

Dereham Church Infant and Nursery School- Mathematics



*Year group: Reception*

*Area/topic: Mathematics- building 9 and 10*

*Development Matters - Reception Count objects, actions and sounds.*

*Link the number symbol (numeral) with its cardinal number value*

*Reception - Compare numbers.*

*Reception - Subitise.*

*Reception - Understand the 'one more than/one less than' relationship between consecutive numbers.*

*Reception - Automatically recall number bonds for numbers 0-5 and some to 10.*

*Birth to 5 Matters - Range 6 Uses number names and symbols when comparing numbers, showing interest in large numbers*

*Estimates (of) numbers of things, showing understanding of relative size*

*Counts out up to 10 objects from a larger group*

*Range 6 - Begins to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees six raisins on a plate as three and three*

*Range 6 In practical activities, adds one and subtracts one with numbers to 10*

*Range 6 Enjoys reciting numbers from 0 to 10 (and beyond) and back from 10 to 0*

*Range 6 Increasingly confident at putting numerals in order 0 to 10 (ordinality)*

*Range 6 - Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects*

*Range 6- Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and "+" or "-"*

Prior learning	Future learning
During the Autumn and early Spring term numbers up to 8 have been studied. Children also briefly looked at odd and even and number doubles	Children shall use and apply this knowledge when they complete the block- numbers to 20 and beyond in the summer term

What pupils need to know or do to be secure	
Key knowledge and skills	Possible evidence
Find 9 and 10	Read stories such as Nine Naughty Kittens by Linda M. Jennings with children. Prompt children to look at the illustrations and identify where they can see the different representations of 9 and 10
Compare numbers to 10	Grab a handful of buttons from a pile of up to 10 Ask children to guess how many you could be holding and check by putting them onto a ten frame. Prompt children to see how many buttons they can hold in one hand and compare with their partner. Who has more? Who has fewer? Who has the same?
Represent 9 and 10	In the outdoor environment, hold up a numeral card from 1 to 10 and ask children to do the corresponding number of actions, such as 9 bunny hops. Encourage children to help you order digit cards from 1 to 10 1 2 3 4 5 6 7 8 10 Hide one of the cards and prompt children to work out which number is missing.

Conceptual subitising to 10

Arrange some objects under a blanket or bucket. Reveal the objects and ask children what they see. Prompt them to use a swatter to swat the correct numeral on number cards arranged around the outdoor area. Encourage children to talk about what they see and how they see it.

1 more

Sing rhymes such as One Potato, Two Potato. As you sing the rhyme, represent what is happening by using real objects such as potatoes and place them onto a large ten frame. Prompt children to see the '1 more' pattern and how the amount increases when a potato is placed on the ten frame. Do children recognise that when the ten frame is full, we have 10?

1 less

Sing and act out the rhyme Ten Little Men in a Flying Saucer. Prompt children to build a tower of 10 cubes. As they sing the rhyme and the aliens fly away one by one, encourage children to remove one of their cubes each time. Prompt them to see that as they take a cube away, the number of cubes decreases.

Composition to 10

In the dough area, encourage children to make their own domino biscuits from dough. Prompt them to sprinkle up to 10 sprinkles or jewels on their biscuit, using both sides of the domino to show different compositions.

Bonds to 10 (2 parts)

Provide pots labelled with numbers 0 to 10 and a selection of loose parts, such as beads. 0 21 2 23 4 25 6 27 8 29 10 Ask children to count the correct number of beads into each pot. Can they find two pots that have 10 beads in total? Is there more than one way? If there are 4 beads in one pot, which other pot do we need to total 10?

Make arrangements of 10

Read the book *Ten Black Dots* by Donald Crews and prompt children to talk about what they notice about the different dot arrangements. Encourage children to make their own black dot pictures.

Bonds to 10 (3 parts)

Give children an outline of a 10-piece number shape. Support them to find different ways of filling their shape with three different parts. How many different ways can they find?

Doubles to 10 (find a double)

Show children images or picture cards that represent doubles and 'not doubles' to 10 Encourage children to say whether the representation shows a double or not. How do they know?

Doubles to 10 (make a double)

In pairs, prompt children to sit facing each other with a barrier between them. Provide them with collections of small world animals, such as ducks or sheep. Encourage one child to represent a number up to 5 with the objects. They lift the barrier briefly to show their partner, who builds the same number.

<p>Explore even and odd</p>	<p>Children remove the barrier and check if they have made a double. Which double have they made?</p> <p>After reading stories such as One Odd Day by Doris Fisher and Dani Sneed, encourage children to create their own odd and even pictures. Look at the pictures together. Is this an odd or an even picture? How do you know? Encourage children to talk about the pictures. How many odd and even features can they spot?</p>
<p>Key vocabulary</p>	
<p>Altogether, more, fewer, whole, part, 1 more than, before, after, 1 less than, bonds, double, equal, unequal, odd, even,</p>	
<p>Common misconceptions</p>	<p>Books linking to this area</p>
<p>Children should recognise that the final number they say is the quantity in that set</p> <p>Encourage children to compare amounts directly by lining the items up with one-to-one correspondence</p> <p>Model counting each set carefully and make comparisons by comparing the position in the counting order</p> <p>Ensure children are given opportunities for developing subitising skills outside as well as inside</p>	<p>Nine Naughty Kittens by Linda M. Jennings</p> <p>Cockatoos by Quentin Blake</p> <p>How Do Dinosaurs Count to Ten? by Jane Yolen</p> <p>Anno's Counting Book by Mitsumasa Anno</p> <p>Mouse Count by Ellen Stoll Walsh</p> <p>Ten in the Bed by Penny Dale</p> <p>One Gorilla by Anthony Browne</p> <p>Pete the Cat and the Missing Cupcakes by Kimberly and James Dean</p> <p>Ten Black Dots by Donald Crews</p>

	<p><i>Double the Ducks by Stuart J. Murphy</i>  <i>One Odd Day by Doris Fisher and Dani Sneed</i></p>
<i>Memorable first hand experiences</i>	<i>Opportunities for communication</i>
<p><i>Many opportunities to play games. Regular use of a range of manipulatives, loose parts, natural objects etc.</i></p>	<p><i>Ask and discuss the key questions provided by White Rose</i></p> <p><i>Discuss, share and repeat the sentence stems provided by White Rose</i></p>

DCINS Reasonable adjustments for pupils with SEND

<p><i>Communication and Interaction</i></p> <p>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</p>	<p><i>Cognition and Learning</i></p> <p>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</p>
<p><i>Social, Emotional and Mental health</i></p> <p>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</p>	<p><i>Sensory and Physical</i></p> <p>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</p>