



What I learn today, prepares me for tomorrow.

# Early Years Calculation Policy

## 2023-2024

Policy Location:	Written:	Review Due:	Person Responsible:
Staff Share -> Policy Library	November 2023	September 2024	Mark Phillips, Headteacher  SLT  All staff  Strategic Committee

## MAIN PRINCIPLES

In the statutory framework for EYFS, an Early Learning Goal is the standard children are expected to achieve by the end of their reception year. The ELG relevant to calculations is 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)

Calculations will be taught in a purposeful, practical way and children will use play and exploration to acquire the relevant mathematical skills to solve them. A large majority of mathematical work is practical, and learning will happen in many different contexts around the classroom and outside. Some mathematical concepts relating to calculations will be teacher led and children can also freely explore these concepts through a variety of different activities and resources set up each day. Learning is repeated using different resources and representations to embed understanding.

This policy has been largely adapted from the White Rose Maths Hub Calculation Policy with further material added. It illustrates the resources used in Reception to support the development of mathematical concepts and an understanding of number that lead to embedding the skills and increasing confidence to perform calculations.






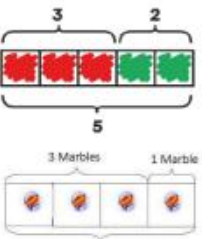
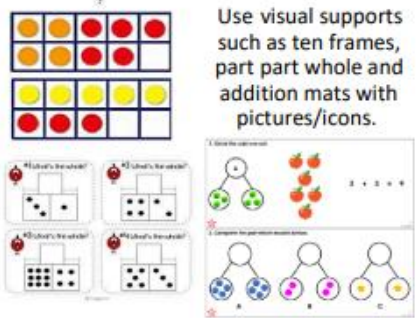
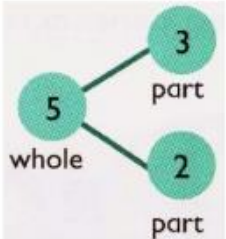
Pupils will leave us prepared for the next stage in their lives with:

- Quick recall of facts and procedures
- The flexibility and fluidity to move between different contexts and representations of mathematics
- The ability to recognise relationships and make connections in mathematics
- Confidence and belief that they can achieve
- The knowledge that maths underpins most of our daily lives
- Skills and concepts that have been mastered
- Have a positive and inquisitive attitude to mathematics as an interesting and attractive subject in which all children gain success.

A mathematical concept or skill has been mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations and this is the goal for our children.


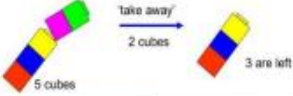


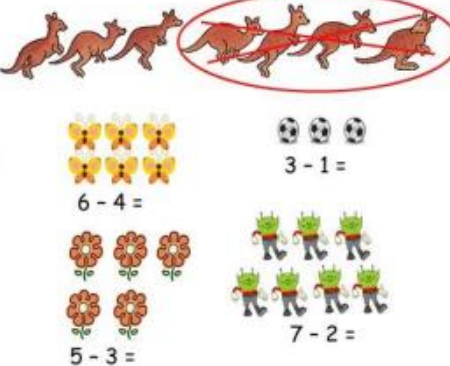
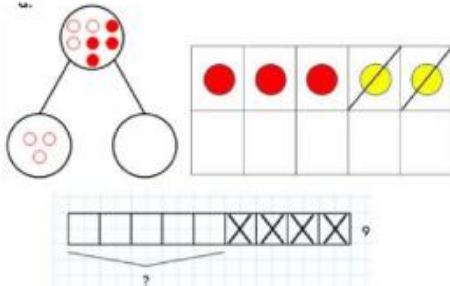

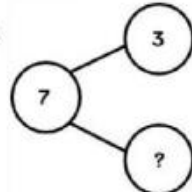
These will be assessed through: assessment, tracking, pupil progress meetings, performance management, moderation and standardisation.

## Addition- EYFS


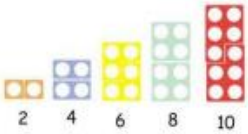


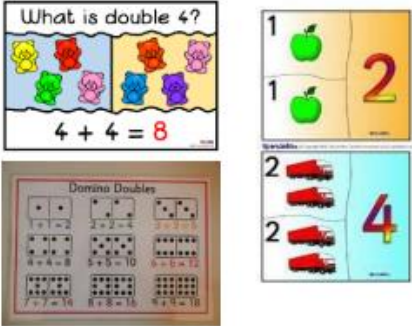
Objectives	Concrete	Pictorial	Abstract												
<p>Knows that a group of things change in quantity when something is added.</p> <p>Find the total number of items in two groups by counting all of them.</p> <p>Says the number that is one more than a given number.</p> <p>Finds one more from a group of up to five objects, then ten objects.</p> <p>In practical activities and discussion, beginning to use the vocabulary involved in adding.</p> <p>Using quantities and objects, they add two single digit numbers and count on to find the answer.</p> <p>Solve problems including doubling.</p>	<p style="text-align: center;"><b>Concrete</b></p>  <p style="text-align: center;">Use toys and general classroom resources for children to physically manipulate, group/regroup.</p>  <p style="text-align: center;">Use specific maths resources such as counters, snap cubes, Numicon etc.</p>  <p style="text-align: center;">Use  visual supports such as ten frames, part part whole and addition mats, with the physical objects and resources that can be manipulated.</p>	<p style="text-align: center;"><b>Pictorial</b></p>  <p style="text-align: center;">Two groups of pictures so children are able to count the total.</p>  <p style="text-align: center;">Bar model using visuals, pictures/icons or colours.</p>  <p style="text-align: center;">Use visual supports such as ten frames, part part whole and addition mats with pictures/icons.</p>	<p style="text-align: center;"><b>Abstract</b></p> <p style="text-align: center;">A focus on symbols and numbers to form a calculation.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <math>5 + 2 = 7</math> </div>  <p style="text-align: center;">whole      part</p> <p style="text-align: center;">part</p> <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <tr> <td style="padding: 5px;">2</td> <td style="padding: 5px;">3</td> <td style="padding: 5px;">4</td> <td style="padding: 5px;">5</td> </tr> <tr> <td style="padding: 5px;">5</td> <td style="padding: 5px;">4</td> <td style="padding: 5px;">3</td> <td style="padding: 5px;">3</td> </tr> <tr> <td style="padding: 5px;">5</td> <td style="padding: 5px;">5</td> <td style="padding: 5px;">6</td> <td style="padding: 5px;"></td> </tr> </table> <p style="text-align: center;">No expectation for children to be able to record a number sentence/addition calculation.</p>	2	3	4	5	5	4	3	3	5	5	6	
2	3	4	5												
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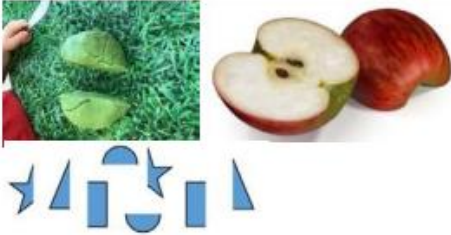
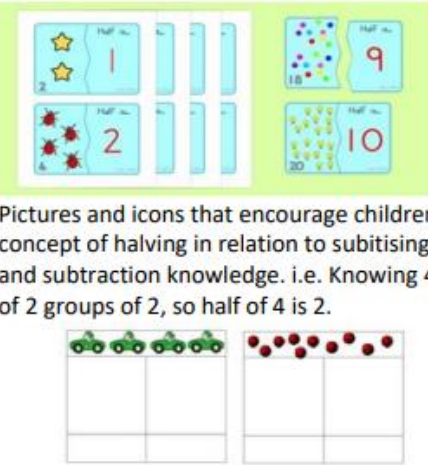

## Subtraction- EYFS

Objectives	Concrete	Pictorial	Abstract				
<p>Knows that a group of things change in quantity when something is taken away</p> <p>Find one less from a group of five objects, then ten objects.</p> <p>In practical activities and discussion, beginning to use the vocabulary involved in subtracting.</p> <p>Using quantities and objects, they subtract two single digit numbers and count back to find the answer.</p>	 <p>Use toys and general classroom resources for children to physically manipulate, group/regroup.</p>   <p>Use specific maths resources such as snap cubes, Numicon, bead strings etc.</p>  <p>Use visual supports such as ten frames, part part whole and subtraction mats, with the physical objects and resources that can be manipulated.</p>	 <p>A group of pictures for children to cross out or cover quantities to support subtraction.</p>  <p>Use visual supports such as ten frames, part part whole and bar model with pictures/icons.</p>	<p>A focus on symbols and numbers to form a calculation.</p>  <div style="border: 2px solid blue; padding: 5px; display: inline-block; margin: 10px;"> <math>10 - 6 = 4</math> </div> <table border="1" style="margin: 10px;"> <tr> <td style="width: 30px; text-align: center;">3</td> <td style="width: 30px; text-align: center;">?</td> </tr> <tr> <td colspan="2" style="text-align: center;">7</td> </tr> </table> <p style="margin: 10px;"><math>7 - 3 = ?</math></p>  <p>* No expectation for children to be able to record a number sentence/addition calculation.</p>	3	?	7	
3	?						
7							

## Multiplication-EYFS

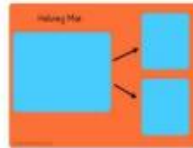
Objectives	Concrete	Pictorial	Abstract												
Solve problems including doubling	 <p>Counting and other maths resources for children to make 2 equal groups.</p>  <p>Physical and real life examples that encourage children to see concept of doubling as adding two equal groups.</p>  <p><b>Double 1</b></p> 	 <p>Pictures and icons that encourage children to see concept of doubling as adding two equal groups.</p>	<table border="1" style="width: 100%;"> <tbody> <tr> <td>1+1=</td> <td>7+7=</td> </tr> <tr> <td>2+2=</td> <td>8+8=</td> </tr> <tr> <td>3+3=</td> <td>9+9=</td> </tr> <tr> <td>4+4=</td> <td>10+10=</td> </tr> <tr> <td>5+5=</td> <td>11+11=</td> </tr> <tr> <td>6+6=</td> <td>12+12=</td> </tr> </tbody> </table> <p>Addition calculations to model adding two equal groups.</p>	1+1=	7+7=	2+2=	8+8=	3+3=	9+9=	4+4=	10+10=	5+5=	11+11=	6+6=	12+12=
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4+4=	10+10=														
5+5=	11+11=														
6+6=	12+12=														

Division- EYFS

Objectives	Concrete	Pictorial	Abstract
<p>Solve problems including halving and sharing.</p> <p>Halving a whole, halving a quantity of objects.</p> <p>Sharing a quantity of objects.</p>	 <p>Children have the opportunity to physically cut objects, food or shapes in half.</p>	 <p>Pictures and icons that encourage children to see concept of halving in relation to subitising, addition and subtraction knowledge. i.e. Knowing 4 is made of 2 groups of 2, so half of 4 is 2.</p> <p>Bar model with pictures or icons to support understanding of finding 2 equal parts of a number, to further understand how two halves make a whole.</p>  <p>Pictures for children to create and visualise 3 or more</p>	



Use visual supports such as halving mats and part part whole with the physical objects and resources that can be manipulated



Counting and other maths resources for children to explore sharing between 3 or more

Counting and other maths resources for children to share into two equal groups.