 x 5 = 10 x 6 = 60

Addition and Subtraction: Written Methods
- Add two 4-digit numbers, no regrouping
- Use column addition for two 4-digit numbers when regrouping is required in the ones column
- Use column addition for two 4-digit numbers when regrouping is required in the tens column
- Use column addition for two 4-digit numbers when regrouping is required in the hundreds column
- Use column addition for two 4-digit numbers when regrouping is required in multiple columns
- Use column addition for two 3-digit numbers where the sum exceeds 1000
- Use column addition for 4-digit and 3-digit numbers when regrouping is required in multiple columns
- Use column addition for 4-digit and 2-digit numbers when regrouping is required in multiple columns
- Subtract a 4-digit number from a 4-digit number, no exchanging
- Use column subtraction for 4-digit numbers when exchanging is required in the tens column
- Use column subtraction for 4-digit numbers when exchanging is required in the hundreds column
- Use column subtraction for 4-digit numbers when exchanging is required in the thousands column
- Use column subtraction for 4-digit numbers when exchanging is required in multiple columns
- Use column subtraction for 4-digit and 3-digit numbers when exchanging is required in multiple columns
- Use column subtraction for 4-digit and 2-digit numbers when exchanging is required in multiple columns

Multiplication and Division
- Multiply 1-digit numbers by multiples of 10 using place value (6, 7, 9)
- Use the distributive law to multiply a two-digit number by a one-digit number (6, 7, 9)
- Multiply 2-digit number by a 1-digit number using a formal written method (6, 7, 9)
- Multiply 1 and 2-digit numbers by 100
- Multiply 3-digit number by a 1-digit number using a formal written method (regroup ones)
- Multiply 3-digit number by a 1-digit number using a formal written method (regroup tens)
- Multiply 3-digit number by a 1-digit number using a formal written method (regroup hundreds)
- Multiply 3-digit number by a 1-digit number using a formal written method (multiple regroup)
- Divide multiples of ten by 10
- Divide multiples of a hundred by 100
- Use known facts and place value when dividing mentally e.g. 120 ÷ 6, 1200÷ 6, 1320÷ 12
- Divide near multiples by 6, 7, 9, 11 and 12 with remainders
- Divide 3-digit number by a single digit number using partitioning and place value
- Use written method to divide a 3-digit number by a single digit number (hundreds = multiple of divisor, tens > divisor) with no remainder
- Use written method to divide a 3-digit number by a single digit number (hundreds > divisor, one exchange) with no remainder
- Use written method to divide a 3-digit number by a single digit number (hundreds > divisor, two exchanges) with no remainder
- Use written method to divide a 3-digit number by a single digit number (hundreds < divisor) with no remainder

Geometry: Angles
- Identify obtuse angles
- Identify acute angles in shapes
- Identify obtuse angles in shapes
- Compare angles up to two right angles in size
- Order angles up to two right angles in size

Summer

Decimals
- Recognise that hundredths arise from dividing a number (or object) into one hundred equal parts and dividing tenths by ten
- Read and represent a number with 2 decimal places
- Count up in hundredths
- Count down in hundredths
- Divide a one-digit number by 100
- Divide a two-digit number by 10
- Divide a two-digit number by 100
- Compare numbers with 1dp
- Compare numbers with 2dp
- Order numbers with the same number of decimal places
- Round numbers with 1dp to nearest whole number
- Convert from pence to pounds
- Convert from pounds to pence

Fractions: Calculating
- Add fractions with the same denominator within and beyond one whole
- Subtract fractions with the same denominator within and beyond one whole
- Calculate a unit fraction of an amount when the answer is a whole number
- Calculate a non-unit fraction of an amount when the answer is a whole number Identify equivalent fractions using diagrams
- Find families of equivalent fractions
- Know and use the decimal equivalents to 1/4, 1/2, 3/4

Addition and Subtraction: Decimals
- Use mental strategies to add numbers with 1 dp
- Use mental strategies to add numbers with 2 dp
- Use columnar addition for numbers with 2 decimal places with regrouping (carrying) required
- Use mental strategies to subtract numbers with 1 dp
- Use mental strategies to subtract numbers with 2 dp
- Use columnar subtraction for numbers with 2 decimal places with exchanging required

Measurement: Time and Converting Units
- Convert 12-hour digital time to 24-hour time
- Convert from 12-hour analogue time to 24-hour time
- Convert from 24-hour time to 12-hour analogue time
- Convert from hours to minutes
- Convert from weeks to days
- Convert from years to months
- Convert from litres to millilitres
- Convert from kilograms to grams
- Convert from kilometres to metres

Measurement: Perimeter and Area
- Measure and calculate the perimeter of 2D shapes when dimensions are unknown
- Calculate the perimeter of rectangles (including squares)
- Calculate the perimeter of other rectilinear shapes when dimensions are known
- Find the area of rectangles (including squares) by counting squares
- Find the area of other rectilinear shapes by counting squares

Geometry: Position and Direction
- Use coordinates to describe the position of a point in the first quadrant
- Plot points in the first quadrant using coordinates
- Use coordinates to plot a set of points to construct a polygon
- Describe movements between positions as translations of a given unit to the left/right
- Describe movements between positions as translations of a given unit up/down
- Describe movements between positions as translations of a given unit to the left/right and up

Statistics
- Interpret bar charts with different scales on the frequency axis
- Construct a bar chart with different scales on the frequency axis
- Interpret a time graph
- Construct a time graph

Northampton International Academy
Maths Curriculum Manageable Steps – Year 5

Autumn

Number and Place Value
- Represent 5-digit numbers
- Recognise the value of digits in 5-digit numbers
- Read 5-digit numbers in words and write using numerals including zero as a place holder
- Read 5-digit numbers in numerals and write in words, including zero as a place holder
- Identify and represent 5-digit numbers on a number line
- Compare 5-digit numbers
- Represent numbers up to one million
- Recognise the value of digits in numbers up to one million
- Read 6-digit numbers in words and write using numerals including zero as a place holder
- Read 6-digit numbers in numerals and write in words, including zero as a place holder
- Identify and represent 6-digit numbers on a number line
- Compare 6-digit numbers
- Order numbers up to one million
- Round any 5-digit number to the nearest 10 000
- Round any 6-digit number to the nearest 100 000
- Count forwards and backwards in whole number steps including through zero
- Understand and use negative numbers in context, including temperatures below 0°C

Decimals
- Recognise that thousandths arise from dividing a number (or object) into one thousand equal parts and dividing hundredths by ten
- Read a number with three decimal places
- Represent decimal numbers with up to 3 decimal places
- Write decimal equivalents of any number of thousandths
- Identify decimal numbers, with up to 3 decimal places, on a number line
- Position decimal numbers, with up to 3 decimal places, on a number line
- Compare a set of numbers written to three decimal places
- Order decimal numbers with 3 decimal places
- Compare numbers with a mixed number of decimal places
- Order numbers with a mixed number of decimal places
- Round numbers with two decimal places to one decimal place
- Round numbers with two decimal places to the nearest whole number

Geometry
- Identify cubes from nets
- Identify cuboids from nets

Addition and Subtraction
- Add two whole numbers choosing an efficient mental strategy
- Subtract two whole numbers choosing an efficient mental strategy
- Use column addition for two numbers with more than 4 digits when regrouping is required in multiple columns
- Use column subtraction for two numbers with more than 4 digits when exchanging is required in multiple columns
- Use column addition for numbers with 3 decimal places when regrouping is required
- Use column addition for numbers with 1, 2 or 3 decimal places when regrouping is required
- Use column subtraction for numbers with 3 decimal places when exchanging is required
- Use column subtraction for numbers with 1, 2 or 3 decimal places when exchanging is required
- Add two decimal numbers choosing an efficient strategy
- Subtract two decimal numbers choosing an efficient strategy

Multiplication and Division
- Multiply a whole number by 10
- Multiply a whole number by 100
- Multiply a whole number by 1000
- Multiply a decimal by 10
- Multiply a decimal by 100
- Multiply a decimal by 1000
- Divide a whole number by 10
- Divide a whole number by 100
- Divide a whole number by 1000
- Divide a decimal by 10
- Divide a decimal by 100

Properties of Number
- Find prime numbers up to 20
- Find prime and composite numbers up to 20
- Express a given number as the product of prime factors
- Know how to test if a number up to 100 is prime
- Find the common factors of two numbers
- Find multiples of a given number
- Find square numbers and use the notation for squared
- Find cube numbers and use the notation for cubed

Spring

Multiplication n and Division: Written methods
- Multiply numbers up to 4-digits by a one-digit number using short multiplication
- Multiply 2 digit by 2 digit numbers using the distributive law
- Multiply 2 digit by 2 digit numbers using long multiplication
- Multiply 3 digit numbers by 2 digit numbers using long multiplication
- Multiply 4 digit numbers by 2 digit numbers using long multiplication
- Use efficient methods to multiply mentally
- Use known facts and place value to multiply a whole number by a decimal
- Multiply a one-digit number by a decimal (1dp) using a formal written method
- Multiply a one-digit number by a decimal (2dp) using a formal written method
- Divide a four-digit number by a one-digit number using short division (divisor < thousands digit) with no remainder
- Divide a four-digit number by a one-digit number using short division (thousands digit = multiple of divisor, divisor < hundreds digit) with no remainder
- Divide a four-digit number by a one-digit number using short division (divisor > thousands digit) with no remainder
- Divide a four-digit number by a one-digit number using short division (divisor < thousands digit) with a remainder
- Divide a four-digit number by a one-digit number using short division (divisor > thousands digit) with a remainder

Geometry: Position and Direction
- Know what congruence means
- Carry out a translation described using mathematical language
- Carry out a reflection using a line parallel to the axes including touching the object
- Carry out a reflection using a line parallel to the axes and crossing the object
- Describe a reflection
- Carry out a translation described using mathematical language

Fractions, Decimals and Percentages
- Identify equivalent fractions represented visually
- Compare fractions whose denominators are multiples of the same number
- Order fractions whose denominators are multiples of the same number
- Represent tenths and hundredths
- Write a number less than1 with one decimal place as a fraction
- Write a number less than 1 with two decimal places as a fraction
- Write a number less than 1 with three decimal places as a fraction
- Understand that per cent relates to number of parts per hundred
- Write any percentage as a fraction with a denominator of 100
- Write any percentage as a decimal
- Know percentage equivalents of 1/2, 1/4, 1/5, 2/5, 4/5
- Establish percentage equivalents of fractions with a denominator of multiples of 10
- Establish percentage equivalents of fractions with a denominator of multiples of 25

Measurement: Length, Mass and Capacity
- Convert kilometres to metres using decimal notation
- Convert metres to kilometres using decimal notation
- Convert metres to centimetres using decimal notation
- Convert centimetres to metres using decimal notation
- Convert between centimetres and millimetres using decimal notation
- Calculate the perimeter of composite rectilinear shapes where all measurements are given including mixed units
- Calculate the perimeter of composite rectilinear shapes where some measurements need to be calculated
- Convert between kilograms and grams using decimal notation
- Convert between litres and millilitres using decimal notation
- Know approximate equivalences between metric and imperial units including pounds and pints
- Know approximate equivalences between inches and centimetres

Summer

Fractions: Calculating
- Convert a mixed number into an improper fraction
- Convert an improper fraction into a mixed number
- Add proper fractions denominator multiples within the whole
- Add proper fractions denominator multiples = mixed number answer
- Add mixed number and proper fraction, same denominator = mixed number answer
- Add mixed number and proper fraction, same denominator = mixed number answer (beyond whole)
- Add mixed number and proper fraction, denominator multiples = mixed number answer
- Add mixed number and proper fraction, denominator multiples = mixed number answer (beyond whole)
- Subtract proper fraction from mixed number, same denominator within the whole Subtract proper fraction from mixed number, same denominator (across whole)
- Subtract proper fractions, denominator multiples within the whole
- Subtract proper fractions from mixed number, denominator multiples within the whole
- Subtract proper fractions from mixed number, denominator multiples (across whole)
- Multiply unit fraction by a whole number
- Multiply non-unit fraction by a whole number
- Multiply mixed number by a whole number
- Multiply mixed number by a whole number (beyond whole)

Measurement: Area and Volume
- Make connections between arrays and calculating the area of rectangles
- Calculate the area of rectangles (not squares)
- Calculate the area of squares
- Find an estimate for the area of shapes that are not rectangles
- Find an estimate for the volume of a 3D shape

Geometry: Angles
- Identify reflex angles
- know angles are measured in degrees
- Estimate acute, obtuse and reflex angles
- Use a protractor to measure acute angles
- Use a protractor to measure obtuse angles
- Use a protractor to measure reflex angles
- Use a protractor to draw acute angles
- Use a protractor to draw obtuse angles
- Use a protractor to draw reflex angles
- Identify and find angles at a point
- Identify and find angles at a point on a straight line
- Use the properties of rectangles to find missing lengths and angles
- Know the difference between a regular and an irregular polygon

Measurement: Time
- Convert from seconds to minutes
- Convert from minutes to hours
- Convert from hours to days
- Convert from days to weeks

Statistics
- Read and interpret information given in a timetable
- Read and interpret information given in a table
- Read and interpret information given in a line graph

Northampton International Academy
Maths Curriculum Manageable Steps – Year 6

Autumn

Number and Place Value	Represent 7-digit numbers Recognise the value of digits in 7-digit numbers Read 7-digit numbers in words and write using numerals including zero as a place holder Read 7-digit numbers in numerals and write in words, including zero as a place holder Identify and represent 7-digit numbers on a number line Compare numbers up to 10,000,000 Order numbers up to 10,000,000 Round whole numbers to different degrees of accuracy Round whole numbers to different degrees of accuracy Understand and use negative numbers when working in context, such as temperature Calculate intervals across zero
Addition and Subtraction	Add two whole numbers choosing an efficient mental strategy Add two decimal numbers choosing an efficient strategy Use column addition for two numbers with more than 4 digits when regrouping is required in multiple columns Use column addition for numbers with 3 decimal places when regrouping is required Use column addition for numbers with 1, 2 or 3 decimal places when regrouping is required Subtract two whole numbers choosing an efficient mental strategy Subtract two decimal numbers choosing an efficient strategy Use column subtraction for two numbers with more than 4 digits when exchanging is required in multiple columns Use column subtraction for numbers with 3 decimal places when exchanging is required Use column subtraction for numbers with 1, 2 or 3 decimal places when exchanging is required
Multiplication and Division	Identify the value of digits in decimal numbers Multiply decimals by 10 Multiply decimals by 100 Multiply decimals by 1000 Divide decimals by 10 Divide decimals by 100 Multiply decimals (1d.p.) by a 1-digit number Multiply decimals (2d.p.) by a 1-digit number
	Find common multiples of two numbers Find common factors of two numbers Identify prime numbers Multiply a 4-digit number by a 2-digit number using long multiplication Multiply a 4-digit number by a 1-digit number using long multiplication Divide a 4-digit number by a 1-digit number using a formal written method with a whole number remainder Divide a 3-digit number by a 2-digit number using a formal written method with no remainder Divide a 4-digit number by a 2-digit number using a formal written method with no remainder Divide a 3-digit number by a 2-digit number using a formal written method with a whole number remainder Divide a 4-digit number by a 2-digit number using a formal written method with a whole number remainder Divide a 4-digit number by a 2-digit number using a formal written method with a remainder expressed as a fraction Divide a 4-digit number by a 2-digit number using a formal written method with a remainder rounding to two decimal places
Position & Direction	Use coordinates to plot the position of a point in any of the four quadrants Draw and translate simple shapes Carry out a reflection using one of the axes as a mirror line
Fractions	Use common factors to simplify fractions Use common multiples to find equivalent fractions Compare proper fractions Compare fractions, including fractions > 1 Order proper fractions Order fractions, including fractions > 1 Calculate decimal equivalents of fifths, eighths and tenths Know simple fractions and decimal equivalences for 10%, 20%, 25%, 50%, 75%, 100% Find equivalencies between simple fractions, decimals and percentages
Geometry: Angles	Find missing angles where they meet at a point Find missing angles where they meet on a straight line Find missing angles where they are vertically opposite Find unknown angles in a triangle Find unknown angles in an isosceles triangle when only one angle is known Find unknown angles in a quadrilateral Find unknown angles in regular polygons Classify 2D shapes using given categories, e.g. number of sides, symmetry Draw 2-D shapes given angles Draw 2-D shapes given dimensions and/or angles

Spring

Geometry	Recognise and describe 3-D shapes Classify 3-D shapes including cylinders, cones and spheres Draw nets of 3-D shapes Construct diagrams of 3-D shapes on isometric paper Know the names and relationships of the parts of a circle
Fractions: Calculations	Add proper fractions (denominators not multiples of each other) within the whole Add proper fractions (denominators not multiples of each other) beyond the whole (mixed number answer) Add mixed number and proper fractions (denominators not multiples of each other) fractions within whole (mixed number answer) Add mixed and proper fractions (denominators not multiples of each other) fractions beyond the whole (mixed number answer) Add mixed numbers (same denominators), fractions within and beyond the whole (mixed number answer) Add mixed numbers (denominators multiples of each other) fractions within the whole (mixed number answer) Add mixed numbers (denominators multiples of each other) fractions beyond the whole (mixed number answer) Add mixed numbers (denominators not multiples of each other) fractions within the whole (mixed number answer) Add mixed numbers (denominators not multiples of each other) fractions beyond the whole (mixed number answer) Subtract proper fractions (denominators not multiples of each other) within the whole Subtract proper fractions from mixed numbers, fractions within the whole (denominators not multiples of each other) Subtract proper fractions from mixed numbers, fractions across the whole (denominators not multiples of each other) Subtract mixed number from mixed numbers (same denominators), fractions within the whole Subtract mixed number from mixed numbers (same denominators), fractions across the whole Subtract mixed number from mixed numbers (denominators multiples of each other), fractions within the whole Subtract mixed number from mixed numbers (denominators multiples of each other), fractions across the whole Subtract mixed number from mixed numbers (denominators not multiples of each other), fractions within the whole Subtract mixed number from mixed numbers (denominators not multiples of each other), fractions across the whole Multiply simple pairs of proper fractions Divide unit fraction by whole number Divide fraction by whole number (numerator = divisor) Divide fraction by whole number (numerator = multiple of divisor) Divide fraction by whole number (numerator not a multiple of divisor)
Ratio and Proportion	Find 10%, 25%, 50% and 75% of an amount Find simple percentages of an amount (multiples of 10% and 5%) Find complex percentages of an amount (e.g. 17%, 28%, 63%)) Use percentages to make comparisons Find the value of the parts, given the whole Find the value of the whole and parts, given one part Use scale factors to calculate dimensions in similar shapes Use scale drawings
Measures: Units	Convert between metric units from the smaller unit to the larger unit Convert between metric units from the larger unit to the smaller unit Convert between units of time Convert between miles and km Recognise that shapes with the same areas can have different perimeters and vice versa
Measures: Area/Vol	Calculate the area of a parallelogram Calculate the area of a triangle Calculate the volume of cuboids, including cubes
Algebra	Use simple formulae expressed in words (e.g. time needed to cook a chicken: allow 20 minutes plus 40 minutes per kilogram) Know the basic rules of algebraic notation Express missing number problems algebraically Find combinations of two variables Find pairs of numbers that satisfy an equation with two unknowns e.g. a + b = 15 Generate a linear sequence from its description Describe and find the next terms of a linear sequence Find a missing term in a linear sequence Describe a number pattern algebraically

Summer

Statistics	Interpret line graphs Construct line graphs Interpret pie charts Construct a pie chart by measuring angles Understand the meaning of 'average' and calculate the mean of a set of discrete data Interpret the mean of a set of discrete data
	KS2 National Curriculum Test
Number and Place value	Read, write and order numbers up to 10,000,000 Calculate intervals across zero
Multiplication & Division	Multiply and divide numbers up to 4 digits by a 2-digit number choosing efficient methods and interpreting the remainders
FDP	Simplify, compare and order fractions, including fractions > 1 Know and use simple fraction, decimal and percentage equivalents Add and subtract fractions with denominators that are not multiples of each other and mixed numbers Find percentages of an amount
Measures	Describe and plot positions on a 2-D grid as coordinates in the four quadrants Know and use angle properties of straight lines, at a point and shapes
Measures: Units and Area/Vol	Convert between different units of metric measure Calculate the area of rectangles and triangles and volumes of cuboids
Algebra	Find possible values in missing number problems involving one or two unknowns

Northampton International Academy
Curriculum Progression – Number and Place Value

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding Place Value and Counting	• Count at least **20 objects** • Count **forwards** from a given number to another given number • Count **backwards** from a given number to another given number • Find **1 more** than a number up to **at least 20** • Find **1 less** than a number up to **at least 20** • Count up to **100** • Count **forwards** from a given number to another given number. • Count **backwards** from a given number to another given number • Find **1 more** than a number • Find **1 less** than a number • Recognise the **patterns** in the number sequence **1-100**	• Recognise the value of digits in **2-digit** numbers • Partition **2-digit** numbers in **different** ways • Find **10 more** than a given number	• Recognise the value of digits in **3-digit** numbers • Partition **3-digit** numbers in **different** ways • Count in steps of **50** and **100** from zero • Count **up** in steps of **10** from any **2 or 3-digit** number • Count **back** in steps of **10** from any **3-digit** number • Count **up** in steps of 100 from any **2 or 3-digit** number • Count **back** in steps of **100** from any **3-digit** number • Find **10 more** than a given number • Find **10 less** than a given number • Find **100 more** than a given number • Find **100 less** than a given number • Count **up** in **tenths** and position them on a number line • Count **down** in **tenths** and position them on a number line	• Recognise the value of digits in **4-digit** numbers • Count in **multiples of 25** • Count up in **multiples of 1000** from any number • Find **1000 more** than a given number • Find **1000 less** than a given number • Count **backwards** through zero to include **negative** numbers	• Recognise the value of digits in **5-digit** numbers • Recognise the value of digits in numbers up to **one million** • Count **forwards** and **backwards** in whole number steps including through zero • Understand and use **negative** numbers in context, including **temperatures** below 0°C	• Recognise the value of digits in **7-digit** numbers • Understand and use **negative** numbers when working in **context**, such as **temperature** • **Calculate** intervals **across zero**
Comparing Numbers	• Compare numbers identifying which one is **more** • Compare number identifying which one is **less** • Compare numbers identifying which one is **more** • Compare numbers identifying which one is **less** • **Order numbers**	• Compare any two **2-digit** numbers using < > and = • Order **2-digit** numbers with **different tens** from smallest to greatest • Order **2-digit** numbers with the **same tens** from smallest to greatest • Order **2-digit** numbers	• Compare any two **3-digit** numbers • Order **3-digit** numbers with **different hundreds** • Order **3-digit** numbers with the **same hundreds** • Order **3-digit** numbers	• Compare two **4-digit** numbers • Order **4-digit** numbers with **different thousands** • Order **4-digit** numbers with the **same thousands**	• Compare **5-digit numbers** • Compare **6-digit numbers** • Order numbers up to **one million**	• Represent **7-digit** numbers • Compare numbers up to **10,000,000** • Order numbers up to **10,000,000**
Identifying, Representing and Estimating	• **Explore** the **structure** of numbers up to at least 20 • **Represent** numbers from 10 to at least 20 • Represent numbers to at least 20 on a **number line** • Explore the structure of **numbers up to 100** • **Estimate** numbers on a **number line** • **Represent** numbers on a **number line**	• Represent **2-digit** numbers • **Identify** 2-digit numbers on a **number line** • **Represent** 2-digit numbers on a **number line** • **Estimate** numbers on a **number line**	• **Represent** 3-digit numbers • **Identify** 3-digit numbers on a number line • **Represent** 3-digit numbers on a number line	• **Represent** 4-digit numbers • **Identify** 4-digit numbers on a number line • **Represent** 4-digit numbers on a number line	• Represent **5-digit** numbers • Represent numbers up to **one million**	
Reading and Writing	• Read numbers 0 - 20 in words and write using numerals • Read numbers 0 - 20 in numerals and write in words	• **Read 2-digit** numbers in words and **write** using **numerals** • **Read 2-digit** numbers in numerals and **write** in **words**	• **Read 3-digit** numbers in words and **write** using **numerals** • **Read 3-digit** numbers in **numerals** and **write** in **words** • **Read 3-digit** numbers in **words** and **write** using **numerals** including zero as a place holder • **Read 3-digit** numbers in **numerals** and **write** in **words**, including zero as a place holder	• **Read 4-digit** numbers in **words** and **write** using **numerals** • **Read 4-digit** numbers in **numerals** and **write** in **words** • **Read 4-digit** numbers in **words** and **write** using **numerals** including zero as a place holder • **Read 4-digit** numbers in **numerals** and write in **words**, including zero as a place holder	• **Read 5-digit** numbers in words and **write** using **numerals** including zero as a place holder • **Read 5-digit** numbers in numerals and write in words, including zero as a place holder • Identify and represent **5-digit** numbers on a **number line** • **Read 6-digit** numbers in **words** and **write** using numerals including zero as a place holder • **Read 6-digit** numbers in **numerals** and **write** in **words**, including zero as a place holder • Identify and represent **6-digit** numbers on a **number line**	• Read 7-digit numbers in words and write using numerals including zero as a place holder • Read 7-digit numbers in numerals and write in words, including zero as a place holder • Identify and represent 7-digit numbers on a number line
Rounding				• Round **2-digit** numbers to the **nearest 10** • Round **3-digit** numbers to the **nearest 10** • Round **4-digit** numbers to the **nearest 10** • Round **3-digit** numbers to the **nearest 100** • Round **3 and 4-digit** numbers to the **nearest 100** • Round **4-digit** numbers to the **nearest 1000** • Round numbers with **1dp** to nearest **whole number**	• Round any **5-digit** number to the nearest **10 000** • Round any **6-digit** number to the nearest **100 000** • Round numbers with two decimal places to **one decimal place** • Round numbers with two decimal places to the **nearest whole number**	• Round whole numbers to different degrees of accuracy • Round whole numbers to different degrees of accuracy

Northampton International Academy
Curriculum Progression – Addition and Subtraction (1)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number Bonds	• **Add 1** to numbers up to 20 • **Subtract 1** from numbers up to 20 • **Partition**, find and represent all addition and subtraction facts of numbers **5 to 20**	• Recall and use addition facts of **two single digits bridging 10** • Recall and use addition facts of **single digit doubles** • Use addition **facts of 10** to **derive facts of 100** • Subtract **multiples of ten** from **2-digit** numbers using number facts • Recall **subtraction facts** of **two single digits** within 10	• **Add ones** to **3-digit** numbers using number facts where the tens don't change • **Add tens** to **3-digit** numbers using number facts, where the hundreds don't change • **Subtract ones** from **3-digit** numbers using number facts where the tens don't change • **Subtract hundreds** from **3-digit** numbers using number facts • **Subtract tens** from **3-digit** numbers using number facts where the hundreds don't change			
Mental Calculation - Addition	• Add two single digit numbers **within 10** • Add two single digit numbers **bridging 10** • **Add ten** and a **single digit** number	• Show that addition is **commutative** • **Add ones** to **2-digit** numbers using number facts where the tens don't change • **Add ones** to **2-digit** numbers using **bridging** • **Add multiples of ten** to **2-digit** numbers using number facts • **Add two 2-digit** numbers by counting on in **tens then 1s** • **Add two 2-digit** numbers using **partitioning** and **recombining** (no regrouping) • Add **two 2-digit** numbers using **partitioning** and **recombining** • Add **two 2-digit** numbers choosing an **efficient** strategy • Add **three single digit** numbers	• **Add ones** to **3-digit** numbers using bridging • **Add tens** to **3-digit** numbers using bridging • **Add hundreds** to **3-digit** numbers using number facts • **Add two 3-digit** numbers by **partitioning** and **recombining** (no regrouping) • **Add two 2-digit** numbers where the sum **exceeds 100**, choosing an efficient mental strategy	• **Add ones** to **4-digit** numbers (where the 1000s change) • **Add tens** to **4-digit** numbers (where the 100s change) • **Add tens** to **4-digit** numbers (where the 1000s change) • **Add 100s** to **4-digit** numbers (where the 1000s change) • **Add two 3-digit** numbers where the sum **exceeds 1000**, choosing an efficient mental strategy	• **Add two decimal** numbers choosing an **efficient** strategy • **Add two whole numbers** choosing an efficient **mental** strategy	• **Add two whole** numbers choosing an efficient **mental** strategy • Add **two decimal** numbers choosing an **efficient** strategy

Mental Calculation - Subtraction	• **Subtract** a **single** digit number from a **single** digit number
	• **Subtract** a **single** digit number from a **2-digit** number less than 20 **without bridging** 10
	• **Subtract** a **single** digit number from a **2-digit** number less than 20 **bridging** 10
	• **Subtract** 10 from a **two-digit** number up to 20
	• Find the **difference** between two numbers
		• Understand why **subtraction** is **not commutative**
		• Recall subtraction facts of **2-digit** numbers (20 or less) subtract a **single** digit **not bridging** 10
		• Recall subtraction facts of **2-digit** numbers (20 or less) subtract a **single** digit **bridging** 10
		• Use **subtraction facts of 10** to subtract multiples of ten from 100
		• **Subtract ones** from **2-digit** numbers using number facts where the tens don't change
		• **Subtract ones** from **2-digit** numbers using **bridging**
		• Derive addition and subtraction facts using **inverse operations**
			• **Subtract ones** from **3-digit** numbers using **bridging**
			• **Subtract tens** from **3-digit** numbers using **bridging**
			• **Subtract two 3-digit** numbers using partitioning no exchanging
			• Subtract by finding the **difference** between **two 3-digit** numbers with the **same hundreds** digits
			• Subtract by finding the **difference** between two numbers with **different hundreds** digits
				• **Subtract ones** from **4-digit** number
				  - where the **100s** change
				  - where the **1000s** change
				• Subtract **tens** from **4-digit** number
				  - where the **100s** change
				  - where the **1000s** change
				• Subtract **100s** from **4-digit** number
				  - where the **1000s** change
				• Subtract by finding the difference between **two 4-digit** numbers by counting on
				• Use **mental** strategies to **add** numbers with **1 dp**
				• Use **mental** strategies to **add** numbers with **2 dp**
				• Use **mental** strategies to **subtract** numbers with **1 dp**
				• Use **mental** strategies to **subtract** numbers with **2 dp**
					• Subtract **two whole** numbers choosing an **efficient mental** strategy
					• Subtract **two decimal** numbers choosing an **efficient** strategy
						• **Subtract two whole** numbers choosing an **efficient** mental strategy

Rounding and compensating	• **Add 9** and a single digit number • **Subtract 9** from a two-digit number up to 20	• **Add ones** to **2-digit** numbers by **rounding** to ten then **compensating** • **Add two 2-digit** numbers by **rounding** to the nearest ten then **compensating** • **Subtract two 2-digit** numbers by **rounding** to the nearest ten then **compensating** • Subtract **ones from 2-digit** numbers by **rounding** to ten then compensating	• **Add ones to 3-digit** numbers by **rounding** to ten then **compensating** • **Add two 3-digit** numbers using **rounding** to the nearest hundred and then **compensating** • **Add 99 to 3-digit** numbers using **rounding** to the nearest hundred and then **compensating** • **Subtract ones from 3-digit** numbers by **rounding** to ten then **compensating** • **Subtract from 3-digit** numbers using **rounding** and **compensating**	• Add **3-digit** number to **4-digit** number using **rounding** to the nearest hundred and then **compensating** • **Add two 4-digit** numbers using **rounding** to the nearest thousand and then **compensating** **Subtract 3-digit** number from **4-digit** number using **rounding** to the nearest hundred and then **compensating** • **Subtract 4-digit** number from a **4-digit** number using **rounding** to the nearest thousand and then **compensating**		

Northampton International Academy
Curriculum Progression – Addition and Subtraction (2)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Written Methods - Addition	• **Write addition problems** by combining two sets using + and =	• Subtract **two 2-digit** numbers by **counting back** in tens then 1 s • Subtract by finding the **difference** between two numbers - counting on	• Use column **addition** for **two 3-digit** numbers when - regrouping is required in the **ones** column - regrouping is required in the **tens** column - regrouping is required in **multiple** columns • Use column **addition** for **2 and 3-digit** numbers when - regrouping is required in the **ones** column - regrouping is required in the **tens** column - regrouping is required in **multiple** columns • Choose **efficient** methods to add numbers with **up to 3-digits**	• Add two 4-digit numbers, **no regrouping** • Use column addition for **two 4-digit** numbers - when regrouping is required in the **ones** column - when regrouping is required in the **tens** column - when regrouping is required in the **hundreds** column - when regrouping is required in multiple columns • Use column addition for t**wo 3-digit** numbers where the sum exceeds 1000 • Use column addition for **4-digit and 3-digit** numbers when regrouping is required in multiple columns • Use column addition for **4-digit and 2-digit** numbers when regrouping is required in multiple columns • Use columnar addition for numbers with 2 decimal places with **regrouping** (carrying) required • Use columnar subtraction for numbers with 2 decimal places with **exchanging** required	• Use column addition for **two** numbers with **more than 4 digits** - when **regrouping** is required in multiple columns - when **exchanging** is required in multiple columns • Use column addition for numbers with **3 decimal places** when **regrouping** is required • Use column addition for numbers with **1, 2 or 3 decimal places** when **regrouping** is required	• Use column addition for two numbers with mo**re than 4 digits** when **regrouping** is required in **multiple** columns • Use column addition for numbers with **3 decimal places** when **regrouping** is required • Use column addition for numbers with **1, 2 or 3 decimal places** when **regrouping** is required
Written Methods – Subtraction	• **Write subtraction problems** by taking away, using - and =	•	• Use column subtraction for **3-digit** numbers when - **exchanging** is required in the **tens** column - exchanging is required in the **hundreds** column - exchanging is required in **multiple** columns • Use column subtraction for 3-digit and **2-digit** numbers when - exchanging is required in the **tens** column - exchanging is required in the **hundreds** column - exchanging is required in **multiple** columns • Choose **efficient** methods to subtract numbers with **up to 3-digits**	• Subtract a **4-digit** number from a 4-digit number, **no exchanging** • Use column subtraction for 4-digit numbers when - exchanging is required in the **tens** column - exchanging is required in the **hundreds** column - exchanging is required in the **1000s** column • Use column subtraction for **4-digit** numbers when **exchanging** is required in **multiple** columns • Use column subtraction for **4-digit** and **3-digit** numbers when **exchanging** is required in **multiple** columns • Use column subtraction for **4-digit** and **2-digit** numbers when **exchanging** is required in **multiple** columns	• Use column subtraction for numbers with **3 decimal places** when **exchanging** is required • Use column subtraction for numbers with **1, 2 or 3 decimal places** when **exchanging** is required	• Subtract **two decimal** numbers choosing an **efficient** strategy • Use column subtraction for **two numbers** with m**ore than 4 digits** when **exchanging** is required in **multiple** columns • Use column subtraction for numbers with **3 decimal places** when **exchanging** is required • Use column subtraction for numbers with **1, 2 or 3 decimal places** when **exchanging** is required

Northampton International Academy
Curriculum Progression – Multiplication and Division

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Multiplication and Division Facts	• Count (from zero) in equal steps of - 2s - 5s - 10s	• Count in steps of **3** from zero • Recognise and use odd and even numbers • Build the **2x**, **10x** and **5x** table and count in steps of **2**, **10** and **5** from zero • Recall and use multiplication and division facts for the **2-**, **10-** and **5-**times table	• Build the **3x**, **4x**, and **8x** table and count in steps of **3**, **4** and **8** from **0** • Recall and use multiplication and division facts for the **3-**, **4-** and **8-** times table	• Build the **6x**, **9x**, **7x**, **11x**, and **12x** table and count in steps of **6**, **9**, **7**, **11** and **12** from zero • Recall and use multiplication and division facts for the **6-**, **9-**, **7-**, **11-** and **12-**times table	• Find **prime** numbers up to 20 • Find prime and **composite** numbers up to 20 • Express a given number as the product of **prime factors** • Know how to **test** if a number up to 100 is **prime** • Find the **common factors** of two numbers • Find **multiples** of a given number • Find **square** numbers and use the notation for squared • Find **cube** numbers and use the notation for cubed	• Find **common multiples** of two numbers • Find **common factors** of two numbers • Identify **prime** numbers
Multiplying by 10, 100 and 1000			• **Multiply 2-digit** numbers by 10 using place value • **Divide** a **3-digit** multiple of ten by 10 using place value	• **Multiply** 1 and 2-digit numbers by **100** • **Divide** a one-digit number by **100** • **Divide** a two-digit number by **10** • **Divide** a two-digit number by **100**	• **Multiply** a **whole** number by 10, 100 and 1000 • **Multiply** a **decimal** by 10, 100 and 1000 • **Divide** a **whole** number by 10, 100 and 1000 • **Divide** a **decimal** by 10 and 100	• **Identify** the value of digits in **decimal** numbers • **Multiply** decimals by 10, 100 and 1000 • **Divide** decimals by 10 and 100
Mental Calculation	• **Double** numbers up to at least 10 • **Halve** numbers up to (at least) 20 • Use **equal groups** for multiplication • Use **arrays** for multiplication • Use **grouping** for division • Use **sharing** for division • **Decide** whether to multiply or divide to represent problems	• Show and use the **connection** between multiplication and repeated addition • Use **arrays** to solve multiplication problems • Show and use the **commutativity** of multiplication • Show that **division is not commutative**	• **Multiply** 1-digit numbers by multiples of 10 using place value • Use **known facts** and **place value** when dividing mentally by 2, 3, 4, 5, and 8 e.g. 120 ÷ 4	• Know and use the effect of **multiplying by 0 and 1** • Know and use the effect of **dividing by 1** • Use knowledge of factor pairs (**commutativity**) when multiplying mentally three numbers together, such as 2 x 6 x 5 = 10 x 6 = 60 • Multiply 1-digit numbers by multiples of 10 **using place value** (6, 7, 9)	• Use **efficient** methods to multiply mentally • Use **known facts** and **place value** to multiply a whole number by a decimal	• Multiply decimals (**1d.p.**) by a 1-digit number • Multiply decimals (**2d.p.**) by a 1-digit number
Written Methods		• Create **multiplication** statements to describe and solve equal **grouping** problems • Create **division** statements to describe and solve **grouping** problems • Create **division** statements to describe **sharing** and solve problems • Use factor, factor, product **relationship** to derive multiplication and division statements	• Multiply **2-digit** numbers by a **1-digit** number - using a formal written method (regroup **ones**) - using a formal written method (regroup **tens**) - using a formal written method (**multiple**) • Use **efficient** methods to multiply a two-digit number by a one-digit number • Use the **distributive law** to multiply a **teens** number by a one-digit number • Use the **distributive law** to multiply a **two-digit** number by a one-digit number • Divide **near** multiples by 2, 3, 4, 5, 8, 10 with remainders • Use **partitioning** to divide by a single digit number where the quotient is a **teens** number • Use multiplication or division to solve **scaling** or **correspondence** problems	• Multiply **3-digit** number by a **1-digit** number using a formal written method - regroup **ones** - regroup **tens** - regroup **hundreds** - **multiple** regroup • Use the **distributive law** to multiply a two-digit number by a one-digit number (6, 7, 9) • **Multiply** 2-digit number by a 1-digit number using a formal written method (6, 7, 9) • Divide multiples of **ten** by 10 • Divide multiples of a **hundred** by 100 • Use **known facts** and **place value** when dividing mentally e.g. 120 ÷ 6, 1200÷ 6, 1320÷ 12 • Divide **near multiples** by 6, 7, 9, 11 and 12 with remainders • Divide 3-digit number by a single digit number using **partitioning** and **place value** • Use written method to divide a **3-digit** number by a **single** digit number (hundreds = multiple of divisor, tens > divisor) with no remainder • Use written method to divide a 3-digit number by a single digit number - hundreds > divisor, **one** exchange, with no remainder - hundreds > divisor, **two** exchanges, with no remainder - hundreds < divisor, with no remainder	• Multiply numbers up to **4-digits** by a **1-digit** number using short multiplication • Multiply **2-digit** by **2-digit** numbers using - the **distributive** law - **long** multiplication • Multiply **3-digit** and **4-digit** numbers by **2-digit** numbers using **long** multiplication • Multiply a **1-digit** number by a **decimal** (**1dp**) using a formal written method • Multiply a **1-digit** number by a **decimal** (**2dp**) using a formal written method • Divide a four-digit number by a one-digit number using - short division (**divisor < 1000s digit**) with **no** remainder - short division (**1000s digit = multiple of divisor**, divisor < hundreds digit) with **no** remainder - short division (**divisor > 1000s digit**) with **no** remainder - short division (**divisor < 1000s digit**) with a remainder - short division (**divisor > 1000s digit**) with a remainder	• Multiply a **4-digit** number by a **1-digit** number using **short** multiplication • Multiply a **4-digit** number by a **2-digit** number using **long** multiplication • Divide a **4-digit** number by a **1-digit** number using a formal written method with a **whole** number **remainde**r • Divide a **3-digit** number by a **2-digit** number - using a formal written method with **no remainder** - using a formal written method with a **whole number remainder** • Divide a **4-digit** number by a **2-digit** number using a formal written method with **no remainder** - using a formal written method with a **whole number** remainder - using a formal written method with a remainder expressed as a **fraction** - using a formal written method with a remainder rounding to **two decimal places**

Northampton International Academy
Curriculum Progression – Fractions, Decimals and Percentages

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Counting and Sequences			• Find **tenths** of whole numbers and express as fractions and decimals • Count **up** in **tenths** and position them on a number line • Count **down** in **tenths** and position them on a number line	• Count **up** in hundredths • Count **down** in hundredths		
Recognising and Representing	• Recognise a **half** as one of two equal parts of an object or shape • Recognise a **quarter** as one of four equal parts of an object or shape	• Recognise **one third** as one of three equal parts of a shape and use fraction notation • Recognise **two quarters** as two of four equal parts, or two of one quarter of a shape and use fraction notation • Recognise that a **half** is equivalent to **two quarters** • Recognise **three quarters** as **three of four** equal parts, or **three of one quarter** of a shape and use fraction notation	• Recognise and represent **unit fractions** • Recognise and represent **non-unit fractions** • Recognise and show **equivalent proper fractions** (denominators multiples of each other)	• Recognise that **hundredths** arise from dividing a number (or object) into **one hundred equal parts** and dividing tenths by ten • Read and represent a number with **2 decimal places**	• Recognise that **thousandths** arise from dividing a number (or object) into **one thousand equal parts** and dividing hundredths by ten • Read a number with **three decimal places** • **Represent** decimal numbers with up to 3 decimal places • **Identify** decimal numbers, with up to 3 decimal places, on a number line • **Position** decimal numbers, with up to 3 decimal places, on a number line • Represent **tenths** and **hundredths**	
Comparing and Ordering			• **Compare** two proper fractions which have the same denominator • **Order** a set of proper fractions which have the same denominator • **Compare** two unit fractions • **Order** a set of unit fractions • **Compare** two proper fractions which have the same numerator >1 (small denominator) • **Order** a set of proper fractions which have the same numerator >1 (small denominator)	• Compare numbers with **1dp** • Compare numbers with **2dp** • Order numbers with the **same number of decimal places**	• **Compare** a set of numbers written to **three** decimal places • **Order** decimal numbers with 3 decimal places • **Compare** numbers with a mixed number of decimal places • **Order** numbers with a mixed number of decimal places • **Compare** fractions whose denominators are multiples of the same number • **Order** fractions whose denominators are multiples of the same number	• **Compare** proper fractions • **Order** proper fractions • **Compare** fractions, including fractions > 1 • **Order** fractions, including fractions > 1

Equivalence				• Find families of **equivalent** fractions
				• Know and use the **decimal** equivalents to **1/4, 1/2, 3/4**
				• Identify equivalent fractions using **diagrams**
					• Write decimal equivalents of any number of **thousandths**
					• Identify **equivalent fractions** represented visually
					• Establish **percentage equivalents** of
					  - fractions with a denominator of multiples of 10
					  - fractions with a denominator of multiples of 25
					• Convert a **mixed** number into an **improper** fraction
					• Convert an **improper** fraction into a **mixed** number
					• Write a number less than1 with **one** decimal place as a **fraction**
					• Write a number less than 1 with **two** decimal places as a **fraction**
					• Write a number less than 1 with **three** decimal places as a **fraction**
					• Write any **percentage** as a **fraction** with a denominator of 100
					• Write any **percentage** as a **decimal**
					• Know **percentage** equivalents of **1/2, 1/4, 1/5, 2/5, 4/5**
						• Use **common multiples** to find equivalent fractions
						• Calculate **decimal equivalents** of fifths, eighths and tenths
						• Know simple **fractions** and **decimal** equivalences for **10%, 20%, 25%, 50%, 75%, 100%**
						• Find **equivalencies** between simple **fractions**, **decimals** and **percentages**
						• Use common factors to **simplify** fractions

Fractions and Percentages of amounts	• Find **1/2** of **objects** • Find **1/2** of an **amount** • Find **1/4** of **objects** • Find **1/4** of an **amount**	• Find **1/3** of **objects** • Find **1/3** of an **amount** • Find **2/4** of **objects** • Find **2/4** of an **amount** • Find **3/4** of **objects** • Find **3/4** of an **amount**	• Find **unit** fractions of a number of **objects** • Find **unit** fractions of an **amount** • Find **non-unit** fractions of a number of **objects** • Find **non-unit** fractions of an **amount**	• Calculate a **unit** fraction of an amount when the answer is a whole number • Calculate a **non-unit** fraction of an amount when the answer is a whole number	• Understand that **per cent** relates to number of parts per hundred	• Find 10%, 25%, 50% and 75% of an amount • Find simple percentages of an amount (multiples of 10% and 5%) • Find complex percentages of an amount (e.g. 17%, 28%, 63%)) • -Use percentages to make comparisons

Northampton International Academy
Curriculum Progression – Fractions, Decimals and Percentages (2)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Calculating Addition and Subtraction			• **Add** fractions with the same denominator within one whole • **Subtract** fractions with the same denominator within one whole	• **Add** fractions with the same denominator within and beyond one whole • **Subtract** fractions with the same denominator within and beyond one whole • Use mental strategies to **add** numbers with **1 dp** • Use mental strategies to add numbers with **2 dp** • Use **columnar addition** for numbers with **2 decimal places** with regrouping (carrying) required • Use **mental** strategies to subtract numbers with **1 dp** • Use **mental** strategies to subtract numbers with **2 dp** • Use **columnar subtraction** for numbers with **2 decimal places** with exchanging required	• Add proper fractions **denominator multiples** - within the whole - mixed number answer • Add **mixed** number and **proper** fraction, - same denominator = mixed number answer - same denominator = mixed number answer (**beyond whole**) • Add mixed number and proper fraction - denominator multiples = mixed number answer - denominator multiples = mixed number answer (**beyond whole**) • Subtract proper fraction **from mixed number**, same denominator - within the whole - across the hole • Subtract proper fractions, denominator multiples within the whole • Subtract proper fractions **from mixed number**, denominator multiples **within the whole** • Subtract proper fractions from mixed number, denominator multiples (**across whole**)	• Add proper fractions (denominators **not** multiples of each other) - **within the whole** - **beyond the whole** (mixed number answer) • Add mixed number and proper fractions (denominators **not** multiples of each other) - fractions **within whole** (mixed number answer) - fractions **beyond the whole** (mixed number answer) • Add mixed numbers (**same denominators**), fractions **within and beyond the whole** (mixed number answer) • Add mixed numbers (**denominators multiples of each other**) fractions **within the whole** (mixed number answer) • Add mixed numbers (denominators **not** multiples of each other) - fractions **within the whole** (mixed number answer) - fractions **beyond the whole** (mixed number answer) • Subtract proper fractions (denominators **not** multiples of each other) **within the whole** • Subtract proper fractions from mixed numbers, - fractions **within the whole** (denominators **not** multiples of each other) - fractions **across the whole** (denominators **not** multiples of each other) • Subtract mixed number from mixed numbers (same denominators) - fractions **within the whole** - fractions **across the whole** • Subtract mixed number from mixed numbers (denominators multiples of each other), - fractions **within the whole** - fractions **across the whole** • Subtract mixed number from mixed numbers (denominators **not** multiples of each other) - fractions **within the whole** - fractions **across the whole**
Calculating – Multiplication and Division					• Multiply **unit fraction** by a whole number • Multiply **non-unit fraction** by a whole number • Multiply **mixed number** by a whole number • Multiply **mixed number** by a whole number (**beyond whole**)	• Multiply simple pairs of proper fractions • Divide unit fraction by whole number • Divide fraction by whole number (**numerator = divisor**) • Divide fraction by whole number (**numerator = multiple of divisor**) • Divide fraction by whole number (**numerator not a multiple of divisor**)

Northampton International Academy
Curriculum Progression – Ratio and Proportion

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Ratio and Proportion						• Find 10%, 25%, 50% and 75% of an amount • Find simple percentages of an amount (multiples of 10% and 5%) • Find complex percentages of an amount (e.g. 17%, 28%, 63%)) • Use percentages to make comparisons • Find the value of the parts, given the whole • Find the value of the whole and parts, given one part • Use scale factors to calculate dimensions in similar shapes • Use scale drawings

Northampton International Academy
Curriculum Progression – Geometry

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Identifying 2D Shapes and their properties	• Recognise **2 –D** shapes • Recognise and name - rectangles - squares - circles - triangles	• Identify and describe the pentagons - hexagons - octagons • Identify **symmetry** properties of **2-D** shapes using **vertical** lines •	• Identify and draw - **horizontal** lines - **vertical** lines - **parallel** lines - **perpendicular** lines	• Identify and describe an - equilateral triangle - isosceles triangle - scalene triangle - parallelogram - rhombus - trapezium - kite	• Know the difference between a **regular** and an **irregular** polygon	• Know the names and relationships of the parts of a **circle**
Identifying 3D shapes and their properties	• Recognise **3 –D** shapes • Recognise and name **cuboids** • Recognise and name **cubes** • Recognise and name **pyramids** • Recognise and name **spheres**	• Identify and describe the properties of - cylinders - cones • Identify and describe the properties of **3-D shapes** including the number of - vertices - edges - faces • Identify and describe 2-D shapes on the surface of 3-D shapes	• Name and describe **3D** shapes		• Identify **cubes** from nets • Identify **cuboids** from nets	• Recognise and describe **3-D** shapes
Drawing and Construction			• **Draw** common **2D** shapes • **Make 3D** shapes using modelling materials	• Identify lines of symmetry of a **2D** shape • Identify a line of symmetry of a pattern and for a diagram of a reflection • Use a line of symmetry to complete a symmetrical shape		• Draw nets of **3-D** shapes • Construct diagrams of **3-D** shapes on isometric paper • Draw **2-D** shapes given angles • Draw **2-D** shapes given dimensions and/or angles
Comparing and Classifying	• Compare **2-D** shapes and explain how they are similar or different • Compare **3-D** shapes and explain how they are similar or different	• Compare and sort **3-D** shapes and explain how they are similar or different • Compare and sort **2-D** shapes and explain how they are similar or different				• Classify **3-D** shapes including cylinders, cones and spheres • Classify **2D** shapes using given categories, e.g. number of sides, symmetry
Angles			• Understand that angle is a **description of turn** • Understand that **angles are a feature of shapes** • Identify a **right angle** as a quarter turn • Identify when a s**hape** has a **right angle** • Recognise that 2 right angles make a **half-turn**, 3 make **three-quarters of a turn** and 4 a **complete turn** • Identify angles that are **less than** or **greater than** a **right angle**	• Identify **obtuse** angles • Identify **acute** angles in shapes • Identify **obtuse** angles in shapes • **Compare angles** up to two right angles in size • **Order angles** up to two right angles in size	• Identify **reflex** angles • know angles are measured **in degrees** • **Estimate** acute, obtuse and reflex angles • Use a protractor to measure **acute** angles • Use a protractor to measure **obtuse** angles • Use a protractor to measure **reflex** angles • Use a protractor to draw **acute** angles • Use a protractor to draw **obtuse** angles • Use a protractor to draw **reflex** angles • Identify and find angles **at a point** • Identify and find angles at **a point on a straight line** • Use the properties of **rectangles** to find **missing lengths and angles**	• Find missing angles where they **meet at a point** • Find missing angles where they **meet on a straight line** • Find missing angles where they are **vertically opposite** • Find unknown angles in a **triangle** • Find unknown angles in an **isosceles triangle** when only one angle is known • Find unknown angles in a **quadrilateral** • Find unknown angles in **regular polygons** •Construct a pie chart by measuring angles

Northampton International Academy
Curriculum Progression – Position and Direction

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Pattern		• Order **combinations** of mathematical objects in patterns and sequences				
Movement	• Use mathematical language to describe movement along a **straight** line	• **Interpret** and **devise** instructions for following a simple route		• Describe movements between positions as **translations** of a given unit - to the **left/right** - **up/down** - to the **left/right** and **up**	• Know what **congruence** means • Carry out a **translation** described using mathematical language	• Draw and **translate** simple shapes
Position and Coordinates	• Use mathematical language to describe **position**	• Use mathematical language to describe **position**		• Use **coordinates** to describe the position of a point in the **first** quadrant • **Plot** points in the first quadrant using **coordinates** • Use coordinates to **plot** a set of points to **construct** a **polygon**		• Use **coordinates** to plot the position of a point in any of the **four quadrants**
Reflection					• Carry out a reflection using - a line parallel to the axes including **touching** the object - a line parallel to the axes and crossing the object • **Describe** a reflection	• Carry out a **reflection** using **one** of the **axes** as a mirror line
Turning and Rotation	• Use mathematical language to **describe** a **turn**, including - whole and half turns - quarter turns - three-quarter turns	• Use mathematical language to **describe** direction of a turn, including meaning of **clockwise** and **anticlockwise** • Understand and use the language of **right angles** to describe the size of turn				

Northampton International Academy
Curriculum Progression – Measurement

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Comparing and Estimating	• **Compare lengths** using the language of longer than and shorter than • **Order lengths** • **Compare heights** using the language of taller than and shorter than • **Order heights** • **Compare mass** of objects, heavier /lighter than • **Order** objects by **mass** • **Compare capacity** of containers	• **Compare** the **mass** of objects using >, < and = • **Compare lengths** using >, < and = • **Compare heights** using >, < and = • **Order** the **mass** of objects • **Order lengths** • **Estimate** the **mass** of objects • **Estimate** capacity using **litres** • **Estimate** capacity using **millilitres** • **Compare capacity**, > and < • **Order capacities**	• **Compare** the **length** of two objects • **Order lengths** • **Compare mass** • **Order mass**			
Measuring and calculating	• **Measure length** using **non-standard** units • **Measure heights** using **non-standard** units • **Measure lengths** and **heights** using common **standard** units • **Measure** the **mass** of objects using **non-standard** units • **Measure** the **mass** of objects using **standard** units • **Measure capacities** using **non-standard** units • **Measure capacities** using **standard** units	• **Read scales** in divisions of **ones** and **twos** • **Read scales** in divisions of **fives** and **tens** • Measure - the mass of objects (**kg**) - the mass of objects (**g**) - lengths (**m**) - lengths (**cm**) - heights (**cm**) - capacity using **litres** - capacity using **millilitres** - **temperature**	• Use a **ruler** to measure lengths in **millimetres** • Add and subtract **lengths** • Add and subtract **mass** • Measure **capacity** • Add and subtract **capacities** • Use **scaling** with **measures**			
Conversion				• Convert from **litres to millilitres** • Convert from **kilograms to grams** • Convert from **kilometres to metres**	• Convert **kilometres to metres** using decimal notation • Convert **metres to kilometres** using decimal notation • Convert **metres to centimetres** using decimal notation • Convert **centimetres to metres** using decimal notation • Convert between **centimetres and millimetres** using decimal notation • Convert between **kilograms and grams** using decimal notation • Convert between **litres and millilitres** using decimal notation • Know approximate **equivalences** between **metric** and **imperial** units including **pounds** and **pints** • Know **approximate** equivalences between **inches** and **centimetres**	• **Convert** between **metric** units from the **smaller** unit to the **larger** unit • **Convert** between metric units from the **larger** unit to the **smaller** unit • **Convert** between **units of time** • **Convert** between **miles and km**
Perimeter, Area and Volume			• Find the **perimeter** of a 2-D shapes by **measuring**	• **Measure** and **calculate** the **perimeter** of 2D shapes when dimensions are unknown • Calculate the **perimeter** of **rectangles** (including squares) • Calculate the **perimeter** of other **rectilinear** shapes when dimensions are known • Find the **area** of **rectangles** (including squares) by **counting** squares • Find the **area** of other **rectilinear** shapes by **counting** squares	• Calculate the **perimeter** of **composite rectilinear** shapes where all measurements are **given** including mixed units • Calculate the **perimeter** of **composite rectilinear** shapes where some measurements need to be **calculated** • Make connections between **arrays** and calculating the **area** of rectangles • Calculate the **area** of **rectangles** (not squares) • Calculate the **area** of **squares** • Find an **estimate** for the **area** of shapes that are not rectangles • Find an **estimate** for the **volume** of a 3D shape	• Recognise that shapes with the **same areas** can have **different perimeters** and vice versa • Calculate the **area** of a **parallelogram** • Calculate the **area** of a **triangle** • Calculate the **volume** of **cuboids**, including cubes

Northampton International Academy
Curriculum Progression – Measurement (Money)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Recognise	• **Recognise** and know the **value** of the following coins: 1p | 2p | 5p | 10p | 20p | 50p | £1 | £2 • **Recognise** and know the **value** of the following notes: £5 | £10 | £20					
Combine and Calculate		• Combine **£1**, **£2**, **£5** and **£10** use the symbol for pounds (£) • Find the **sum** of different amounts of **pounds** • Combine **1p**, **2p** and **5p** coins to make different totals • Combine **10p**, **20p** and **50p** coins to make different totals • Find the **sum** of different amounts of **pence** • Find **different combinations** of coins that equal the **same amounts** of money • Calculate **change from 50p** • Calculate **change from £1**	• Use combinations of coins to make amounts **beyond £1** • **Add amounts** in **pence** expressing the answer using £ and p (regrouping in the tens) • **Add amounts** in **pounds and pence** • Subtract **pence from £2** • Subtract **pence from £5** • Subtract **pounds and pence from £**5 • Subtract **pounds and pence from £10** • Calculate **change beyond £1**	•Convert from **pence to pounds** •Convert from **pounds to pence**		

Northampton International Academy
Curriculum Progression – Measurement (Time)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Comparing and Sequencing	• Know and use the **days of the week** • Know and use the **months of the year** • Recognise and use language relating to **dates** • Sequence events in **chronological order** within the **same day** • Sequence events in **chronological order** within the **same week** • Compare times using **quicker**, **slower**, **earlier**, **later**	• **Order** or **sequence** intervals of time, including the fact that there are **24 hours in one day**	• **Compare** times given in **seconds**, **minutes** and/or **hours** • **Sequence** events using **a.m.** and **p.m.**			
Measure and Estimate	• **Measure** time		• Read **Roman numerals** up to XII • **Calculate** the duration of events **less than one hour** • **Calculate** the duration of events **more than one hour**			
Telling the Time	• **Tell** the time **to the hour** • **Draw** hands on a clock face to show time **to the hour** • **Tell** the time to **half past the hour** • **Draw** hands on a clock face to show time to **half past the hour**	• Tell the time using **quarter past** the hour on an **analogue** clock • **Tell the time** using **quarter to** the hour on an **analogue** clock • **Draw the hands** on a clock to show **quarter past/to** the hour on an analogue clock • **Tell the time** to **five-minute** intervals past the hour on an analogue clock • **Draw the hands** on a clock to show **five-minute** intervals **past the hour** on an analogue clock • Tell the time to **five-minute** intervals **to the hour** on an analogue clock • **Draw the hands** on a clock to show **five-minute** intervals to the hour on an analogue clock	• **Tell** the time to **one-minute intervals** past the hour on an **analogue clock** • **Draw** the hands on a clock to show **one-minute intervals** past the hour on an **analogue clock** • **Tell** the time to **one-minute** intervals to the hour on an **analogue clo**ck • **Draw** the hands on a clock to show **one-minute intervals** to the hour on an **analogue clock** • **Read** analogue time and record using **digital format** • Read digital time and **write** using 'to' and 'past'		• Read and interpret information given in a **timetable**	
Conversion		• Know and use the fact that there are **60 minutes in 1 hour**	• Know the number of **seconds** in a **minute** and multiple minutes • Know the number of **days** in each **month**, **year** and **leap year**	• Convert **12-hour** digital time **to 24-hour** time • Convert **from 12-hour** analogue time to **24-hour** time • Convert **from 24-hour** time **to 12-hour** analogue time • Convert from **hours to minutes** • Convert from **weeks to days** • Convert from **years to months**	• Convert from **seconds to minutes** • Convert from **minutes to hours** • Convert from **hours to days** • Convert from **days to weeks**	

Northampton International Academy
Curriculum Progression – Statistics

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Tables and Tally Charts		• **Interpret** a **table** • **Construct** a **tally** chart	• **Interpret** data in a **table** • **Create** a table to show data		• **Read** and **interpret** information given in a **table**	
Pictograms		• **Interpret** a pictogram where the symbol represents **a single item** • **Construct** a pictogram where the symbol represents **a single item** • **Interpret** a pictogram where the symbol represents **2 items** • **Construct** a pictogram where the symbol represents **2 items** • **Interpret** a pictogram where the symbol represents **5 or 10 items** • **Construct** a pictogram where the symbol represents **5 or 10 items**	• **Interpret** a **pictogram** where the symbol represents **multiple items** • Construct a **pictogram** where the symbol represents **multiple items**			
Bar Charts		• **Interpret** a block diagram • **Construct** a block diagram	• **Interpret** a bar chart • **Construct** a bar chart	• **Interpret** bar charts with **different scales** on the frequency axis • **Construct** a bar chart with **different scales** on the frequency axis		
Line Graphs				• **Interpret** a time graph • **Construct** a time graph	• **Read** and **interpret** information given in a **line** graph	• **Interpret** line graphs • **Construct** line graphs
Pie Charts						• **Interpret** pie charts • **Construct** a pie chart by **measuring angles**
Averages						• Understand the meaning of **'average'** and **calculate** the **mean** of a set of discrete data • **Interpret** the **mean** of a set of discrete data

Northampton International Academy
Curriculum Progression – Algebra

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Algebra						• Use simple **formulae** expressed in **words** (e.g. time needed to cook a chicken: allow 20 minutes plus 40 minutes per kilogram) • Know the basic rules of **algebraic notation** • Express **missing number** problems **algebraically** • Find **combinations** of **two variables** • Find pairs of numbers that satisfy an **equation with two unknowns** e.g. a + b = 15 • Generate a **linear sequence** from its description • Describe and find the next **terms of a linear sequence** • Find a **missing term** in a **linear sequence** • Describe a number pattern algebraically

Maths Rocket Words

	EYFS and Year 1					Year 2			Year 3		Year 4		Year 5	Year 6
Number and Place Value Addition and Subtraction Multiplication and Division	same different count(ing) forwards backwards share left over more (than) less (than) total fewer (than) equal (to)	most least sum difference total first plus add(ition) subtract(ion) minus ones tens number	amount value size Order First Second Third and so on up to Ninth tenth	Multiples odd even double halve pair how much how many distance between	larger smaller estimate compare together altogether bonds zero between above below	digit numeral twenty-one twenty-two twenty-three twenty-four and so on up to ninety-nine one hundred > as 'greater than' < as 'less than'	eleventh twelfth thirteenth and so on up to nineteenth twentieth multiple commutative place value step counting	partition place holder place value estimate estimation inverse array calculate multiplication division times tables	hundreds one hundred and one one hundred and two one hundred and three and so on up to one thousand multiple(s) inverse operations integer(s) decimal(s) remainder		thousands round rounding Roman numerals to 100 'C' negative operation factor factor pairs distributive associative derive remainder		million(s) Roman numerals to 1000 'M' linear sequence power(s) prime complement composite prime factor square(d)^2 cube(d)^3 equivalence	interval Multi-step common factors common multiples
Fractions Ratio and Proportion	(one) half (one) (two) (three) quarters	sharing group (ing)	part whole	equal parts same size bar		(one) (two) third(s) sharing grouping two quarters third one third two thirds equivalent	'one and a quarter' one and 2 quarters one and a half one and 3 quarters half as much twice as much numerator denominator		fifths sixths sevenths eighths ninths Tenths	numerator denominator order unit-fraction non-unit fraction	hundredth(s) 'decimal equivalents decimal places proportion		mixed number(s) thousandths percent percentage(s)	simplify degrees of accuracy relative size scale factor proportion ratio as a:b
Measurement	Mass weigh weight heavy heavier (than) heaviest light lighter (than) lightest balance (weighing) scales ruler	Length long(er)(est) short(er)(est) gram/g kilogram/kg centimetre/cm metre/m far distance measure long(er)(est) short(er)(est)	Capacity volume full empty more than less than half full	Money note amount penny/p pound/£ coin values: one pence two pence Five pence ten pence twenty pence fifty pence	Time year month week weekend day Monday Tuesday Wednesday Thursday Friday Saturday Sunday January	Mass gram kilogram Length height width metre centimetre millimetre Temperature Degrees Celsius Thermometer	Time analogue Five/ten/1/4 pas/to clockwise anticlockwise Measurement - Capacity Litre Millilitre	Money Price Cost Amount Change	Length millimetre perimeter Time roman numerals to XII am/pm duration noon midnight analogue clock digital clock		Length kilometre Measures convert conversion rectilinear area dimensions	Time 24-hour clock	Length inch foot yard mile Capacity pint Mass pound (lb) composite metric imperial units cm^2 m^2 cm^3 m^3	Units mm^3 km^3 speed mph m/s km/h
	February March April May June July August September	October November December night hour minute second morning	afternoon evening yesterday today tomorrow before after old(er)	new(er) clock (face) o'clock half past birthday watch hour (hand)	minute (hand) minutes past/to quarter past/to half past/to	fast(er) quick(er) slow(er) early earlier late later								
Geometry	pattern 2-D rectangle	square circle triangle	3-D cube cuboid	pyramid sphere side(s)		vertical horizontal vertices edges faces	quadrilateral polygon prism cone symmetry		degree(s) right angle perpendicular parallel	polyhedron polyhedra acute obtuse reflex	classify pentagon hexagon heptagon octagon nonagon	decagon isosceles scalene equilateral parallelogram	rhombus irregular trapezium protractor regular irregular	point reflection 180^0 360^0	net(s) radius diameter circumference	vertically opposite complementary angles pi
Position	left right top around	middle bottom in front of behind	between above below near	close far up	down forwards backwards	inside outside clockwise	straight curved rotate	rotation	angle right angle	orientation reflection	coordinates quadrant plot diagonal	grid translate translation scale	axis/axes x-axis y-axis	orientation	quadrant(s) dissect(ion)	
Statistics							pictogram tally chart	block diagram table	data category(ies)	interpret data	category(ies) scale	label graph			pie chart mean	average data set
Algebra															symbol formula(e) equation	unknown variable constant	generalise sequence