

Dereham Church of England Infant and Nursery School- Mathematics

	Year group: Reception	Area/topic: Mathematics- to 20 and beyond
Development Matters - Reception -Count beyond ten. Birth to 5 Matters -Range 6 Uses number names and symbols when comparing numbers, showing interest in large numbers Enjoys reciting numbers from 0 to 10 (and beyond) and back from 10 to 0 Increasingly confident at putting numerals in order 0 to 10 (ordinality)		

Prior learning	Future learning
In the Autumn term children looked at shapes with 4 sides and circles and triangles.	Children will apply this knowledge during daily maths meetings

What pupils need to know or do to be secure	
Key knowledge and skills	Possible evidence
Build numbers beyond 10 (10-13)	Read stories such as Monster Counting Book 1 to 20 by Frances Mackay, focusing on the pages up to 13. Provide children with a range of different manipulatives such as number shapes and cubes. Prompt them to build numbers up to 13 As children build the numbers, encourage them to notice and talk about the number structures. After reading the book Anno's Counting Book by Mitsumasa Anno with children, explore how

the numbers build up across the pages, up to the number 12. Support children to then create their own page for the number 13.

In pairs, children take two empty, 10-hole egg boxes and fill one with loose parts. Child 1 closes their eyes while child 2 fills the other egg box with 1, 2 or 3 objects. Child 2 opens their eyes and subitises the ten and counts on how many.

Provide children with a collection of cubes and a timer. Encourage children to build as many 1-13 staircase models as possible before the timer runs out. Prompt children to count out loud and encourage them to notice the pattern of numbers.

Continue patterns beyond 10 (10-13)

Play the game 'What's the time, Mr Wolf?' Pick one child to be the wolf and ask them to stand at one end of the outdoor area, facing the other way. All the other children stand at the other end. Children ask the wolf, "What's the time, Mr Wolf?" The wolf says a time, for example, "It is 11 o'clock." Support children to count and take 11 steps towards the wolf. Repeat for other numbers up to 12

Encourage children to stand in a circle. Choose a child to start counting aloud around the circle from zero. Each child in turn says the next number. The child who says the number 13 sits down in the middle of the circle. Continue counting from 0 to 13 around the circle until one person is left standing. This person is the winner.

Provide children with a number track from 1 to 13, a dice labelled 1 to 3 and counters. 1 2 3 4 5 6 7 8 9 10 11 12 13 Encourage them to take it in turns to roll the dice and count on the corresponding number of spaces on the number track. What number do you need to roll next to get to 13?

Provide children with crates numbered 1 to 5 and a set of balls. Prompt children to aim and throw the balls at the crates. The crate the

Build numbers beyond 10 (14-20)

ball lands in is the number of points they score. Support children to make marks or use a tally to record their scores. The first to score exactly 13 is the winner.

Read stories such as *One Moose, Twenty Mice* by Claire Beaton which show different representations of numbers up to 20. Prompt children to use manipulatives such as cubes to represent the number shown on each page. How many cubes do you have? What do you notice?

After reading stories such as *The Real Princess* by Brenda Williams, provide children with blank, pre-folded books. Encourage children to make their own number stories. Prompt them to draw out numbers from familiar stories or numbers linked to their own interests.

Provide blank outlines of a cityscape for children to fill using number shapes. Prompt them to see which number has filled each tower. Is there more than one way to do this? Challenge children to design their own cityscape for a partner to fill with number shapes.

Continue patterns beyond 10 (14-20)

Read stories such as *20 Big Trucks in the Middle of the Street* by Mark Lee with children.

Verbal counting beyond 20

Prompt them to enact the story by adding different vehicles to their street in the small world area. FUEL POST VAN Encourage children to count how many vehicles they have each time. What patterns do they notice?

Provide a randomly arranged set of towers to 20 and use a class puppet to remove a tower without children seeing. Ask them to order the towers to identify which one is missing. How do they know? Can they build it?

Provide children with a set of birthday cards where the cardinal value is represented in pictures on the front. 12 14 Play 'Which one is missing?' with a birthday card number line. Shuffle the cards and prompt children to order them to find the missing card.

Play 'ping pong' with numbers to 20 and beyond. Say one number and then prompt children to say the next number, repeating back and forth. Repeat with different starting numbers and practise counting on and back.

Sit the whole class in a circle with a range of different sea creatures behind their backs and sing the rhyme, "Catch, catch, catch a fish, hook it on your line. Reel it, reel it, reel it in, this one will be mine". Children with a

Verbal counting patterns

fish behind their back place it into the middle of the circle. Count how many fish there are altogether. Repeat the song and change the 'fish' to other sea creatures.

Fill three ten frames with 30 small-world objects and place them in the middle of two children to begin the game. Children take it in turns to roll a dice and collect the corresponding number of objects from the frames. The child who takes away the last object wins the game. As children play, encourage them to say how many objects remain.

Encourage children to sit in a circle with both their legs stretched out in front of them. Pick a 'target number' below 30 and prompt children to count from zero to 30. Children say one number for each leg they have in the circle and tap each leg in turn as they say each number. If a child says the target number, then they must tuck that leg away. Continue until there is just one child left in the game.

At the start of snack time, count out the fruit with children, making sure you have more than 20 pieces to count. As you lift each piece of fruit out of the basket, say the number name and place it in a line or on a ten frame.

Key vocabulary	
Before, after, teen numbers, ten, ones.	Provide children with a range of number shapes. Prompt children to make their own number line using the number shapes. What do you notice about the pattern of these numbers? Play 'I count, you count' with children to practise counting on from different starting points. Point to yourself and begin counting. Then point to the group and prompt them to continue the count. This could be extended to having more than one group of children. Provide children with a large hundred square chalked on the ground outside. Cover some of the numbers up and ask children to identify the missing numbers. How do they know that number is the missing number? Can they count on from the missing number?
Common misconceptions	Books linking to this area
Continue counting past 10, as the numbers just beyond can be the trickiest. Incorporate counting within your daily routine, such as counting children when lining up or the number of sleeps to a key event. Emphasise the teen numbers and how twenty does not end in teen! Allow children to explore larger staircase models and patterns that show that the next number is one more than the previous number.	Anno's Counting Book by Mitsumasa Anno Monster Counting Book 1 to 20 by Frances Mackay 13 Ways to Eat a Fly by Sue Heavenrich The Real Princess by Brenda Williams One Moose, Twenty Mice by Claire Beaton 20 Big Trucks in the Middle of the Street by Mark Lee Jack the Builder by Stuart J. Murphy Monster Math by Anne Miranda

Counting-It is important that this skill should still remain fun and active, so that children are eager to count. A good way to encourage this is for one child to pick the starting number, such as the date of the month, and another to say if we will be counting on or back. Children can also pick what actions they count, such as taps, clicks or stamps, to embed this skill and make it memorable.	I is One by Tasha Tudor
Memorable first hand experiences	Opportunities for communication
Many opportunities to play games. Regular use of a range of manipulatives, loose parts, natural objects etc.	Ask and discuss the key questions provided by White Rose Discuss, share and repeat the sentence stems provided by White Rose

DCINA Reasonable adjustments for pupils with SEND

Communication and Interaction Use a range of visual aids Give clear instructions one at a time Repetition Provide simple instructions Pre teach vocabulary Use working wall where modelling is displayed Give children thinking time Model task	Cognition and Learning Check understanding regularly Allow rest breaks Give thinking time Colour code signs that could be confusing Work checklists Break down tasks into small steps Give opportunities for over-learning
Social, Emotional and Mental health Allow access to a quiet and calm space Give child a special role to increase self esteem Provide a visual support- what to do if you are stuck Provide a movement break Seat pupil by more confident peer Now and next board Sand timers Movement breaks Break down tasks into small steps	Sensory and Physical Consider carpet space position Reduce background noise Provide a range of manipulatives- dienes may be too small Appropriate seating Wobble boards Writing slope Enlarge text Variety of writing tools available