

FIRST® LEGO® League Explore progression of skills Northern Ireland curriculum

Mathematics					
	Level 1	Level 2	Level 3	Level 4	Level 5
Number	<ul style="list-style-type: none"> – use, estimate, add and subtract numbers up to at least 10. – create and describe repeating patterns using objects, numbers or pictures. 	<ul style="list-style-type: none"> – read, write and order whole numbers up to at least 100. – use addition and subtraction patterns within 20 to explore the relationship between addition and subtraction. – add and subtract within 100. – understand and use halves and quarters. 	<ul style="list-style-type: none"> – understand, use, add and subtract whole numbers up to at least 1000. – identify and describe simple number patterns within the 100 square. – know 2, 3, 4, 5 and 10 multiplication facts. – explore and use division in practical situations. – understand and use simple fractions in context. 	<ul style="list-style-type: none"> – read, write and order whole numbers within 10 000. – use the relationship between addition and subtraction to check calculations. – know multiplication facts up to 10 x 10 and derive associated division facts. – use fractions to describe quantities. – understand equivalence of fractions. 	<ul style="list-style-type: none"> – read, write and order whole numbers of any size. – use knowledge of place value to multiply and divide numbers by 10, 100 and 1000. – check calculations by applying inverse operations. – understand and use square, cube and prime numbers. – understand the relationship between common fractions, decimals and percentages. – devise and use rules for generating sequences in words and/or symbolic form.
Measures	<ul style="list-style-type: none"> – use everyday language associated with length, 'weight', capacity and area to describe, compare and order three objects. – sequence familiar events. 	<ul style="list-style-type: none"> – identify and use non-standard units to measure length, 'weight', capacity and area. – understand the need for standard units and know the most commonly used units in length, 'weight', capacity and time. 	<ul style="list-style-type: none"> – choose and use appropriate standard units to estimate, measure and record length, capacity, volume, 'weight', time and temperature. – read simple measuring instruments with an appropriate degree of accuracy. – find the area of shapes by counting whole and half squares. 	<ul style="list-style-type: none"> – estimate and measure length, 'weight'/mass, time and temperature, working to an appropriate degree of accuracy. – add and subtract common measures. – estimate area and volume of shapes by counting squares/cubes. – work out perimeters of simple shapes. 	<ul style="list-style-type: none"> – use the four operations to solve problems related to measures. – calculate areas of squares, rectangles and right-angled triangles and volumes of cubes and cuboids. – calculate perimeters of a range of shapes.
Shape and Space	<ul style="list-style-type: none"> – sort 2-D and 3-D shapes and make and describe 2-D and 3-D constructions. – use language and follow instructions, in practical situations, for position and movement. 	<ul style="list-style-type: none"> – recognise and name common 2-D and 3-D shapes. – sort 2-D and 3-D shapes, giving reasons for sorting. – use language and follow instructions, in practical situations, for turning movements. 	<ul style="list-style-type: none"> – recognise, name and describe common 2-D and 3-D shapes. – recognise one line of symmetry in common 2-D shapes. – recognise tessellations through practical activities. 	<ul style="list-style-type: none"> – explore the properties of common 2-D and 3-D shapes. – explore the relationship between 2-D and 3-D shapes. – recognise and draw lines of symmetry in a variety of 2-D shapes. 	<ul style="list-style-type: none"> – describe the properties of regular and irregular 2-D shapes in terms of sides, angles, symmetry and tessellations. – describe the properties of 3-D.

Communication					
	Level 1	Level 2	Level 3	Level 4	Level 5
Talking and Listening	<ul style="list-style-type: none"> – listen for information. – understand short explanations and simple discussions. – follow short, straightforward instructions. – ask and answer questions for specific information. – use vocabulary from within their experience to describe thoughts and feelings. – talk about their experiences. 	<ul style="list-style-type: none"> – identify the main points of conversations and explanations. – listen to and carry out a sequence of instructions. – ask and answer questions to develop understanding. – use a general vocabulary to express thoughts, imaginings and opinions. – talk about events in sequence with supporting detail. 	<ul style="list-style-type: none"> – listen for specific information. – follow the main points of discussions and make contributions which show understanding. – ask and respond to questions to extend understanding. – explain their views/thinking. – use an expanding vocabulary. – sequence events and plan what to say. 	<ul style="list-style-type: none"> – listen attentively. – make relevant contributions to discussions. – ask questions about others' points of view and respond appropriately. – explain information, ideas and opinions clearly. – use an appropriate vocabulary. 	<ul style="list-style-type: none"> – listen to and identify relevant information and ideas. – make relevant contributions in different roles. – discuss their own and others' ideas. – ask questions to explore and develop ideas. – justify ideas and opinions. – communicate detailed information clearly, using precise vocabulary. – structure their talk logically and coherently.
Reading	<ul style="list-style-type: none"> – show understanding of the meaning carried by print, pictures and images. – use reading strategies. – use visual clues to locate information. – use language associated with texts. – talk about what they read and answer questions. 	<ul style="list-style-type: none"> – understand, recount and sequence events and information. – use a range of reading strategies. – select information for a purpose. – ask questions to seek clarification that develops understanding. – express opinions and make predictions. 	<ul style="list-style-type: none"> – recognise, understand and sequence main points. – use organisational features, including alphabetical order, to locate and obtain information. – understand that there are different forms and features of texts. – ask and respond to questions to extend understanding. – express opinions and give reasons. 	<ul style="list-style-type: none"> – show understanding by identifying and summarising information. – read independently. – locate relevant information and use it appropriately. – recognise main features and understand how these are linked to form and purpose. – explain opinions about what they read. 	<ul style="list-style-type: none"> – show understanding by identifying and summarising information, ideas and details. – select and manage information from a range of sources. – make reference to text to support opinions and draw conclusions.
Writing	<ul style="list-style-type: none"> – talk about what they are going to write. – express thoughts, feelings and ideas, from within their experience, using symbols, pictures, words, phrases and simple sentences. 	<ul style="list-style-type: none"> – talk about what they are going to write and how they will present their writing. – make changes in relation to agreed criteria. – express thoughts, feelings and ideas, from within their experience, using a general vocabulary. – show a sense of structure and organisation. 	<ul style="list-style-type: none"> – talk about and plan their writing. – make improvements to their writing. – express thoughts, feelings, ideas and opinions. – structure and sequence their writing. – provide supporting detail using an expanding vocabulary. 	<ul style="list-style-type: none"> – plan and make use of planning. – check writing to make improvements in accuracy and meaning. – express thoughts, feelings, ideas and opinions, giving reasons when appropriate. – express meaning clearly, using an appropriate vocabulary and level of detail. – choose from and use a range of forms, as appropriate. 	<ul style="list-style-type: none"> – use precise vocabulary to convey thoughts, ideas, relevant information and to justify opinions. – structure writing logically and coherently. – present information effectively, using a formal style where appropriate. – create sentence structures which help to convey meaning.

Science and Technology			
	From (Foundation Stage)	Towards (Key Stage 1)	To (Key Stage 2)
Observation	<ul style="list-style-type: none"> – Use the senses to make observations and provide descriptions of what they notice. 	<ul style="list-style-type: none"> – Use the senses to observe and describe, identifying similarities and differences by making simple comparisons and connections. 	<ul style="list-style-type: none"> – Use the senses to observe and describe. – Suggest reasons for significant observations by examining evidence and making links between possible cause and effect.
Questioning	<ul style="list-style-type: none"> – Ask different types of questions. – Be curious, ask and respond to questions about the world around them. 	<ul style="list-style-type: none"> – Ask more focused questions and suggest ideas for enquiry. 	<ul style="list-style-type: none"> – Be able to ask deeper and wider questions. – Recognise the differences between why, what, where, when, how and what if questions. – Learn from and build on their own and others' ideas and experiences.
Planning	<ul style="list-style-type: none"> – Begin to plan by talking about what they might do. Suggest ways to obtain information from the questions they have formulated. 	<ul style="list-style-type: none"> – Set goals for their work, break tasks into smaller parts and plan the next steps, using their own and others' ideas to identify, locate and select various sources of information. 	<ul style="list-style-type: none"> – Make and test predictions, examine evidence and make links between possible causes and effects. – Predict likely consequences and evaluate the outcomes.
Predicting	<ul style="list-style-type: none"> – Make simple predictions and see possibilities. Give opinions and reasons. 	<ul style="list-style-type: none"> – Generate as many ideas and options as possible. Begin to test predictions and to look for evidence. 	<ul style="list-style-type: none"> – listen to and identify relevant informatnly.
Doing	<ul style="list-style-type: none"> – Experiment and investigate with fictional, imaginary and real life issues. – Suggest possible solutions to problems. Be systematic and work through the stages in a task. – Derive excitement, enjoyment and surprise in learning. Be willing to take on new challenges. – Suggest what to make and what materials to use when assembling and rearranging materials. 	<ul style="list-style-type: none"> – Experiment with objects and ideas in a playful way. Make ideas real by experimenting with different designs, actions and outcomes. – Explain and justify methods, opinions and conclusions. – Enjoy the unexpected, unusual and surprising. – Experiment and investigate real life issues. – Choose simple tools and materials when planning and explore ways to join materials when making. 	<ul style="list-style-type: none"> – Pose questions about the reliability of evidence and the consequences for reaching conclusions. – Develop an argument and decide to what extent conclusions support a prediction. – Engage with a range of problem-solving methods. Seek out problems to solve. – Choose appropriate tools and materials when planning and experiment by incorporating movement and/ or control in designs.
Evaluating	<ul style="list-style-type: none"> – Talk about what they have done and what they have learned based on their observations and first hand experiences. 	<ul style="list-style-type: none"> – Talk about what they have done, how the work was carried out, what the purpose was, whether they have achieved it and what aspects could be improved. 	<ul style="list-style-type: none"> – Draw conclusions by examining evidence, identifying patterns and making links between cause and effect. explain and justify methods, opinions and conclusions. question the accuracy and reliability of evidence and how it could be improved.
Recording and Communicating	<ul style="list-style-type: none"> – Use simple methods to record information. Communicate what they have found out in a variety of ways. 	<ul style="list-style-type: none"> – Identify and use a variety of methods to record information. Begin to identify audience and purpose when communicating. 	<ul style="list-style-type: none"> – Select the most appropriate methods for the particular task. – Develop methods for collating and recording information and monitoring progress on a task. – Have a sense of audience and purpose when communicating.

Thinking Skills and Personal Capabilities			
	From (Foundation Stage)	Towards (Key Stage 1)	To (Key Stage 2)
Managing Information	<ul style="list-style-type: none"> work with a focus, ask and respond to questions to clarify the task. begin to plan. 	<ul style="list-style-type: none"> ask more focused questions about the task, clarify purpose and what needs to be done. set goals for their work, break tasks into smaller parts and plans the next steps. 	<ul style="list-style-type: none"> can ask deeper and wider questions to clarify the task, to plan and to set goals. begin to challenge conventions and assumptions. can classify, compare and evaluate information and select the most appropriate methods for the particular task. develop methods for collating and recording information and monitoring progress on a task.
Thinking, Problem-Solving and Decision-Making	<ul style="list-style-type: none"> make close observations and provide descriptions of what they notice. show the ability to sequence and order events and information, and to see wholes and parts. identify and name objects and events as same or different, sort objects into groups. make simple predictions and see possibilities. give opinions and reasons. 	<ul style="list-style-type: none"> sequence, order and rank along different dimensions. make decisions and generate options. suggest possible solutions to problems. are systematic and work through the stages in a task. explain their methods and opinions, and the reasons for choices and actions. 	<ul style="list-style-type: none"> make and test predictions, examine evidence and make links between possible causes and effects. explain and justify methods, opinions and conclusions. examine options and weigh up pros and cons. try alternative problem-solving solutions and approaches.
Being Creative	<ul style="list-style-type: none"> are curious and ask questions about the world around them, using all the senses to explore and respond to stimuli. show excitement, enjoyment and surprise in learning. are willing to take on new challenges. experiment with ideas through writing, drawing, mark making and model making. 	<ul style="list-style-type: none"> show curiosity when approaching new tasks and challenges. listen to and share ideas and experiences. generate as many ideas and options as possible, building and combining ideas. take time to use imagination for enjoyment. enjoy the unexpected, unusual and surprising. experiment and investigate real life issues. 	<ul style="list-style-type: none"> pose questions that do not have straightforward answers, seek out problems to solve and challenge the routine method. see opportunities in mistakes and failures. learn from and build on own and others' ideas and experiences. value other people's ideas. experiment with objects and ideas in a playful way. make ideas real by experimenting with different designs, actions and outcomes. begin to develop their own value judgements about the merits of their work.
Working With Others	<ul style="list-style-type: none"> learn to work and play co-operatively. develop routines of listening, turn-taking, sharing, co-operating and reaching agreement. are able to learn from demonstration and modelling. 	<ul style="list-style-type: none"> become more adept at turn-taking, sharing and co-operating when working in a group or team. decide what needs to be done in a group and take responsibility for aspects of the work. show the ability to learn from shared and modelled activities. 	<ul style="list-style-type: none"> become more independent in their social and interpersonal skills. show that they can work in different roles in a group and take responsibility for appropriate tasks. are willing to help others with their learning. understand and learn to respond to feedback.
Self-Management	<ul style="list-style-type: none"> talk about what they are doing and what they have learned. develop the ability to focus, sustain attention and persist with tasks. 	<ul style="list-style-type: none"> check that they are achieving their purpose by talking about what they are learning, how the work was carried out and some aspect that might be improved. check their work routinely for accuracy and precision. persist with tasks until an appropriate endpoint, with teacher prompting. 	<ul style="list-style-type: none"> evaluate what they have learned and compare their approaches with those of others. become self-directed by working on their own or in a group. learn ways to manage their own time. work towards personal targets identified by themselves, or jointly with the teacher.