

Mathematics: Entry Level – Scheme of Work

Pupils can complete EL1, EL2 or EL3, and those completing EL3 will need the content from EL1 and EL2 also. This allows a class to aim toward different levels, depending on how far they can be stretched.

Year 10	Topic area and approx. time allocation	EL1	EL2	EL3
Throughout the year, where appropriate, the topic ‘Number: Equipment’ should be embedded into the teaching.				
All year	Number: Equipment	Use given equipment for a stated purpose (7.1)	Choose a suitable method of computation, using equipment where appropriate (7.2)	Use a basic calculator – reading the display (7.3)
Half Term 1	Number: Count	Count up to 10, knowing the number names (1.1) Count small sets of objects, checking the total (1.2)	Count up to 100, knowing the number names (1.3) Count collections of objects, checking the total (1.4) Recognise odd and even numbers (1.5) Count on in steps of different sizes (1.6)	Count up to 1000, knowing the number names (1.7 part) Describe and extend simple number sequences (1.8) Count on or back in tens or hundreds from any two- or three-digit number (1.9, 1.10)
	Number: Read, write and order	Read, write and order numbers to 10 (2.1)	Read, write and order numbers to 100, developing an understanding that the position of a digit signifies its value (2.2)	Read, write and order numbers up to 1000 (1.7 part) Know what each digit represents (2.3) Round any positive integer less than 100 to the nearest 10 (2.4) Order a given set of positive and negative integers, including placing them on a number line (2.5)
	Key words	Tier 2: Count, total, order, digit, value, round. Tier 3: Units, tens, hundreds, thousands, even numbers, odd numbers, positive numbers, negative numbers, integers.		
	Common misconceptions	Writing numbers in the wrong place value. Misunderstanding which numbers are odd and which are even. Knowing whether to round up or down.		
	Homework	Appropriate Hegarty maths tasks linked to current topic. Appropriate worksheets linked to current topic. Times Table Rockstars.		

Year 10	Topic area and approx. time allocation	EL1	EL2	EL3
	Career links	Customer services adviser https://www.unifrog.org/student/careers/school-subjects/financial-services-customer-adviser		
	Employability skills	Aiming high, creativity, leadership, listening, presenting, problem solving, literacy, numeracy, independence, communication, teamwork, staying positive.		
	Assessment	Assessment covering topics taught over the half term.		
Half Term 2	Number: Pattern	Understand the operation of addition, subtraction as taking away and the relationship between them (4.1) Recognise situations to apply and use the operations to solve problems with whole numbers up to 10 (4.2)	Use repeating patterns to develop ideas of regularity and sequencing (4.3) Explore and record patterns in addition and subtraction, explaining the patterns and using them to make predictions (4.4)	Explore and record patterns in addition and subtraction and the pattern of multiples, e.g. 3, 6, 9, 12, explaining the patterns and using them to make predictions (4.5) Know and use halving as the inverse of doubling (4.6)
	Geometry: 2D shapes	Describe and discuss simple 2D shapes (10.1) Use the mathematical names for rectangle and circle (10.2) Recognise and use simple geometric features of simple 2D shapes (10.3)	Use the mathematical names for common 2D shapes (10.4)	Use the mathematical names for additional 2D shapes (10.5) Recognise reflective symmetry in simple cases (10.6) Sort shapes according to mathematical criteria (10.7)
	Key words	Tier 2: Operation, pattern, sides, reflect. Tier 3: Addition, subtraction, sequence, multiples, halving, doubling, parallel, symmetry.		
	Common misconceptions	Subtraction, starting from the right and whether to borrow or not. Identifying sequences that multiply or divide by 2. Understanding where to place lines of symmetry (rectangles).		
	Homework	Appropriate Hegarty maths tasks linked to current topic. Appropriate worksheets linked to current topic. Times Table Rockstars.		
	Careers links	Visual effects artist https://www.unifrog.org/student/careers/mathematics/visual-effects-artist		

Year 10	Topic area and approx. time allocation	EL1	EL2	EL3
	Employability skills	Aiming high, creativity, leadership, listening, presenting, problem solving, literacy, numeracy, independence, communication, teamwork, staying positive.		
	Assessment	Assessment covering topics taught over the half term.		
Half Term 3	Number: Fractions and decimals 6 hours	Recognise and use halves (3.1)	Recognise and use halves of numbers up to 10 in context (3.2) Recognise and use quarters (3.3)	Halve even two-digit numbers with even tens (4.7) Double numbers up to 50 (4.8) Halve even two-digit numbers with odd tens (4.9)
	Number Consolidation (L1, L2) Number: Fractions and decimals (L3)	Consolidation of Number: Count (1.1) (1.2) Number: Read, write and order (2.1) Number: Pattern (4.1) (4.2)	Consolidation of Number: Count (1.3) (1.4) (1.5) (1.6) Number: Read, write and order (2.2) Number: Pattern (4.3) (4.4)	Recognise and use in context simple fractions, including thirds in context, decimal notation in recording money and length (3.4) Recognise the equivalence of very simple fractions (3.5) Recognise simple equivalents (3.6) Recognise unit fractions and use them to find fractions of shapes and numbers (3.7) Recognise simple fractions that are several parts of a whole and be able to shade shapes to illustrate those fractions (3.8) Find fractional quantities of numbers up to 20 (3.9)
	Key words	Tier 2: Count, total, order, digit, value, round, pattern. Tier 3: Halve, double, quarter, third, fraction decimal, equivalent, sequence.		
	Common misconceptions	Halving odd numbers. Knowing which coins to make a certain value of money. Knowing that £1 is not 1 unit.		
	Homework	Appropriate Hegarty maths tasks linked to current topic. Appropriate worksheets linked to current topic. Times Table Rockstars.		

Year 10	Topic area and approx. time allocation	EL1	EL2	EL3
	Career links	Tree surgeon https://www.unifrog.org/student/careers/keywords/tree-surgeon		
	Employability skills	Aiming high, creativity, leadership, listening, presenting, problem solving, literacy, numeracy, independence, communication, teamwork, staying positive.		
	Assessment	Assessment covering topics taught over the half term.		
Half Term 4	Number: Facts	Use apparatus to add and subtract numbers to 10 (5.1)	Know addition and subtraction facts for each number to 10 (5.2)	Know all addition and subtraction facts for each number to 20 (5.3)
	Geometry: 3D shapes	Describe and discuss simple 3D shapes (11.1)	Use the mathematical name for a cube (11.2) Recognise and use the following geometric features of 3D shapes: vertices, edges, faces (11.3)	Use the mathematical names for additional 3D shapes (11.4) Recognise and use the geometric features of 3D shapes, including vertices, edges and faces; cubes, cuboids, pyramids, cylinders, cones and spheres (11.5)
	Key words	Tier 2: Faces, edges. Tier 3: Add, subtract, 3D, vertex, vertices, cube, cuboid, pyramid, cylinder, cone, sphere.		
	Common misconceptions	Rearranging subtraction questions, eg $7 - 5$ is the same as $5 - 7$. Mixing up edges, vertices and faces.		
	Homework	Appropriate Hegarty maths tasks linked to current topic. Appropriate worksheets linked to current topic. Times Table Rockstars.		
	Career links	Product designer https://www.unifrog.org/student/careers/school-subjects/product-designer		
	Employability skills	Aiming high, creativity, leadership, listening, presenting, problem solving, literacy, numeracy, independence, communication, teamwork, staying positive.		
	Assessment	Assessment covering topics taught over the half term.		
Half Term 5	Geometry Consolidation (L1, L2)	Consolidation of Geometry: 3D shapes (11.1)	Consolidation of Geometry: 3D shapes (11.2) (11.3)	Know multiplication and division facts relating to the 2s, 3s, 4s, 5s, and 10s and use these to derive other facts, and to develop mental methods for finding new results (5.4)
	Number: Facts (L3)			Identify pairs of factors of numbers up to 50 (5.5)
	Number Consolidation (L1)	Consolidation of Number: Facts (5.1)	Add and subtract one- and two-digit numbers, and use	Add and subtract one-, two- and three-digit numbers (6.3)

Year 10	Topic area and approx. time allocation	EL1	EL2	EL3
	Number: Operations (L2, L3)		<p>addition and subtraction to solve problems (6.1)</p> <p>Understand the operations of multiplication and division, and use them to solve problems with whole numbers, money or measures (6.2)</p>	<p>Interpret a calculator display as money (3.10)</p> <p>Use a calculator to add and subtract money (3.11)</p> <p>Understand and deal appropriately with remainders, including simple problems in context (6.4)</p> <p>Multiply a two-digit number by a single digit (6.5)</p> <p>Understand and use the different vocabulary for the four rules of number (6.6)</p>
	Key words	<p>Tier 2: Faces, edges, factor, operation, remainder.</p> <p>Tier 3: Add, subtract, multiply, divide, 3D, vertex, vertices, cube, cuboid, pyramid, cylinder, cone, sphere.</p>		
	Common misconceptions	<p>Mixing up faces, edges, vertices. Carrying and borrowing in addition and subtraction. Choosing the correct operation for solving problems. Mixing pounds and pence when adding or subtracting, $\text{£}1 + 5\text{p} = \text{£}6$</p>		
	Homework	<p>Appropriate Hegarty maths tasks linked to current topic. Appropriate worksheets linked to current topic. Times Table Rockstars.</p>		
	Career links	<p>Boat builder https://www.unifrog.org/student/careers/school-subjects/boat-builder</p>		
	Employability skills	<p>Aiming high, creativity, leadership, listening, presenting, problem solving, literacy, numeracy, independence, communication, teamwork, staying positive.</p>		
	Assessment	<p>Assessment covering topics taught over the half term.</p>		
Half Term 6	Geometry: Position, movement and pattern	<p>Describe positions using common words (13.1)</p> <p>Copy, continue and make patterns (13.2)</p>	<p>Recognise movements in a straight line and rotations (13.3)</p>	<p>Recognise movements in a straight line and rotations, and combine them in simple ways (13.4)</p> <p>Use mathematical vocabulary to describe position, direction and movement (13.5)</p> <p>Read and plot coordinates in the first quadrant (13.6)</p>
	Key words	<p>Tier 2: Position, pattern, direction.</p> <p>Tier 3: Rotate, coordinates, axis.</p>		

Year 10	Topic area and approx. time allocation	EL1	EL2	EL3
	Common misconceptions	Left and right mixed up. Rotating in the wrong direction. Plotting coordinates.		
	Homework	Appropriate Hegarty maths tasks linked to current topic. Appropriate worksheets linked to current topic. Times Table Rockstars.		
	Career links	Naval officer https://www.unifrog.org/student/careers/mathematics/royal-navy-officer		
	Employability skills	Aiming high, creativity, leadership, listening, presenting, problem solving, literacy, numeracy, independence, communication, teamwork, staying positive.		
	Practice Task	See Sample Assessment Materials for practice tasks and assessment preparation materials.		
	End of Year Revision and Assessment	Internal mathematics assessment OR Optional ELC assessment: see Live Assessment Materials		

Year 11	Topic area and approx. time allocation	EL1	EL2	EL3
Throughout the year, where appropriate, the topic 'Number: Equipment' should be embedded into the teaching.				
All year	Number: Equipment	Use given equipment for a stated purpose (7.1)	Choose a suitable method of computation, using equipment where appropriate (7.2)	Use a basic calculator – reading the display (7.3)
Half Term 1	Measures: Measuring instruments	Use simple measuring instruments (16.1)	Choose and use simple measuring instruments (16.2)	Choose and use simple measuring instruments, reading and interpreting number and scales with some accuracy (16.3) Use a protractor to measure acute and obtuse angles to the nearest 10° (16.4)
	Measures: Units	Compare objects and events using appropriate language for direct comparison (15.1)	Compare objects and events using appropriate language for direct comparison using common standard units (15.2)	Use a wider range of standard units, including standard units of time, choosing units appropriate to a situation (15.3) Estimate with these units (15.4) Express a length given in metres and in centimetres. Express a price given in pounds and in pence (15.5) Work with time, including 12-hour and 24-hour clocks (15.6)
	Key words	Tier 2: Measure, accuracy, compare, estimate. Tier 3: Centimetre, metre, millimetre, gram, kilogram, litre, millimetre, degrees,		
	Common misconceptions	Mixing up units when measuring. Starting from 0 on a ruler. Misreading increments as always being 0.1. Measuring angles from the wrong side on a protractor. Not writing am or pm on 12-hour time. 100mins in an hour. Adding 10 hours on for 24-hour time.		
	Homework	Appropriate Hegarty maths tasks linked to current topic. Appropriate worksheets linked to current topic. Times Table Rockstars.		
	Career links	Structural engineer https://www.unifrog.org/student/careers/school-subjects/structural-engineer		
	Employability skills	Aiming high, creativity, leadership, listening, presenting, problem solving, literacy, numeracy, independence, communication, teamwork, staying positive.		
	Assessment	Assessment covering topics taught over the half term.		

Year 11	Topic area and approx. time allocation	EL1	EL2	EL3		
Half Term 2	Number Consolidation (L1, L2)	Consolidation of Number: Count (1.1) (1.2) Number: Read, write and order (2.1) Number: Pattern (4.1) (4.2) Number: Facts (5.1)	Consolidation of Number: Count (1.3) (1.4) (1.5) (1.6) Number: Read, write and order (2.2) Number: Pattern (4.3) (4.4) Number: Facts (5.2) Number: Operations (6.1) (6.2)	Solve very basic equations (8.1)		
	Algebra (L3)			Collect like terms (8.2)		
	Ratio and proportion (L3)			Use simple word formulae (8.3)		
				Use direct proportion in simple problems (9.1)		
	Key words			Tier 2: Order, digit, value, round, pattern, operation, solve. Tier 3: Even numbers, odd numbers, positive numbers, negative numbers, integers, sequence, terms, direct proportion.		
	Common misconceptions			Misinterpreting doubling or halving sequences as addition or subtraction. Adding or subtracting when using direct proportion. 10 pens = £2, 11 pens = £3.		
	Homework			Appropriate Hegarty maths tasks linked to current topic. Appropriate worksheets linked to current topic. Times Table Rockstars.		
Career links	Vehicle spray painter https://www.unifrog.org/student/careers/school-subjects/vehicle-spray-painter					
Employability skills	Aiming high, creativity, leadership, listening, presenting, problem solving, literacy, numeracy, independence, communication, teamwork, staying positive.					
Assessment	Assessment covering topics taught over the half term.					
Half Term 3	Statistics	Sort and classify a set of objects or pictures (17.1)	Sort and classify a set of objects using criteria related to their properties (17.3)	Collect, record, read and interpret data arising from an area of interest, using tally charts with frequency column, data-collection sheets, bar charts, pictograms and tables (17.5)		
		Extract information from lists (17.2)	Collect, record and read data arising from an area of interest, using tally charts, data-collection sheets, bar charts, pictograms and simple tables (17.4)	Read simple pie charts (17.6)		
	Key words	Tier 2: Collect, record, read, interpret, frequency. Tier 3: Tally, bar chart, pictogram, pie chart.				
Common misconceptions	Tallying without striking through on the 5 th . Misreading the key on pictograms, one diagram is always 1. Not leaving a gap between bars on a bar chart. Uneven frequency scale on a bar chart.					

Year 11	Topic area and approx. time allocation	EL1	EL2	EL3
	Homework	Appropriate Hegarty maths tasks linked to current topic. Appropriate worksheets linked to current topic. Times Table Rockstars.		
	Career links	Market researcher https://www.unifrog.org/student/careers/school-subjects/market-researcher		
	Employability skills	Aiming high, creativity, leadership, listening, presenting, problem solving, literacy, numeracy, independence, communication, teamwork, staying positive.		
	Assessment	Assessment covering topics taught over the half term.		
Half Term 4	Geometry Consolidation (L1, L2) Geometry: Perimeter and area (L3)	Consolidation of Geometry: 2D shapes (10.1) (10.2) (10.3) Geometry: 3D shapes (11.1)	Consolidation of Geometry: 2D shapes (10.4) Geometry: 3D shapes (11.2) (11.3)	Find perimeter of a rectangle by adding lengths of sides (12.1) Find area of a rectangle by counting squares (12.2) Find the area of a rectangle by multiplying length by width (12.3)
	Key words	Tier 2: Sides, faces, edges, length. Tier 3: 3D, vertex, vertices, cube, cuboid, pyramid, cylinder, cone, sphere, perimeter, area.		
	Common misconceptions	Mixing up faces, edges and vertices. Mixing up area and perimeter.		
	Homework	Appropriate Hegarty maths tasks linked to current topic. Appropriate worksheets linked to current topic. Times Table Rockstars.		
	Career links	Animator https://www.unifrog.org/student/careers/school-subjects/Animator		
	Employability skills	Aiming high, creativity, leadership, listening, presenting, problem solving, literacy, numeracy, independence, communication, teamwork, staying positive.		
	Assessment	Assessment covering topics taught over the half term.		
Half Term 5	Geometry: Angles (L3)	Revision as appropriate	Understand angle as a measure of turn and recognise quarter-turns, half-turns and right angles (14.1)	Identify an angle as smaller than a right angle or bigger than a right angle (14.2)
	Practice Task	See Sample Assessment Materials		
	Key words	Tier 2: Measure, turn, direction. Tier 3: Right angle, degrees, angle, acute, obtuse.		
	Common misconceptions	Right angles only face to the right. Measuring angles from the wrong side on the protractor.		
	Homework	Appropriate Hegarty maths tasks linked to current topic. Appropriate worksheets linked to current topic. Times Table Rockstars.		

Year 11	Topic area and approx. time allocation	EL1	EL2	EL3
	Career links	Naval officer https://www.unifrog.org/student/careers/mathematics/royal-navy-officer		
	Employability skills	Aiming high, creativity, leadership, listening, presenting, problem solving, literacy, numeracy, independence, communication, teamwork, staying positive.		
Half Term 6	Practice Test	See Sample Assessment Materials		
	Revision	Topics as appropriate/necessary		
	Assessment: Test and task	Refer to ELC Specification and Live Assessment Materials		
	Homework	Appropriate Hegarty maths tasks linked to current topic. Appropriate worksheets linked to current topic. Times Table Rockstars.		
	Employability skills	Aiming high, creativity, leadership, listening, presenting, problem solving, literacy, numeracy, independence, communication, teamwork, staying positive.		