

Range 3 (18-24)	Range 4 (24-36)	Range 5 (36-48)
Spatial Awareness - Enjoys filling and emptying containers - Investigates fitting themselves inside and moving through spaces Shape - Pushes objects through different shaped holes, and attempts to fit shapes into spaces on inset boards or puzzles - Beginning to select a shape for a specific space - Enjoys using blocks to create their own simple structures and arrangements Pattern - Becoming familiar with patterns in daily routines - Joins in with and predicts what comes next in a story or rhyme - Beginning to arrange items in their own patterns, e.g. lining up toys Measures - Shows an interest in size and weight - Explores capacity by selecting, filling and emptying containers, e.g. fitting toys in a pram - Beginning to understand that things might happen now or at another time, in routines	Spatial Awareness - Moves their bodies and toys around objects and explores fitting into spaces - Begins to remember their way around familiar environments Responds to some spatial and positional language - Explores how things look from different viewpoints including things that are near or far away Shape - Chooses puzzle pieces and tries to fit them in - Recognises that two objects have the same shape - Makes simple constructions Pattern - Joins in and anticipates repeated sound and action patterns - Is interested in what happens next using the pattern of everyday routines Measures - Explores differences in size, length, weight and capacity - Beginning to understand some talk about immediate past and future - Beginning to anticipate times of the day such as mealtimes or home time	Spatial Awareness - Responds to and uses language of position and direction - Predicts, moves and rotates objects to fit the space or create the shape they would like Shape - Chooses items based on their shape which are appropriate for the child's purpose - Responds to both informal language and common shape names - Shows awareness of shape similarities and differences between objects - Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes - Attempts to create arches and enclosures when building, using trial and improvement to select blocks Pattern - Creates their own spatial patterns showing some organisation or regularity - Explores and adds to simple linear patterns of two or three repeating items, e.g. stick, leaf (AB) or stick, leaf, stone (ABC) - Joins in with simple patterns in sounds, objects, games and stories, dance and movement, predicting what comes next Measures - In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items - Recalls a sequence of events in everyday life and stories
Adult Interactions - Encourage children to predict what they will see next on a familiar route. - Take everyday opportunities to use words for position and direction accompanied by gesture - Enjoy games involving jumping, running and hiding and make very simple obstacle courses, e.g. going up and down. - Model your thinking when arranging things, using some position words. - Help children to create simple roads and rail tracks and talk about position. - Chat about the shape of the pieces and the holes when fitting pieces into inset puzzles. - Model comparing two objects to see if they have the same shape in purposeful contexts. - Suggest choosing a particular shaped item for a purpose. - Talk with children about the patterns you notice around you. - Comment on and help children to recognise the patterns they make in their mark making, loose parts and construction. - Draw children's attention to the patterns in their routines by asking what comes next. - Use everyday opportunities to describe everyday items and contexts using informal language of size (giant, teeny, big, little, huge, small), length (long, tall, short), weight (heavy, light) and capacity (full, empty). - Observe children's problem-solving when ordering things by size, e.g. stacking cups, sensitively supporting by offering one if they are really struggling. - Look out for opportunities to compare things purposefully such as finding out whether a teddy will fit in a bed. - When children talk about their experiences at home and in the setting, use some language of time (before, later, soon, next, after, morning, afternoon, evening, night-time). - In everyday activities, make a commentary about the sequence of events. - When sharing stories and books, draw attention to routines and time sequences within them.		Environment - Design outdoor spaces where children can learn through a variety of spatial experiences (going under, over, around, on top, through) and hear spatial language in context. - Encourage children to freely communicate their mathematical thinking through gesture, talk and graphical signs. - Plan stimulating indoor and outdoor spaces where children make choices about where to go and create their own routes. Provide materials to create trails. - Provide resources for transporting. - Provide a range of inset and jigsaw puzzles of increasing complexity for children to choose. - Provide a variety of construction materials including some with identical pieces so that children freely explore same and different. - Provide a range of natural and everyday materials, as well as blocks and shapes, with which to make patterns. - Plan opportunities for children to experience pattern such as percussion, music and action games that involve repeated sounds or actions. - Provide similar items of contrasting sizes so that children have many opportunities to encounter the language of size. - Provide resources with clearly different weights to support direct comparison, and something to carry them in. - Provide equipment with varied capacities and shapes in the sand, water, mud kitchen and role play areas.

Range 5 (Autumn)	Range 6 (Spring)	ELG (Summer)
Spatial Awareness • Responds to and uses language of position and direction • Predicts, moves and rotates objects to fit the space or create the shape they would like Shape • Chooses items based on their shape which are appropriate for the child's purpose • Responds to both informal language and common shape names • Shows awareness of shape similarities and differences between objects • Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes • Attempts to create arches and enclosures when building, using trial and improvement to select blocks Pattern • Creates their own spatial patterns showing some organisation or regularity • Explores and adds to simple linear patterns of two or three repeating items, e.g. stick, leaf (AB) or stick, leaf, stone (ABC) • Joins in with simple patterns in sounds, objects, games and stories, dance and movement, predicting what comes next Measures • In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items • Recalls a sequence of events in everyday life and stories	Spatial Awareness • Uses spatial language, including following and giving directions, using relative terms and describing what they see from different viewpoints • Investigates turning and flipping objects in order to make shapes fit and create models; predicting and visualising how they will look (spatial reasoning) May enjoy making simple maps of familiar and imaginative environments, with landmarks Shape • Uses informal language and analogies, (e.g. heart-shaped and hand-shaped leaves), as well as mathematical terms to describe shapes • Enjoys composing and decomposing shapes, learning which shapes combine to make other shapes • Uses own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build Pattern • Spots patterns in the environment, beginning to identify the pattern "rule" Chooses familiar objects to create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat Measures • Enjoys tackling problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy • Becomes familiar with measuring tools in everyday experiences and play • Is increasingly able to order and sequence events using everyday language related to time • Beginning to experience measuring time with timers and calendars	Statutory ELG: Mathematics 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.
Adult Interactions • Encourage the use of relative terms (in front of, behind, before and after, in a line, next to and between). • Encourage children to explore what can be seen from different viewpoints. • Encourage children to describe position and give directions in play and in everyday routines. • Encourage children to create scaled-down models such as in small world play. • Encourage children to make maps of routes they have walked or travelled in some way. • Encourage children to use the names of shapes and their properties (e.g. straight, curved, edges) and prompt them to say what shapes remind them of. • Discuss different examples of the same shape (e.g. equilateral and right-angled triangles) in a variety of orientations. • Take opportunities to discuss the shapes that children paint, draw and collage and shapes noticed in their local environment using regular shapes and shapes with no name. • When acting out their own stories encourage children to make the shapes involved on their own or with others. • When constructing, sensitively discuss which shapes make other shapes • Challenge children to make more complex constructions such as towers of arches, a window or a staircase. • Encourage children to notice and appreciate a range of patterns involving repetition and symmetry in the environment, including traditional patterns from a range of cultures. • Model using symbols to represent a pattern in other ways (e.g. using a spot/cross/dash pattern of symbols and doing a twirl/jump/glide in response). • Make deliberate mistakes when creating patterns alongside children and playfully challenge them to fix the problem. • Make border patterns where the repeating pattern continues around an object or frame. • When comparing the length, weight and capacity of things in play and everyday activities, encourage children to predict and give reasons. • Discuss accuracy, for instance matching ends or starting points, balancing exactly or "fullness". • Support timed challenges by timing runs, trails, obstacle courses, etc. and teach children how to use the stopwatch. • Discuss the order and sequence of events in routines and role play using the language of time (first, then, after, before, next, sooner, later). • Draw children's attention to visual timetables and clock times, focusing on the hour hand.		Environment • Play barrier game • Plan opportunities for children to describe and recall familiar routes. • Engage families in taking photos of familiar things from different viewpoints • Provide resources for shape play including unit blocks, pattern blocks, mosaic tiles and jigsaw puzzles with different levels of challenge. • Teach strategies for solving shape and jigsaw puzzles, describing shape properties and modelling the mathematical vocabulary such as straight, corner, edges. • Play games focussing on the properties of shapes, such as hiding and partially revealing a shape, asking children to say what different shapes it could be or not, and why. • Provide opportunities for printing patterns using a variety of objects. • Using photos, challenge children to copy and continue patterns. • Invite children to create a pattern with the same structure using different objects (e.g. instead of a red/blue/blue pattern, create a sheep/cow/cow pattern). • Have areas where children can explore the properties of objects, compare lengths, weigh and measure. • Provide objects in a range of contexts varying in length, capacity or weight, including tall thin, short fat, large light and small heavy things. • Provide pictorial sequences for instructions. • Model using measuring tools including height charts, rulers, tape-measures, scales and timers. • Sing songs about the days of the week and months of the year, referring to a calendar. Countdown to events.

