

ELAN Mathematical Development Curriculum Map for Reception

Educational Programme: Mathematical Development

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.

Early Learning Goal: Number

- 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.

Early Learning Goal: Numerical Patterns

- 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.

Our Intent at ELAN Multi-Academy Trust

We have created a curriculum around each aspect of the educational programme which is sequenced for progression and depth. We will develop this learning by exposing children to the same thinking across a range of different contexts. We will further encourage learning to be deepened by asking children to represent their mathematical thinking in other ways. For example, through talk, manipulatives, pictures or symbols. We will enhance our provision by ensuring that the mathematical area, in the classroom, supports learning and development of what is being taught. This will include mathematical books that will have been read to children. We will also ensure that children have time to consolidate and apply their knowledge, concepts and skills, particularly in term 6, to ensure a smooth and effective transition into Year 1. The NCETM teaching for mastery materials, for those schools using the programme, will either be combined or used in addition to this curriculum plan.

School Inspection Handbook September 2024

Teaching is a broad term which covers the many different ways in which adults help young children learn. It includes their interactions with children during planned and child-initiated play and activities: communicating and modelling language, showing, explaining, demonstrating, exploring ideas, encouraging, questioning, recalling, providing a narrative for what they are doing, facilitating and setting challenges. It takes account of the equipment that adults provide and the attention to the physical environment as well as the structure and routines of the day that establish expectations. Integral to teaching is how practitioners assess what children know, understand and can do, as well as take account of their interests and dispositions to learning (characteristics of effective learning), and how practitioners use this information to plan children's next steps in learning and monitor their progress.

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Subitising	*Assess reading of dice patterns (standard patterns). *Teach dice patterns not known. Start with numbers 1-3. Sentence stem "I used my eyes and subitised." Ensure children are confident seeing and saying the number of dots without counting. Ensure 80% of class can do with numbers 1-3 before moving on to 4 or 5.	*Continue with reading standard dice patterns 1-5. *Non-standard dot patterns (sets of 1 to 5 in different arrangements). * Use five and ten frames to subitise. Sentence stem "I used my eyes and subitised." "I notice..." "Tell me how you see the ...3?" " I know because I've counted." Games – quickly revealing and hiding numbers of objects 1-5.	*Continue with reading standard dice patterns 1-5. *Non-standard dot patterns (sets of 1 to 5 in different arrangements). * Use five and ten frames to subitise. Dominoes: Encourage children to play with dominoes and to recognise the total number of dots where possible (between 1 and 5 dots). Sentence stem "I used my eyes and subitised." "I notice..." "Tell me how you see the ...3?" " I know because I've counted." Games – quickly revealing and hiding numbers of objects 1-5.		*Continue with reading standard dice patterns 1-5. Introduce 6. *Non-standard dot patterns (sets of 1 to 6 in different arrangements). * Use five and ten frames to subitise. Dominoes: Encourage children to play with dominoes and to recognise the total number of dots where possible (between 1 and 6 dots). Sentence stem "I used my eyes and subitised." "I notice..." "Tell me how you see the ...3?" " I know because I've counted." Games – quickly revealing and hiding numbers of objects 1-6.	

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Five frames / Ten frames	Using five frames only Only start from the left when placing counters. Count counters placed on the five frame before counting on to the five frame. *Subitise to 5. Sentence stem "Can you copy this?" "Can you put ... counters on?" *Roll the dice put the counters on. When secure *Move the objects around. Sentence stem "We still have ... because we haven't added anything or taken anything away." *Use random flash cards, mixed in with standard patterns they already know. *1 more than on five frame. Sentence stem "One more than ... is One fewer than ... is" *Extend learning by matching numerals. Games Race to 5 – use dice with 1 or 2 spots. 5 nice things: A game for 2 players. Each collect 10 nice things. Take turns to roll a dice and take away that number of objects from the other player. How many objects have you got now? How many has your partner got? Set parameters to end the game such as 5 rolls each. The person with the most is the winner.	Consolidate five frame then move to ten frame *Start with a five frame, have 6 counters. Can I put them on? Add on the other 5 frame and change for a ten frame. *Repeat with numbers to 7 Sentence stem "I can see ... counters and ... spaces" *Five wise first (place and count from the left top then bottom). Sentence stem "I can see the numbers ... and ... hiding in the number ..." *Pair wise (count and down the ten frame). Sentence stem "I can see the numbers ... and ... hiding in the number ..." *Random placings of counters on the frame. *Matching numerals to the ten frame. Games Race to 7 using dice as before.	Use ten frames *Repeat as Autumn 2 but with numbers 1-10. Sentence stem "I can see ... counters and ... spaces" *Five wise first (place and count from the left top then bottom). Sentence stem "I can see the numbers ... and ... hiding in the number ..." *Pair wise (count and down the ten frame). *Random placings of counters on the frame. *Matching numerals to the ten frame. Games Race to 10 using dice . 10 nice things.	Consolidate ten frame using numbers 1-10 Sentence stem "I can see ... counters and ... spaces" "I can see the numbers ... and ... hiding in the number ..." *Order flashcards to 10. *Estimating using the five frame as a base. Show a number on the ten frame. Is it more or less as we know that 5 on the five frame looks like this? Sentence stem "How do you know?" "Tell me what can you see?" Games Fill in the missing frame using smallest and greatest or more and fewer. Fill in missing frames in a number sequence.	Consolidate ten frame using numbers 1-10 Sentence stem "I can see ... counters and ... spaces" "I can see the numbers ... and ... hiding in the number ..." *Order flashcards of ten frame numbers five wise and pair wise. *Estimating using the five frame as a base. Show a number on the ten frame. Is it more or less as we know that 5 on the five frame looks like this? *Estimating using a given number. Sentence stem "How do you know?" "Tell me what can you see?" Games Fill in the missing frame using smallest and greatest or more and fewer. Fill in missing frames in a number sequence. Use 10 frames and double-sided counter. Explore how 2, 4, 6, 8 and 10 can be made into 2 equal groups and how 1, 3, 5, 7 and 9 cannot be made into equal groups. Sentence stem "...can be made into 2 equal groups", "...cannot be made into 2 equal groups."	Using more than one ten frame for numbers 11-20 *Introduce the term digit and explain e.g. when I make 5, I need the digit 5. When I make the number 15, I write the digits 1 and 5. *Start with ten frame add on another ten frame as for numbers to 10. *Use pennies as well as double sided counters. To allow counting in different contexts. *Arrow cards to show the ten and add more. Sentence stem "Letters make words. Digits make numbers." *One more and one fewer to 15 *What numbers are hiding in 11? *Estimating using numbers larger than 10 using a ten frame. Sentence stem "How do you know?" "Tell me what can you see?" Games Fill in the missing frame using smallest and greatest or more and fewer. Fill in missing frames in a number sequence. Use 10 frames and double-sided counters. Explore how 2, 4, 6, 8 and 10 can be made into 2 equal groups and how 1, 3, 5, 7 and 9 cannot be made into equal groups. Sentence stem "...can be made into 2 equal groups", "...cannot be made into 2 equal groups."

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Fingers	1-5 Teach children to grow me (put up one finger at a time). Use one hand only. Then show me (put the entire quantity of fingers up in one go). *Grow me fingers 1-5. *Show me fingers 1-5.	1-10 Teach children to Grow and show using two hands for numbers to 10. *Grow me fingers 1-10 *Show me fingers 1-10 Sentence stem "Can you show me...?" *Extend e.g. "Can you show me 3 using 2 hands?" *Counting on using grow up fingers e.g. 8 is 5 and grow up 3.	Consolidate numbers 1-10 *Repeat activities from previous term.	Consolidate numbers 1-10 *Repeat activities from previous term. Game Bunny ears: Show a number using two hands, link with composition work.	Consolidate numbers 1-10 *Repeat activities from previous term. *Show numbers in different ways up to 10. e.g. 5 could be 4 and 4 Game Bunny ears. Throw me: Throw a number using fingers e.g., 1 and 5. What number have I thrown? Link with number bond work.	11-20 Grow and show numbers to 15 using a partner. One does the ten and the other counts on the extra ones. Game Bunny ears. Throw me. Sentence stem "What can you see?"
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Number Blocks	Use episodes from Series 1 numbers 1-5 Watch for fun first and then watch with a specific focus on the mathematical learning. Provide provocations in children's play so learning can be explored in depth. Use NCETM's Number blocks support materials if needed.	Use episodes from Series 1 and 2 numbers 6 and 7 Watch for fun first and then watch with a specific focus on the mathematical learning. Provide provocations in children's play so learning can be explored in depth. Use NCETM's Number blocks support materials if needed.	Use episodes from Series 1 and 2 numbers 1-10 Watch for fun first and then watch with a specific focus on the mathematical learning. Provide provocations in children's play so learning can be explored in depth. Use NCETM's Number blocks support materials if needed.	Use episodes from Series 3 and 4 numbers 1-10 Watch for fun first and then watch with a specific focus on the mathematical learning. Provide provocations in children's play so learning can be explored in depth. Use NCETM's Number blocks support materials if needed.	Use episodes from Series 3 and 4 numbers 1-10 Watch for fun first and then watch with a specific focus on the mathematical learning. Provide provocations in children's play so learning can be explored in depth. Use NCETM's Number blocks support materials if needed.	Use episodes from Series 3-4 numbers 11-20 Watch for fun first and then watch with a specific focus on the mathematical learning. Provide provocations in children's play so learning can be explored in depth. Use NCETM's Number blocks support materials if needed.

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Number Representations	Use a range of visual representations including use of counters, five frames, numicon, fingers, dice patterns, pictures, word, numeral, number block character, cake and candles, real life examples etc. Remember to use representations of BIG and small objects to represent a number. Show numerals in different fonts. Highlight where the number comes on a number track. *Number representations to 5. *Make a floor book or photograph collections of numbers 1-5.	Use a range of visual representations including use of counters, five frames, numicon, fingers, dice patterns, pictures, word, numeral, number block character, cake and candles, real life examples etc. Remember to use representations of BIG and small objects to represent a number. Show numerals in different fonts. Highlight where the number comes on a number track. *Number representations to 7. *Make a floor book or photograph collections of numbers 5-7.	Use a range of visual representations as Autumn term. Remember to use representations of BIG and small objects to represent a number. Show numerals in different fonts. Highlight where the number comes on a number track. *Number representations to 10. *Make a floor book or photograph collections of numbers to 10. Game Spot the mistake: (Use power point images of the numbers and make one different).	Use a range of visual representations as in previous terms. Remember to use representations of BIG and small objects to represent a number. Show numerals in different fonts. Highlight where the number comes on a number track. *Sort number representations to 10. Game Spot the mistake: (Use power point images of the numbers and make one different). Card games (snap/pairs) match the numeral to spots or other representations.	Use a range of visual representations as in previous terms. *Show numerals in different fonts. *Highlight where the number comes on a number track. *Number representations to 10. *Introduce odds and even numbers. *Discuss ways children might record quantities e.g., scores in tallies, dots or numeral cards. *Order representations to 10. Game Spot the mistake: (Use power point images of the numbers and make one different). Card games (snap/pairs) match the numeral to spots or other representations.	Use a range of visual representations as in previous terms. Numbers 11-20 *Make a floor book or photograph collections of numbers 11-20. *Compare the collection of 11 with the collection of 1 (visual place value). *Highlight where the number comes on a number track. Game Spot the mistake: (Use power point images of the numbers and make one different). Card games (snap/pairs) match the numeral to spots. *Start to reason about the number. *Order representations to 20.

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Numicon	Progression 1. Use the shapes and put the objects into the holes. 2. Using numicon pegs, copy the pattern of the shape – make alongside (Preferably use 2 hands) 3. Make the numicon ... using pegs (in the same shape). *Instantly recognise shapes 1-5 by sight. *Make numicon shapes 1-5 using pegs. *Feely bag – what numicon shape is this? Sentence stem “How do you know?” “Tell me what you can feel.” *Roll dice and find the corresponding numicon shape. *One more and one fewer using numicon shapes made from pegs (in the same formation). Sentence stem “1 more than ... is ...” “1 fewer than ... is...” *Explore how each shape can be made from other shapes in play from 2-5 (link with number blocks).	*Instantly recognise shapes 1-7 by sight. *Make numicon shapes 1-7 using pegs. *Feely bag – what numicon shape is this? Sentence stem “How do you know?” “Tell me what you can feel.” *Roll dice and find the corresponding numicon shape. *One more and one fewer using numicon shapes made from pegs (in the same formation). Sentence stem “1 more than ... is ...” “1 fewer than ... is...” *Explore how each shape can be made from other shapes in play from 2-7 (link with number blocks). Games Fill the board. Empty the board. Race to 7.	*Instantly recognise shapes 1-10 by sight. *Make numicon shapes 1-10 using pegs. *Feely bag – what numicon shape is this? Sentence stem “How do you know?” “Tell me what you can feel.” *Roll dice and find the corresponding numicon shape. *One more and one fewer using numicon shapes made from pegs (in the same formation). Sentence stem “1 more than ... is ...” “1 fewer than ... is...” *Explore how each shape can be made from other shapes in play from 2-10 (link with number blocks). *Ordering using numicon shapes to 10. Games Fill the board. Empty the board. Race to 10.	*Ordering using numicon shapes to 10. *Using numicon to add and subtract. *Using numicon to investigate number bonds for 2-10. *Using numicon and balances, explore how to make different numbers.	*Ordering using numicon shapes to 10. *Using numicon to add and subtract. *Using numicon to investigate number bonds for 2-10. *Using numicon and balances, explore how to make different numbers. *Explore doubling and halving using numicon. *Sort and explore odd and even numbers using numicon.	*Place value for number 11-20. Have the ten and count on more. *Explore doubling and halving using numicon.

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Comparing and ordering numbers	*Understand the concepts of more and fewer. Introduce the vocabulary more, fewer, bigger. (NOT LESS THAN) When we can count something, we say fewer. When we can't count it e.g. water or mashed potato, then it is less. *Compare groups. Which has more, which has fewer? *Extend by changing the size e.g. have fewer big items and more smaller items. *Ordering 1-5. *Ordering 5-1. Using numicon, number blocks, five frame cards etc. USE VISUALS NOT JUST WITH NUMBERS.	*Understand the concepts of more and fewer. Introduce the vocabulary more, fewer, bigger. (NOT LESS THAN) When we can count something, we say fewer. When we can't count it e.g. water or mashed potato, then it is less. *Compare groups. Which has more, which has fewer? *Extend by changing the size e.g. have fewer big items and more smaller items. *Ordering 1-7. *Ordering 7-1. Using numicon, number blocks, five frame cards etc. USE VISUALS NOT JUST WITH NUMBERS.	*Ordering 1-10. *Ordering 10-1. *Order numbers using mixed representations. *Confidently use vocabulary. More than, less than, fewer than, the same as, equal to. *Understand the 'one more than/one less than' relationship between consecutive numbers. *Make predictions about what the outcome will be in stories, number rhymes and songs if one is added or if one is taken away.	*Ordering 1-10. *Ordering 10-1. *Order numbers using mixed representations. *Confidently use vocabulary: More than, less than, fewer than, the same as, equal to. *Compare numbers using a number line. *Understand the 'one more than/one less than' relationship between consecutive numbers. *Provide staircase patterns which show that the next counting number includes the previous number plus one.	*Order numbers 1-10 using mixed representations (e.g. numerals in different fonts, pictures of Numicon, pictures of 10 frames). Provide challenge by asking children to put numerals in order from smallest to biggest and biggest to smallest (when all the numbers in a sequence are present (e.g. 5 6 7 8 9) and when they are not (e.g. 2 3 5 8 10)). *Understand the 'one more than/one less than' relationship between consecutive numbers. *Provide staircase patterns which show that the next counting number includes the previous number plus one. *Compare odd and even numbers, look for patterns.	Order numbers 1-10 using mixed representations (e.g. numerals in different fonts, pictures of Numicon, pictures of 10 frames). Provide challenge by asking children to put numerals in order from smallest to biggest and biggest to smallest (when all the numbers in a sequence are present (e.g. 5 6 7 8 9) and when they are not (e.g. 2 3 5 8 10)). *Compare numbers using a number line. Game Envelopes with number cards, who has the most or least.

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Oral counting	*Count in ones to 10. *Count backwards from 5. Game Counting ping pong. Use outside with ball or beanbag e.g. teacher says 1, children say 2 etc.	*Count in ones to 15. *Count backwards from 10. Game Counting ping pong. Use outside with ball or beanbag e.g. teacher says 1, children say 2 etc. Extend: -Teacher says 1,2,3 Children say 4,5,6 Teacher says 7,8 Children say 9,10 etc.	*Count to 20. *Count backwards from 10. *Count on from a given number and stop at a given number. *Spot mistakes in counting patterns forwards.	*Count to 30. *Count backwards from 15. *Count on from a given number and stop at a given number. *Spot mistakes in counting patterns forwards and backwards.	*Count to 50. *Counting backwards from 20. *Introduce counting in 2's, 5's 10's using equipment e.g., numicon (link with odd and even numbers). *Spot mistakes in counting patterns forwards and backwards. *Use number tracks, calendars and hundred squares inside and outside for children to become familiar with 1- and 2-digit numbers and spot patterns within them.	*Count to 100. *Counting backwards from 20. *Introduce counting in 2's, 5's 10's using equipment e.g. numicon. *Spot mistakes in counting patterns. *Use number tracks, calendars and hundred squares inside and outside for children to become familiar with 1- and 2-digit numbers and spot patterns within them.
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Object counting	1-5 *Count sets of objects. *Count sets of objects from a larger group and know when to stop. *Count a given amount. Sentence stem "1,2,3 there are 3 cars etc. *Make mistakes, can they spot the mistake?	1-7 *Count sets of objects. *Count sets of objects from a larger group and know when to stop. *Count a given amount. Sentence stem "1,2,3 there are 3 cars etc. *Make mistakes, can they spot the mistake? *Develop success criteria - What makes us a good counter? e.g., cross through a picture, line up, say a name and touch.	1-10 *Count sets of objects. *Count sets of objects from a larger group and know when to stop. *Count a given amount. Sentence stem "1,2,3 there are 3 cars etc. *Make mistakes, can they spot the mistake? *Develop success criteria - What makes us a good counter? e.g., cross through a picture, line up, say a name and touch.	1-10 *Count sets of objects. *Count sets of objects from a larger group. *Count a given amount. *Use in conjunction with addition and subtraction, comparing numbers. Sentence stem "1,2,3 there are 3 cars etc. *Make mistakes, can they spot the mistake? *Develop success criteria - What makes us a good counter? e.g., cross through a picture, line up, say a name and touch.	1-10 Use in conjunction with addition and subtraction, number bonds, odd and even and comparing numbers. *Say how many you think there might be before counting. Sentence stem I think there are about ..., shall we count and see.	1-20 Use in conjunction with addition and subtraction, number bonds, odd and even, doubling, halving, and comparing numbers.

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Talk pictures/display	Talk about the picture/display. Use whole class and in small groups. Sentence stem "What can you see?" "Can you see ...of something?" "How many ... can you see?"	Talk about the picture/display. Use whole class and in small groups. Sentence stem "What can you see?" "Can you see ...of something?" "How many ... can you see?" *Use in conjunction with 5 frames. Sentence stem "Can you put the number of ... onto your five frame?" "My ... counters represent the number of ..."	Talk about the picture/display. Use whole class and in small groups. Sentence stem "What can you see?" "Can you see ...of something?" "How many ... can you see?" *Use in conjunction with 5 frames. Sentence stem "Can you put the number of ... onto your five frame?" "My ... counters represent the number of ..."	Talk about the picture/display. Use whole-class and small groups. *Use with addition and subtraction and part/part/whole. Continue use of 5 or ten frames. Sentence stem "Can you represent the ... and the ...?" "Can you see a set of more than 5 things?" "Can you see a set of fewer than 5 things?"	Talk about the picture/display. Use whole-class and small groups. *Use with addition and subtraction and part/part/whole. Continue use of 5 or ten frames. Sentence stem "Can you represent the ... and the ...?" "Can you see a set of more than 5 things?" "Can you see a set of fewer than 5 things?" *Make comparisons. Sentence stem "There are more ... than ..." "There are fewer ... than ..."	Talk about the picture/display. Use whole-class and small groups. *Use with addition and subtraction and part/part/whole. Continue use of 5 or ten frames. Sentence stem "Can you represent the ... and the ...?" "Can you see a set of more than 5 things?" "Can you see a set of fewer than 5 things?" *Make comparisons. Sentence stem "There are more ... than ..." "There are fewer ... than ..."
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reading and Writing numerals	*Discuss ways children might record quantities e.g. scores in games such as tallies or dots or use of numeral cards. Read numbers 1 to 5.	*Discuss ways children might record quantities e.g. scores in games such as tallies or dots or use of numeral cards. Read numbers 6 and 7.	*Discuss ways children might record quantities e.g. scores in games such as tallies or dots or use of numeral cards. Read numbers 8, 9 and 10.	*Provide opportunities to write numbers 1 to 5.	*Provide opportunities to write numbers 6 and 7.	*Provide opportunities to write numbers 8, 9 and 10.

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Addition and Subtraction Composition and recall of number bonds to 10	*Model the vocabulary of addition and subtraction. *See five frames. *See numicon. *See comparing and ordering numbers. *One more one fewer to 5. *Read and sing books, rhymes and songs that include adding and taking away.	*Focus on composition of 2,3,4 *Model the vocabulary of addition and subtraction. *See five frames. *See numicon. *See comparing and ordering numbers. *One more one fewer to 7. *Use a range of visual models of numbers as a support e.g., 2 fingers on one hand and 2 on the other, numicon, 3 on one five frame and 1 on another. *Numbers hiding in other numbers. *Model conceptual subitising e.g., there are 2 here and 2 here so there must be 4. Games Hoop game: Throw 3 beanbags, how many go in the hoop and how many are out?	*Focus on composition of 5,6,7 *Introduce signs for add and subtract. *Introduce parts and wholes using NCETM part part whole resource. *Using numicon to get part and put together and make a whole. E.g. $3 + 2 =$ *Use and split a whole into parts. Link with five frames, ten frames, numicon and number blocks. *Emphasise parts within the whole e.g. There were 8 eggs in the incubator and 2 have hatched and 6 haven't hatched... *Make visual displays of number bonds so children can refer to them. *Use five frames and ten frames. How many spaces are filled and how many are not? Games Skittles. Hoop games. Games which involve partitioning and recombining sets. Hiding games: 5 went in the tent and 2 came out. I wonder how many are still in there?	*Focus on composition of 8,9,10 *Explore equal and not equal using balances. *Using numicon to get part and put together and make a whole. E.g. $3 + 2 =$ *Use and split a whole into parts. Explore the concept of equal and not equal. Link with five frames, ten frames, numicon and number blocks. *Emphasise parts within the whole e.g. There were 8 eggs in the incubator and 2 have hatched and 6 haven't hatched... *Make visual displays of number bonds so children can refer to them. *Use five frames and ten frames. How many spaces are filled and how many are not? Games Skittles. Hoop games. Games which involve partitioning and recombining sets. Hiding games.	Consolidate composition of numbers to 10 Automatically recall number bonds for numbers 0-10 Using a range of different resources including scales. *Intentionally make mistakes when counting out amounts. Ask children to correct how many more or fewer they need. *Spot and use opportunities to apply number bonds, e.g. snack time, using resources etc. * Explore and work out mathematical problems and record using signs and strategies of their choice, including tallies, numerals and + and – Sentence stem ...add...equals... ...add...is the same value as... ...is equal to...add... If...is the whole, ...is a part and...is a part.	Consolidate composition of numbers to 10 Automatically recall number bonds for numbers 0-10 Using a range of different resources including scales. *Intentionally make mistakes when counting out amounts. Ask children to correct how many more or fewer they need. *Spot and use opportunities to apply number bonds, e.g. snack time, using resources etc. * Explore and work out mathematical problems and record using signs and strategies of their choice, including tallies, numerals and + and – Sentence stem ...add...equals... ...add...is the same value as... ...is equal to...add... If...is the whole, ...is a part and...is a part.

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Doubling and halving			*Distribute items evenly e.g., put 3 apples in each bag. Make mistakes to promote discussion. *Look at fair and unfair.	*Distribute items evenly e.g., put 3 apples in each bag. Make mistakes to promote discussion. *Look at fair and unfair.	*Establish what a double is. *Use real-life examples e.g., a double decker bus, a double buggy, double yellow lines, double bed. It is 2 of the same set. When we double, we are multiplying by two. *Use a range of resources to explore doubling e.g. ladybirds, dominoes, numicon. * Establish what a half is. *Use real-life examples e.g. half an apple. It is splitting something into 2 of the same sets. When we halve, we are dividing by 2. *Use a range of resources to explore halving. * Also explore what is a double / half and what isn't.	*Establish what a double is. *Use real-life examples e.g., a double decker bus, a double buggy, double yellow lines, double bed. It is 2 of the same set. When we double, we are multiplying by two. *Use a range of resources to explore doubling e.g. ladybirds, dominoes, numicon. * Establish what a half is. *Use real-life examples e.g. half an apple. It is splitting something into 2 of the same sets. When we halve, we are dividing by 2. *Use a range of resources to explore halving. * Also explore what is a double / half and what isn't.

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	Autumn	Spring	Summer
Spatial Reasoning Understanding relationships: How things fit together and how moving parts work.	*Extend the number of pieces in puzzles as appropriate and use more complex pictures and mixed colours. *Complete a puzzle without the picture or box. *Use puzzles without a straight edge. *Combine two puzzles. *Use double-sided puzzles. *Solve a range of jigsaws of increasing challenge (floor puzzles to tabletop puzzles). All children to have an opportunity to complete a puzzle (adult-guided)	*Extend the number of pieces in puzzles as appropriate and use more complex pictures and mixed colours. *Complete a puzzle without the picture or box. *Use puzzles without a straight edge. *Combine two puzzles. *Use double-sided puzzles. *Solve a range of jigsaws of increasing challenge (floor puzzles to tabletop puzzles). All children to have an opportunity to complete a puzzle (adult-guided)	*Extend the number of pieces in puzzles as appropriate and use more complex pictures and mixed colours. *Complete a puzzle without the picture or box. *Use puzzles without a straight edge. *Combine two puzzles. *Use double-sided puzzles. *Solve a range of jigsaws of increasing challenge (floor puzzles to tabletop puzzles). All children to have an opportunity to complete a puzzle (adult-guided)
Spatial Reasoning Understanding relationships: How things fit together and how moving parts work.	Display Honegger's Stages of Block Play *Assess stages of block play. * Children to make rows, stacks and towers independently and create bridges. *Support children to build enclosures. Consider other construction equipment that has moving parts such as, technic Lego, Meccano or K'Nex.	Honegger's Stages of Block Play *Model and support children to produce models with pattern, symmetry and balance. *Select, rotate and manipulate shapes in order to develop spatial reasoning skills. Consider other construction equipment that has moving parts such as, technic Lego, Meccano or K'Nex.	Honegger's Stages of Block Play *Children to create complex structures to enhance and elaborate dramatic play. *Select, rotate, flip and manipulate shapes in order to create models and develop spatial reasoning skills. Consider other construction equipment that has moving parts such as, technic Lego, Meccano or K'Nex.
Spatial Reasoning Spatial Memory: Remembering where things are. Language: Hearing, describing, directing position and direction. Sense of Direction: Noticing where you're going and finding your way back. Spatial Representation: Creating mental images, understanding perspective and movements, reading models and diagrams.	*Play Kim's game with an increased number of objects. Use objects that are similar. Take away more than one object. *Play pairs using a set grid up to 12 cards and play as a team game also. *Develop children's sense of direction by moving to different places e.g., areas of the classroom, the forest school area, multi-use games area etc. *Adult-led activities using small world or making obstacle courses to target vocabulary such as between, over, next to, in front of, behind. *Keeping the classroom tidy and knowing where things belong. Consider construction equipment such as, Lego, Mobilo, K'Nex or Magformers where children need to read models and diagrams to create (2d to 3d or 3d to 2d).	*Describe position and give directions in play and in everyday routines (use Beebots). *Make maps of routes children have walked or travelled in some way. *Encourage the use of relative terms (in front of, behind, before and after, in a line, next to and between). Consider construction equipment such as, Lego, Mobilo, K'Nex or Magformers where children need to read models and diagrams to create (2d to 3d or 3d to 2d).	*Use spatial language including following and giving directions, using relative terms and describing what they see from different viewpoints. *Make simple maps of familiar and imaginative environments with landmarks. *Explore perspective using small world play and observational art. Consider construction equipment such as, Lego, Mobilo, K'Nex or Magformers where children need to read models and diagrams to create (2d to 3d or 3d to 2d).

ELAN Mathematical Development Curriculum Map for Reception

	Autumn		Spring		Summer	
Shape	*Use informal language to describe 2d and 3d shapes e.g., this is a round shape. *Adults to model 2d and 3d shape names and properties. *Ensure children know that shapes are all around them. *Adults ask what is the same and what is different? *Children to select shapes appropriately e.g. a triangular prism for a roof. *Children can combine shapes to make new ones e.g. using pattern blocks.		*Compose and decompose shapes so that children recognise that a shape can have another shape within it, just as numbers can. *Investigate how shapes e.g. 2 triangles can be put together to make a square. *Make predictions of what shapes they will make when paper is folded. *Discuss different examples of the same shape e.g., triangles. *Use informal language to describe features of shapes as well as mathematical terms.		*Explore how many ways a shape can be made using other shapes. For example, 2 semi-circles make a circle. Use of tangrams. *Find 2D shapes within 3D shapes, including through printing or shadow play. *Use own ideas to make models of increasing complexity, selecting shapes/blocks needed, solving problems and visualising what they will build or make.	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Pattern	*Spot patterns in the environment, beginning to identify the pattern rule. *Continue an AB pattern. *Copy an AB pattern.	*Make an AB pattern in a variety of ways. E.g. using sticks in different directions, use the same shape but positioned differently. *Spot mistakes in a pattern.	*Continue an ABC pattern. *Identify a unit of repeat. *Continue a pattern which ends mid-unit.	*Make an ABB / ABBC pattern. *Spot an error in an ABB pattern.	*Create a pattern using a familiar structure with different materials. *Explain this pattern to a friend for them to copy.	*Make a pattern which repeats around a circle. *Make a pattern which repeats around a border with a fixed number of spaces.
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Measure	Assessment of language and vocabulary relating to length, weight, capacity and time through observations of play.	Length *Compare lengths using comparative language is longer than is shorter than is taller than... ... is equal to... *Children to make and test predictions e.g. can the car fit into the box? *Become familiar with measuring tools in everyday experiences and play. *To make predictions and explain reasoning.	Time *To order and sequence events using everyday language related to time e.g., first, then, after, before, next, sooner, later. *To begin to know the names of days of the week through songs and rhymes.	Weight *Compare weight using comparative language is heavier than is lighter than ... *Children to make and test predictions e.g. can I make a bridge that will carry the teddy? *Become familiar with measuring tools in everyday experiences and play. *To make predictions and explain reasoning.	Capacity *Compare capacity using comparative language is fuller than is emptier than ... *Children to make and test predictions e.g. will it take more or less liquid to fill the different bottles? *Become familiar with measuring tools in everyday experiences and play. *To make predictions and explain reasoning.	Time *Begin to experience measuring time with timers and calendars. *Introduce the analogue clock.

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Sensible and Meaningful Assessment

Percentage of children who are ready to progress End of term 1	Who needs more experience or a different learning experience (list initials)?	How will we do this? Consider context and range of situations.
Percentage of children who are ready to progress End of term 2	Who needs more experience or a different learning experience (list initials)?	How will we do this? Consider context and range of situations.
Percentage of children who are ready to progress End of term 3	Who needs more experience or a different learning experience (list initials)?	How will we do this? Consider context and range of situations.

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Percentage of children who are ready to progress End of term 4	Who needs more experience or a different learning experience (list initials)?	How will we do this? Consider context and range of situations.
Percentage of children who are ready to progress End of term 5	Who needs more experience or a different learning experience (list initials)?	How will we do this? Consider context and range of situations.
Percentage of children who are ready to progress End of term 6	Who needs more experience or a different learning experience (list initials)?	How will we do this? Consider context and range of situations.

Children who need more experience or a different learning experience are highlighted when progress has been made. Annotations may be added on this sheet (if necessary) or within any other child progress documentation recorded by the school.