

FIRST® LEGO® League Explore curriculum link grid

Key Stage 1			
		Year 1	Year 2
Spoken language Ensure the continual development of pupils' confidence and competence in spoken language and listening skills. Spoken language is important for pupils' development across the whole curriculum – cognitively, socially and linguistically. Spoken language underpins the development of reading and writing.		<ul style="list-style-type: none"> – Listen and respond appropriately to adults and their peers. – Ask relevant questions to extend their understanding and knowledge. – Articulate and justify answers, arguments and opinions. – Give well-structured descriptions, explanations and narratives for different purposes. – Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments. – Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas. – Participate in discussions, presentations, performances, role play, improvisations and debates. – Consider and evaluate different viewpoints, attending to and building on the contributions of others. 	
English Pupils need to develop the skill of blending the sounds into words for reading and establish the habit of applying this skill whenever they encounter new words. Pupils at the beginning of year 2 should be able to compose individual sentences orally and then write them down.	Reading (word reading)	<ul style="list-style-type: none"> – Apply phonic knowledge and skills as the route to decode words. – Read accurately by blending sounds in unfamiliar words containing GPCs that have been taught. 	<ul style="list-style-type: none"> – Read further common exception words, noting unusual correspondences between spelling and sound and where these occur in the word. – Read most words quickly and accurately, without overt sounding and blending, when they have been frequently encountered.
	Reading (comprehension)	<ul style="list-style-type: none"> – Develop pleasure in reading, motivation to read, vocabulary and understanding. – Participate in discussion about what is read to them, taking turns and listening to what others say. 	<ul style="list-style-type: none"> – Discussing and clarifying the meanings of words, linking new meanings to known vocabulary.
	Writing (transcription)	<ul style="list-style-type: none"> – Apply simple spelling rules and guidance. 	<ul style="list-style-type: none"> – Learning new ways of spelling phonemes for which one or more spellings are already known, and learn some words with each spelling, including a few common homophones. – Learning to spell common exception words.
	Writing (composition)	<ul style="list-style-type: none"> – Write sentences. – Discuss what they have written with the teacher or other pupils. 	<ul style="list-style-type: none"> – Develop positive attitudes towards and stamina for writing by writing for different purposes. – Consider what they are going to write before beginning by writing down ideas and/or key words, including new vocabulary.
	Writing (vocabulary, grammar and punctuation)		<ul style="list-style-type: none"> – Learn how to use sentences with different forms: statement, question, exclamation, command.

Key Stage 1

Mathematics Ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools].	Number (number and place value)	<ul style="list-style-type: none"> – Count to and across 100. – Read and write numbers from 1 to 20. 	<ul style="list-style-type: none"> – Read and write numbers to at least 100 in numerals and in words. – Use place value and number facts to solve problems.
	Number (addition and subtraction)	<ul style="list-style-type: none"> – Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations. 	<ul style="list-style-type: none"> – Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures.
	Number (multiplication and division)	<ul style="list-style-type: none"> – Solve one-step problems involving multiplication and division. 	<ul style="list-style-type: none"> – Solve problems involving multiplication and division, using materials and multiplication and division facts, including problems in contexts.
	Number (fractions)	<ul style="list-style-type: none"> – Recognise, find and name a half as one of two equal parts of an object, shape or quantity. – Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. 	<ul style="list-style-type: none"> – Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity.
	Measurement	<ul style="list-style-type: none"> – Compare, describe and solve practical problems for: <ul style="list-style-type: none"> – lengths and heights – mass/weight – capacity and volume – time – Measure and begin to record the following: <ul style="list-style-type: none"> – lengths and heights – mass/weight – capacity and volume – time – Sequence events in chronological order using language. 	<ul style="list-style-type: none"> – Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) and mass (kg/g) to the nearest appropriate unit, using rulers and scales.
	Geometry (properties of shape)	<ul style="list-style-type: none"> – Recognise and name common 2-D and 3-D shapes, including: <ul style="list-style-type: none"> – 2D shapes – 3D shapes 	<ul style="list-style-type: none"> – Identify and describe the properties of 2-D shapes. – Identify and describe the properties of 3-D shapes. – Identify 2-D shapes on the surface of 3-D shapes. – Compare common 2-D and 3-D shapes and everyday objects.
	Geometry (position and direction)	<ul style="list-style-type: none"> – Describe position, direction and movement, including whole, half, quarter and three-quarter turns. 	<ul style="list-style-type: none"> – Order and arrange combinations of objects in patterns and sequences. – Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise).

Key Stage 1

		Year 1	Year 2
Science Enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice.	Working scientifically	<ul style="list-style-type: none"> – Asking simple questions and recognising that they can be answered in different ways. – Observing closely, using simple equipment. – Performing simple tests. – Identifying and classifying. – Using their observations and ideas to suggest answers to questions. 	
	Everyday materials	<ul style="list-style-type: none"> – Distinguish between an object and the material from which it is made. – Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. – Describe the simple physical properties of a variety of everyday materials. 	<ul style="list-style-type: none"> – Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.
Art and Design Engage, inspire and challenge pupils, equipping them with the knowledge and skills to experiment, invent and create their own works of art, craft and design.		<ul style="list-style-type: none"> – Use a range of materials creatively to design and make products. – Use drawing to develop and share their ideas, experiences and imagination. 	
Design and Technology Pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.	Design	<ul style="list-style-type: none"> – Design purposeful, functional, appealing products for themselves and other users based on design criteria. – Generate, develop, model and communicate their ideas through talking, drawing, templates and mock-ups. 	
	Make	<ul style="list-style-type: none"> – Select from and use a range of tools and equipment to perform practical tasks. – Select from and use a wide range of materials and components, including construction materials according to their characteristics. 	
	Evaluate	<ul style="list-style-type: none"> – Explore and evaluate a range of existing products. – Evaluate their ideas and products against design criteria. 	
	Technical knowledge	<ul style="list-style-type: none"> – Build structures, exploring how they can be made stronger, stiffer and more stable. – Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. 	

Key Stage 2

		Year 3	Year 4	Year 5
Spoken language Ensure the continual development of pupils' confidence and competence in spoken language and listening skills. Spoken language is important for pupils' development across the whole curriculum – cognitively, socially and linguistically. Spoken language underpins the development of reading and writing.		<ul style="list-style-type: none"> – Listen and respond appropriately to adults and their peers. – Ask relevant questions to extend their understanding and knowledge. – Articulate and justify answers, arguments and opinions. – Give well-structured descriptions, explanations and narratives for different purposes. – Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments. – Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas. – Participate in discussions, presentations, performances, role play, improvisations and debates. – Consider and evaluate different viewpoints, attending to and building on the contributions of others. 		
English Pupils should become more familiar with and confident in using language in a greater variety of situations, for a variety of audiences and purposes, including through drama, formal presentations and debate.	Reading (word reading)	<ul style="list-style-type: none"> – Apply their growing knowledge of root words, prefixes and suffixes both to read aloud and to understand the meaning of new words they meet. – Read further exception words, noting the unusual correspondences between spelling and sound, and where these occur in the word. 		<ul style="list-style-type: none"> – Read further common exception words, noting unusual correspondences between spelling and sound and where these occur in the word. – Read most words quickly and accurately, without overt sounding and blending, when they have been frequently encountered.
	Reading (comprehension)	<ul style="list-style-type: none"> – Retrieve and record information from non-fiction. – Increase their familiarity with a wide range of books. 		<ul style="list-style-type: none"> – Discussing and clarifying the meanings of words, linking new meanings to known vocabulary.
	Writing (transcription)	<ul style="list-style-type: none"> – Spell words that are often misspelt. 		<ul style="list-style-type: none"> – Learning new ways of spelling phonemes for which one or more spellings are already known, and learn some words with each spelling, including a few common homophones. – Learning to spell common exception words.
	Writing (composition)	<ul style="list-style-type: none"> – Plan their writing by discussing and recording ideas. 		<ul style="list-style-type: none"> – Learn how to use sentences with different forms: statement, question, exclamation, command.

Key Stage 2

		Year 3	Year 4	Year 5
Mathematics Pupils should become more familiar with and confident in using language in a greater variety of situations, for a variety of audiences and purposes, including through drama, formal presentations and debate.	Number (number and place value)	<ul style="list-style-type: none"> – Solve number problems and practical problems involving number and place value concepts. 	<ul style="list-style-type: none"> – Solve number and practical problems that involve number and place value concepts with increasingly large positive numbers. 	<ul style="list-style-type: none"> – Solve number problems and practical problems that involve larger numbers, negative numbers and rounded numbers.
	Number (addition and subtraction)	<ul style="list-style-type: none"> – Add and subtract numbers mentally – Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. 	<ul style="list-style-type: none"> – Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. 	<ul style="list-style-type: none"> – Solve addition and subtraction multi-step problems in contexts.
	Number (multiplication and division)	<ul style="list-style-type: none"> – Solve problems, including missing number problems, involving multiplication and division. 	<ul style="list-style-type: none"> – Solve problems involving multiplying and adding. 	<ul style="list-style-type: none"> – Solve problems involving addition, subtraction, multiplication and division and a combination of these.
	Number (fractions)	<ul style="list-style-type: none"> – Solve problems that involve fractions. 	<ul style="list-style-type: none"> – Solve simple measure problems involving fractions. 	<ul style="list-style-type: none"> – Solve problems which require knowing percentage and decimal equivalents.
	Measurement	<ul style="list-style-type: none"> – Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g). 	<ul style="list-style-type: none"> – Convert between different units of measure. 	<ul style="list-style-type: none"> – Convert between different units of metric measure.
	Geometry (properties of shape)	<ul style="list-style-type: none"> – Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them. 		<ul style="list-style-type: none"> – Complete, read and interpret information in tables, including timetables.
	Statistics	<ul style="list-style-type: none"> – Interpret and present data using bar charts, pictograms and tables. 		<ul style="list-style-type: none"> – Learn how to use sentences with different forms: statement, question, exclamation, command.

Key Stage 2

		Year 3	Year 4	Year 5
Science Enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice.	Working scientifically	<ul style="list-style-type: none"> – Asking relevant questions and using different types of scientific enquiries to answer them. – Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. – Identifying differences, similarities or changes related to simple scientific ideas and processes. – Using straightforward scientific evidence to answer questions or to support their findings. 		<ul style="list-style-type: none"> – Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. – Identifying scientific evidence that has been used to support or refute ideas or arguments.
	Forces	<ul style="list-style-type: none"> – Compare how things move on different surfaces. 		<ul style="list-style-type: none"> – Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.
Art and Design Engage, inspire and challenge pupils, equipping them with the knowledge and skills to experiment, invent and create their own works of art, craft and design		<ul style="list-style-type: none"> – Develop their techniques, including their control and their use of materials, with creativity and experimentation. 		
Computing Ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.		<ul style="list-style-type: none"> – Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. – Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. – Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. – Use search technologies effectively. – Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. 		
Design and Technology Pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.	Design	<ul style="list-style-type: none"> – Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. – Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes and computer-aided design. 		
	Make	<ul style="list-style-type: none"> – Select from and use a wider range of tools and equipment to perform practical tasks. – Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. 		
	Evaluate	<ul style="list-style-type: none"> – Investigate and analyse a range of existing products. – Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. 		
	Technical knowledge	<ul style="list-style-type: none"> – Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. – Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. – Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. – Apply their understanding of computing to program, monitor and control their products. 		