

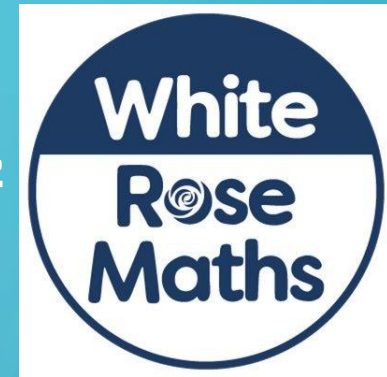


*'LIFE IN ALL ITS FULLNESS'*  
*JOHN 10:10*

CHRIST CHURCH PRIMARY SCHOOL  
MATHS IN THE EARLY YEARS

9TH NOVEMBER 2023

## THE CURRICULUM IN SCHOOL



- White Rose scheme of learning:

*“Adopting a White Rose Maths approach to teaching means making sure all children have the same opportunities to learn and the support they need to fully grasp concepts.” White Rose*

- books
- Number blocks scheme alongside White Rose
- Mastery, reasoning and problem solving

# The Early Years Foundation Stage curriculum

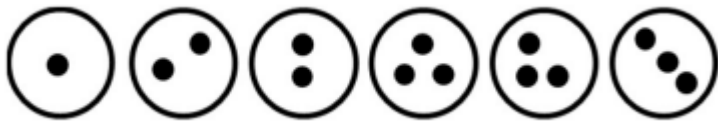
## Development Matters

Mathematics Statements
<ul style="list-style-type: none"><li>• Count objects, actions and sounds.</li></ul>
<ul style="list-style-type: none"><li>• Subitise.</li></ul>
<ul style="list-style-type: none"><li>• Link the number symbol (numeral) with its cardinal number value.</li></ul>
<ul style="list-style-type: none"><li>• Count beyond ten.</li></ul>
<ul style="list-style-type: none"><li>• Compare numbers.</li></ul>
<ul style="list-style-type: none"><li>• Understand the 'one more than/one less than' relationship between consecutive numbers.</li></ul>
<ul style="list-style-type: none"><li>• Explore the composition of numbers to 10.</li></ul>
<ul style="list-style-type: none"><li>• Automatically recall number bonds for numbers 0-5 and some to 10.</li></ul>
<ul style="list-style-type: none"><li>• Select, rotate and manipulate shapes to develop spatial reasoning skills.</li></ul>
<ul style="list-style-type: none"><li>• Compose and decompose shapes so that children recognise a shape can have other shapes <i>within</i> it, just as numbers can.</li></ul>
<ul style="list-style-type: none"><li>• Continue, copy and create repeating patterns.</li></ul>
<ul style="list-style-type: none"><li>• Compare length, weight and capacity.</li></ul>

## Early Learning Goal

Mathematics
<b>Number</b>
<ul style="list-style-type: none"><li>• Have a deep understanding of number to 10, including the composition of each number.</li><li>• Subitise (recognise quantities without counting) up to 5.</li><li>• 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.</li></ul>
<b>Numerical Patterns</b>
<ul style="list-style-type: none"><li>• Verbally count beyond 20, recognising the pattern of the counting system.</li><li>• Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.</li><li>• Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.</li></ul>

Children identify representations of 1, 2 and 3. They subitise or count to find how many and make their own collections of 1, 2 and 3 objects. They match the number names we say to numerals and quantities.



Introduce children to the idea that all numbers are made up of smaller numbers. Allow them to explore and notice the different compositions of 2 and 3. For example 3 can be composed of 1 and 1 and 1 or 2 and 1 or 1 and 2.

	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Phase	Just Like Me!			It's Me 1 2 3!			Light and Dark		
Number	Match and Sort Compare Amounts			Representing 1, 2 & 3 Comparing 1, 2 & 3 Composition of 1, 2 & 3			Representing Numbers to 5. One More and Less.		
Measure, Shape and Spatial Thinking	Compare Size, Mass & Capacity Exploring Pattern			Circles and Triangles Positional Language			Shapes with 4 Sides. Time		

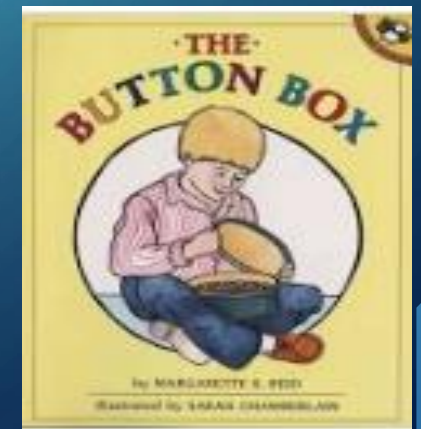
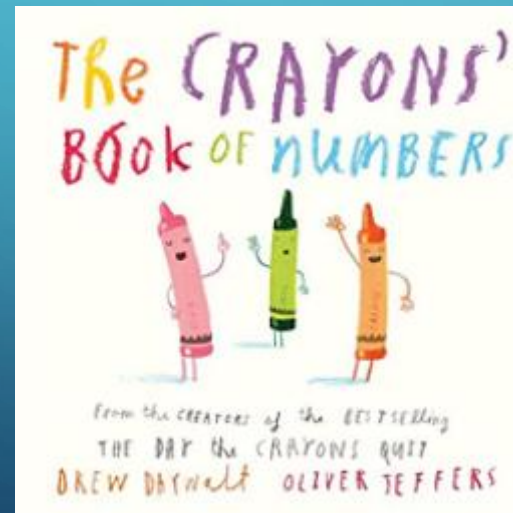
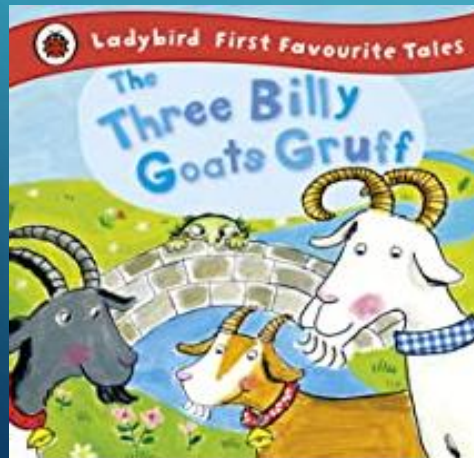
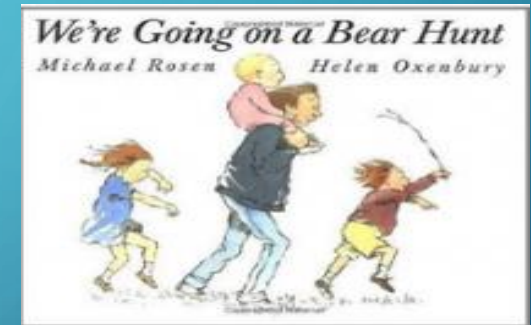
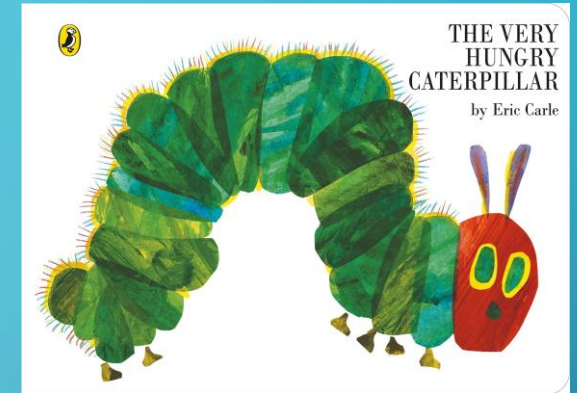
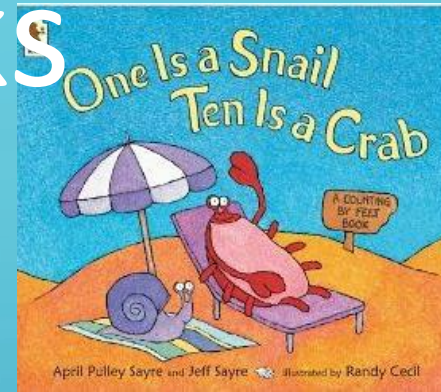
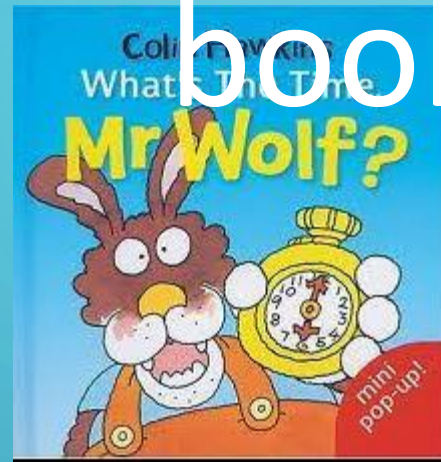
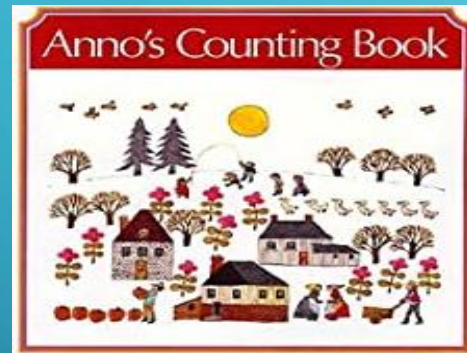
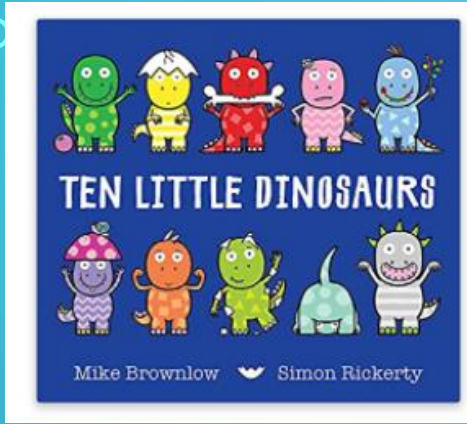
Children begin to understand that as we count, each number is one more than the number before. Similarly as we count back, each number is one less than the previous number.

Using a range of real objects in different contexts ask the children to compare sets. Which set has more? Fewer? Can you find 2 sets with the same amount?

**Construction**

Provide cubes in 2 different colours. Ask the children to build a tower of 5. Compare the towers. What is the same? What is different? How many different towers can you build? What if you make towers of 4 cubes?

# Math's books





# What is Teaching for Mastery?

At Christ Church Primary School we see teaching for Mastery in maths as allowing the pupils to gain a deep understanding of maths, allowing them to acquire a secure and long-term understanding of maths that allows them to make continual progress to move onto more complex topics.

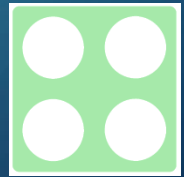
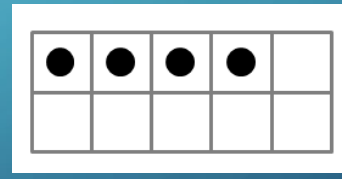
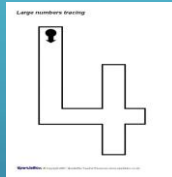
We believe that everyone can do maths and there's no such thing as a maths person. Maths is a subject that everyone can and should be able to perform confidently and competently. Teaching for Mastery We choose to teach by breaking down maths objectives into the smallest steps, so that every pupil is secure in every new concept before moving on. We focus upon teaching for fluency, reasoning and problem solving.

How do we teach for Mastery in Early Years? Fluency - In Reception we aim to teach so that children have a deep understanding of number.

## Representing Numbers

We want to develop children's number sense so that they understand the number rather than just recognising the numeral.

Children need to understand that numbers can be represented in many ways, not just as a written numeral. We use many different objects and pictures to show that numbers can be represented in lots of ways.



Children sometimes need lots of practice to recognise numbers in different forms. We play games that encourage children to recognise and make different amounts in our indoor and outdoor areas.



## Counting

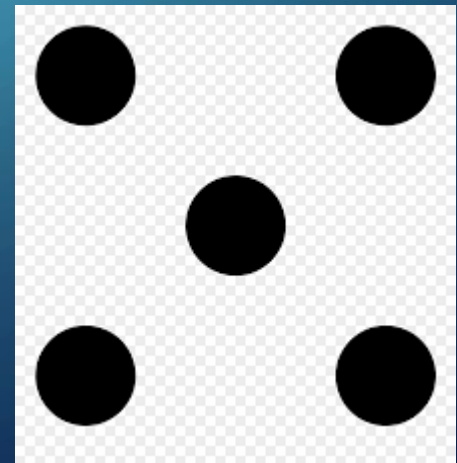
When counting, children need to understand these key principles ...

- That we need to say one number for each object counted (touch counting / One-to-one correspondence - match one number name to each item to be counted
- Stable order- say the number names in the correct order
- Cardinality - the last number in the count is the total size of the group. The final number we say is how many altogether. Some children continue to count after they have reached the final object as they don't connect the numbers they are saying to the objects in front of them.
- That we can count objects in any order and the total stays the same.

# Recognising amounts - subitising

Another skill is to Develop other mental strategies to identify the number of items in a group without counting them individually e.g. 6 dots on a die: seeing this as two groups of three which we combine to make 6

Initially this should be by using concrete objects such as those shown above but as children progress, allowing them to see groups of dots in different arrangements helps them to mentally 'see' how many objects are there without needing to count. This is a very important skill when children begin to add and subtract. Using dice is a good way to practice this skill before moving onto objects in different arrangements.

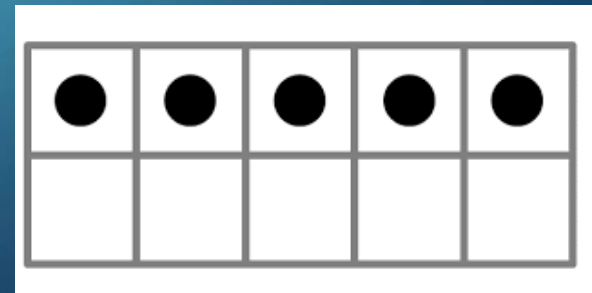
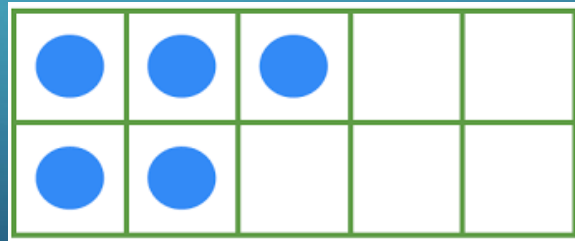
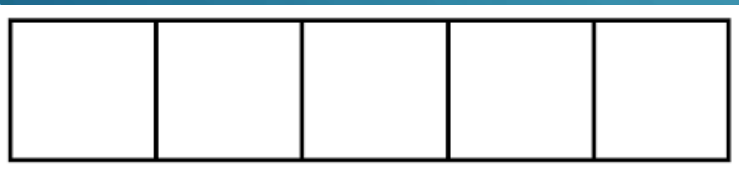


## Understanding that the total stays the same even when the objects move

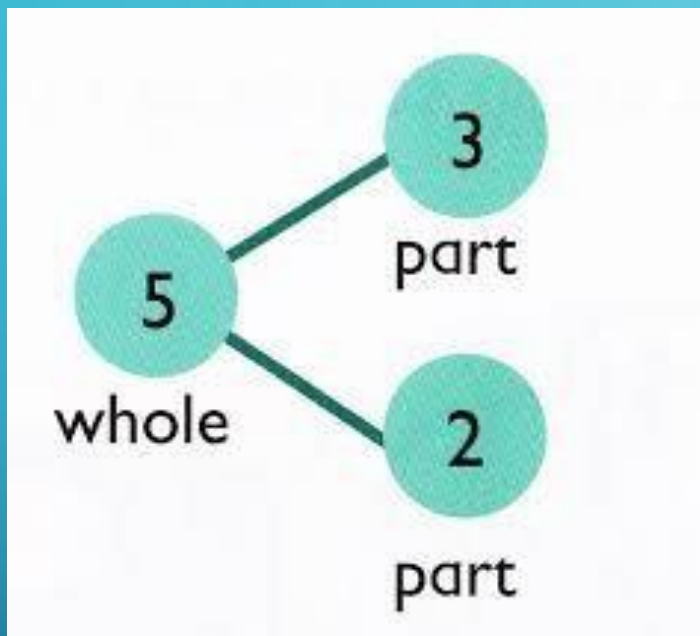
When children first start to use numbers, they often do not understand that if we move objects into another arrangement the total stays the same. We practice this with many different types of objects but a useful tool is using a five or tens frame to be able to move counters around.

Five and ten frames supports counting and early number sense

How many are there? Does the total stay the same if moved around? How many are left? What do we know? e.g. There are 5 counters and 5 spaces I know that 5 and 5 makes 10.



## What is Part-Part Whole?



The Part-Part Whole model is the concept of how numbers can be split into parts. Children using this model will see the relationship between the whole number and the component parts, this helps learners make the connections between addition and subtraction.

Part-Part Whole reasoning also helps pupils to interpret, visualize and solve word problems.

5 frames and part whole used every day in our morning routine.

# Reasoning

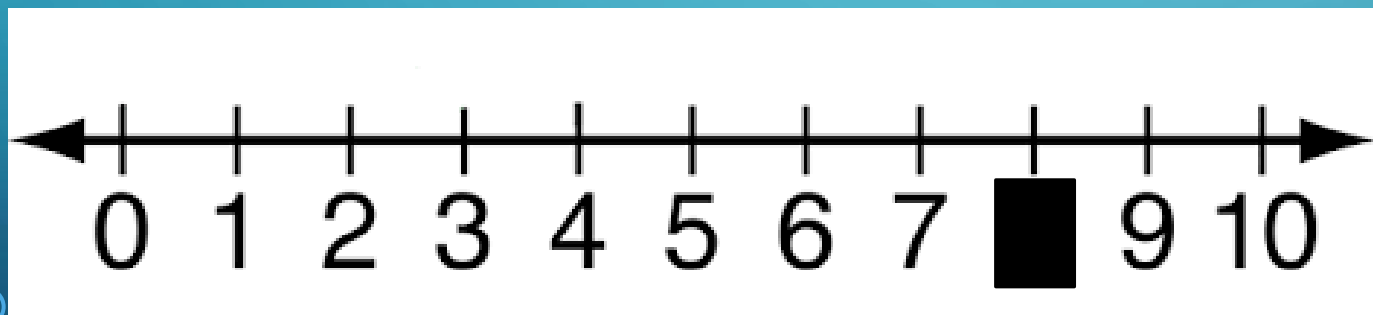
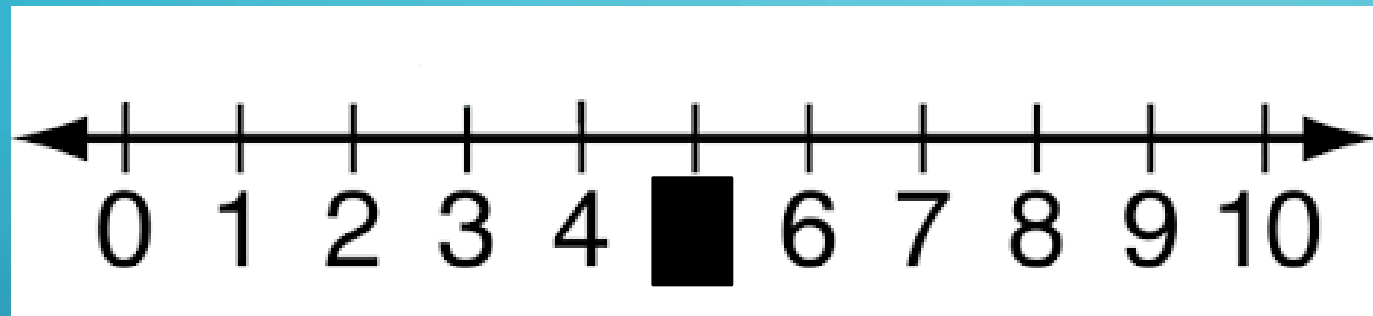
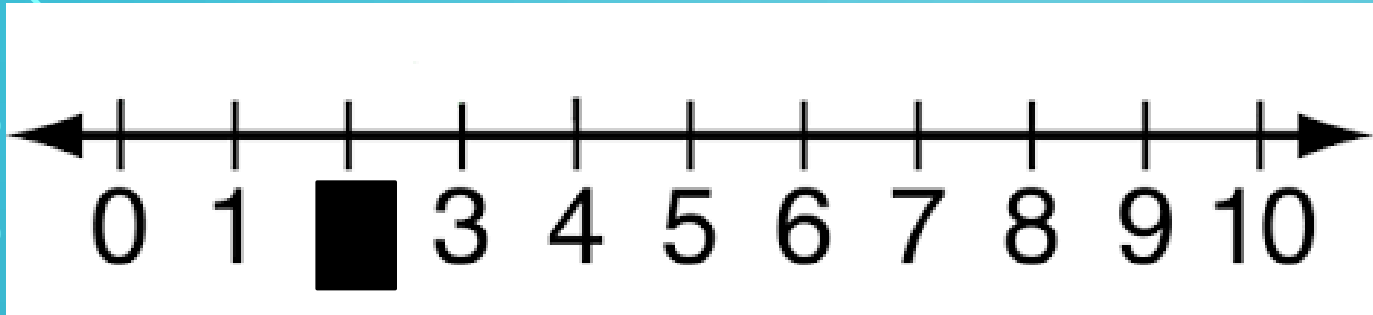
Reasoning in maths helps children to be able to explain their thinking, therefore making it easier for them to understand what is happening in the maths they are doing. It helps them to think about how to solve a problem, explain how they solved it and to think about what they could do differently.

In Reception some examples of reasoning are:

- True and false statements eg adding one to a number always makes it smaller
- Guess my rule
- Spotting incorrect maths eg 1, 2, 4, 3, 5
- Explaining how we know something or how we worked it out encouraging mathematical language.



Which cookie is the odd one out? And why?



This naughty alien is stealing numbers from the number lines, then putting them in his bag. Which three numbers would you find in his bag?

## Problem Solving

Problem solving in maths allows children to use their maths skills in lots of contexts and in situations that are new to them. It allows them to seek solutions, spot patterns and think about the best way to do things rather than blindly following maths procedures.

In Reception, problem solving might include:

- spotting, following and creating patterns
- estimating amounts of objects
- predicting how many times they can do something in a minute
- sharing objects between different groups - particularly when the amount of groups change and the amount of objects stays the same
- finding different ways to partition numbers eg 5 could be  $5+0$ ,  $4+1$ , etc.



# How you can help at

0 1 2 3 4 5 6 7 8 9 10

## Number of preparation

Model number writing and reading in different ways: Lists, tracing, birthday cards, buses, front doors, recipes, in books, phones

## Counting

Counting – in everyday conversation, in play, steps, brushing teeth, tidying toys

Subitizing – with teddies, spoons, socks

Ordering numbers – flashcards, post it notes, lining up toys

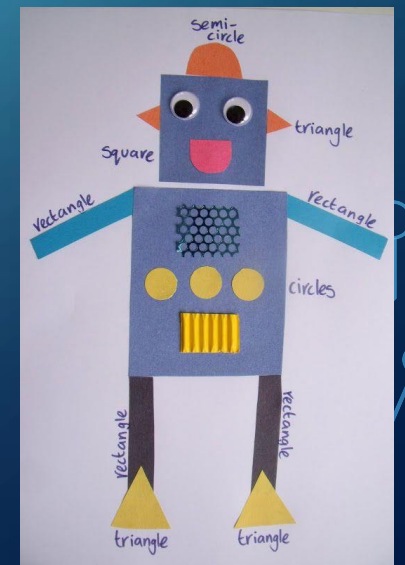
Number bonds – in the car, with teddies/toys

Shape and measurement – include it in everyday conversation, cooking

2D and 3D shapes – in everyday conversation, shape hunts, shape pictures

Patterns – ordering objects and toys, clapping/body percussion

Weight, length, capacity, time – language focus whilst cooking, in the bath, in the sandpit, pouring drinks, talking about routines



White Rose 1 minute maths – app for phone and



[https://m.youtube.com/watch?d=n&feature=youtu.be&fbclid=IwAR2J6\\_3rg5ZjAqnudj6x8h0pJt0xacF3ajOH8YnxiLZILfzCA4RfyZu3Jw4&v=2Ow8vEmh8IA](https://m.youtube.com/watch?d=n&feature=youtu.be&fbclid=IwAR2J6_3rg5ZjAqnudj6x8h0pJt0xacF3ajOH8YnxiLZILfzCA4RfyZu3Jw4&v=2Ow8vEmh8IA)

Credit: Caterpillar Early years

Thank you for coming. Any questions please just ask.  
Mrs Moorhouse