



Elkesley Primary and Nursery School

Calculation Policy

EYFS

Updated: 29/07/2022

Introduction

Children develop the core ideas that underpin all calculation. They begin by connecting calculation with counting on and counting back, but they should learn that understanding wholes and parts will enable them to calculate efficiently and accurately, and with greater flexibility. Children record their calculations in their own ways, there is no expectation of number sentences at this stage however children may choose this way to record their thinking.

Key language:

whole, part, ones, ten, tens, number bond, add, addition, plus, total, altogether, subtract, subtraction, find the difference, take away, minus, less, more, group, share, equal, equals, is equal to, groups, equal groups, divide, share, shared equally


Overview





Addition: Children start to explore addition by sorting groups. They then use sorting to develop their understanding of parts and wholes. Children combine groups to find the whole, using a part-whole model to support their thinking. They also use the part-whole model to find number bonds within and to 10. Using a five frame and ten frame, children add by counting on. They start by finding one more before adding larger numbers using counters or cubes on the frames. Children use a number track to add by counting on. Linking this learning to playing board games is an effective way to support children's addition

Subtraction: Children start to explore subtraction by sorting groups. They use sorting to develop their understanding of parts and wholes. When comparing groups, children use the language more than and fewer than. This will lead to finding the difference when they move into KS1. Children then connect subtraction with the idea of counting back and finding one less using a five frame to support their thinking. They explore subtraction by partitioning numbers, developing their understanding of parts and wholes. This links to their developing recall of number bonds. Children count back within 20 using number tracks and ten frames to see the effect of taking away

Multiplication and Division: Children first start to look at the idea of equal groups through their exploration of doubles. They use five frames and objects to check that groups are equal. Children then explore halving numbers by making 2 equal groups. They highlight patterns between doubling and halving seeing that double 2 is 4 and half of 4 is 2. As well as halving, children also explore sharing into more than 2 equal groups. They share objects 1 by 1, ensuring that each group has an equal share.

Addition

Real-life representation	Other representations
<p data-bbox="199 232 347 255">Sorting groups</p> <p data-bbox="199 282 584 304">Children sort everyday objects into groups.</p> 	

<p data-bbox="199 792 555 815">Counting and adding more (within 5)</p> <p data-bbox="199 842 810 864">Children add one more person or object to a group to find one more.</p>  <p data-bbox="199 1182 395 1205"><i>One more than 3 is 4</i></p>	<p data-bbox="845 792 1201 815">Counting and adding more (within 5)</p> <p data-bbox="845 842 1410 887">Children represent first, then, now stories on a five frame. They make the first number and then add one more.</p> <p data-bbox="845 909 903 931">First</p>  <p data-bbox="845 1077 903 1099">Then</p>  <p data-bbox="845 1245 903 1267">Now</p>  <p data-bbox="845 1420 1070 1487"><i>First, there are 3 bikes. Then, 1 more bike came. Now, there are 4 bikes.</i></p>
--	--

Combining groups to find the whole

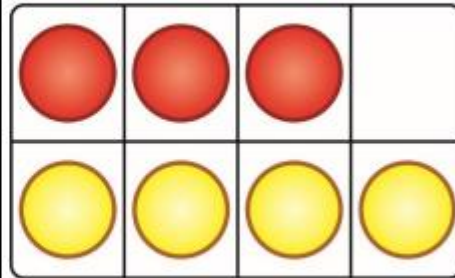
Children sort people and objects into parts and combine them to find the whole.



The parts are 3 and 4. The whole is 7.

Combining groups to find the whole

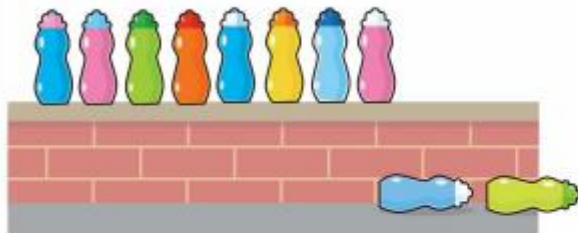
Children use counters or cubes in a part-whole model to find the whole.



The parts are 3 and 4. The whole is 7.

Finding number bonds to 10

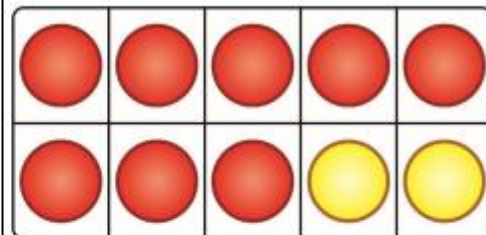
Children combine 2 groups to find a number bond to 10



There are 8 bottles on the wall.
There are 2 bottles on the floor.
There are 10 bottles altogether.

Finding number bonds to 10

Use ten frames and part-whole models to represent key number bonds.



8 and 2 is 10
There are 10 altogether.



6 and 4 is 10
There are 10 altogether.

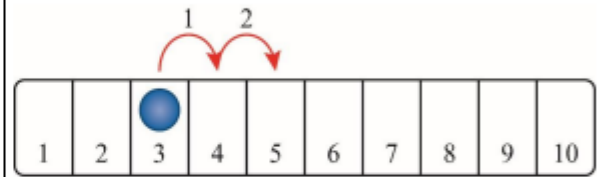
Adding by counting on (number track)

Children jump along a physical number track. They start at the larger number and count on the smaller number to find the total.



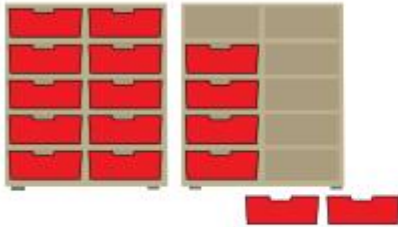
Adding by counting on (number track)

Children use a number track and a counter. They start at the larger number and count on the smaller number to find the total.



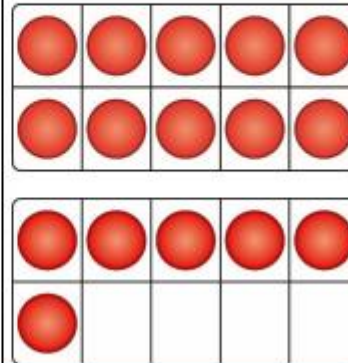
Adding by counting on (ten frames)

Children find the total number by counting on from the larger number.



Adding by counting on (ten frames)

Children make the larger number on the ten frames and then make the smaller number, counting on to find the total. They can use counters, cubes or other objects on the ten frames.



Subtraction

Sorting groups

Children sort everyday objects into groups.



Comparing groups

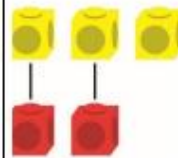
Children line up objects to compare the amount. They line the objects up either horizontally or vertically.



*Ella has more conkers.
Tom has fewer conkers.*

Comparing groups

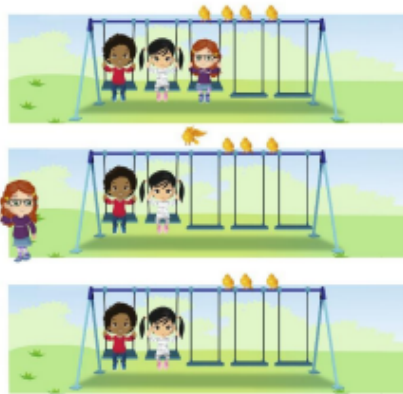
Children line up cubes or counters to compare the amount in each group. Lines can either be horizontal or vertical. A starting line helps to line the objects accurately.



*There are more yellow cubes.
There are fewer red cubes.*

Counting back and taking away (within 5)

Children remove one more person or object from a group to find one less.



First, there were 3 children.
Then, 1 child left.
Now, there are 2 children.

Counting back and taking away (within 5)

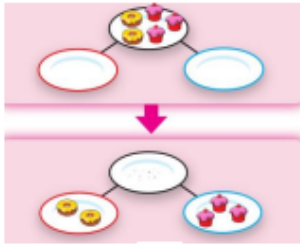
Children use five frames and objects to make a number. They then remove or cross out one object to find one less.





One less than 3 is 2

Introducing the part-whole model

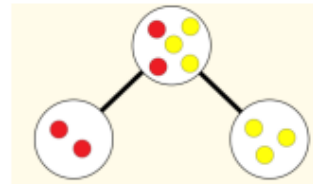
Children sort everyday objects into parts.



One part is the 
The other part is the 

Introducing the part-whole model

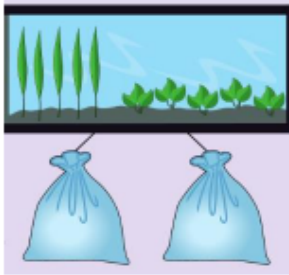
Children use counters or cubes to represent objects in a part-whole model.



The whole is 5.
2 is a part.
3 is a part.

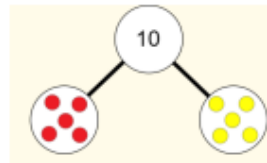
Finding number bonds to 10

Children partition 10 into different groups to find the number bonds to 10



Finding number bonds to 10

Children use part-whole models, ten frames and counters to find the number bonds to 10



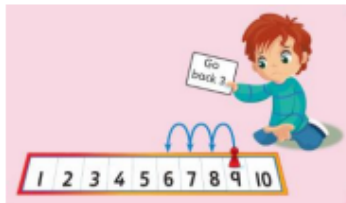
10 is the whole.
5 is a part and 5 is a part.



10 is the whole.
5 is a part and 5 is a part.

Counting back and taking away (number track)

Children use game boards and human number tracks to subtract by counting back.

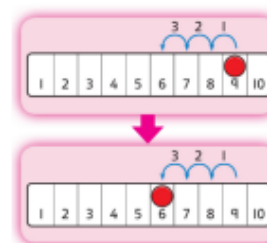


9 take away 3 equals 6

9...8...7...6

Counting back and taking away (number track)

Children use a number track and a counter. They start at the larger number and count back the smaller number to find the answer.

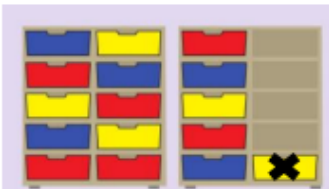


9 take away 3 equals 6

9...8...7...6

Counting back and taking away (ten frames)

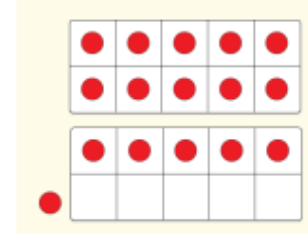
Children count backwards to find one less with numbers up to 20



One less than 16 is 15

Counting back and taking away (ten frames)

Children remove counters from ten frames to support in counting back with numbers up to 20.



One less than 16 is 15

Multiplication

Making doubles

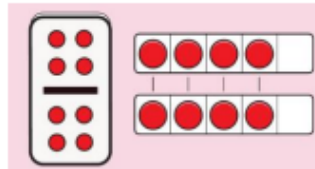
Children explore doubles in their environment including in games such as on dominoes or dice. They focus on the understanding of doubles being 2 equal groups.



Double 4 is 8
Double 2 is 4
Double 3 is 6

Making doubles

Children use five frames to find doubles by lining up counters or cubes.



Double 4 is 8

Division

Halving and sharing

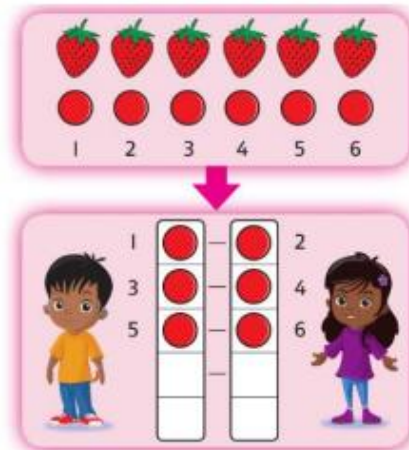
Children explore halving and sharing through practical sharing using real life scenarios including sharing fruit or classroom equipment.



Half of 8 is 4

Halving and sharing

Children use five frames to share amounts fairly and to check that the groups are equal. They share the counters/cubes one by one.



Half of 6 is 3