

# Lakes Primary School



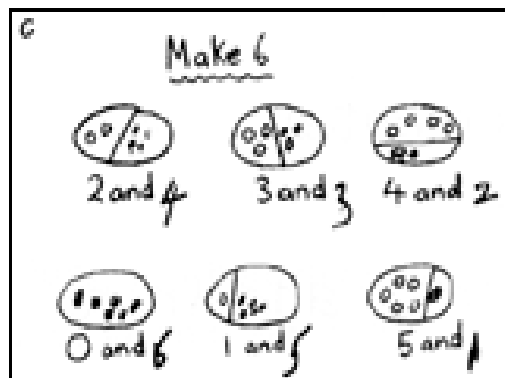
## Addition Policy

## PROGRESSION THROUGH CALCULATIONS FOR ADDITION

- These standards are age-related expectations and therefore we expect the majority of children to achieve them.
- New learning is likely to be taught to groups rather than the whole class to acknowledge the different learning stages of the children.
- Children should understand that addition is commutative and therefore calculations can be rearranged, e.g.  $4 + 13 = 17$  is the same as  $13 + 4 = 17$ .
- Ensure that children understand the = sign means is the same as, not makes, and that children see calculations where the equals sign is in a different position, e.g.  $3 + 2 = 5$  and  $5 = 3 + 2$ .
- Children should be encouraged to approximate before calculating and check whether their answer is reasonable

## FOUNDATION STAGE

- Encourage children to make a mental picture of the number system in their heads to use for calculation.
- Put emphasis on the use of appropriate mathematical vocabulary in all situations.
- They should experience practical calculation opportunities using a variety of equipment, such as fingers, counting bears, scrap paper etc.
- Develop markings as appropriate to level of the child.
- Teacher can model recording using + and = symbols where appropriate.
- Use number tracks from beginning, moving towards number lines when appropriate as part of the transition from Reception to Year 1.

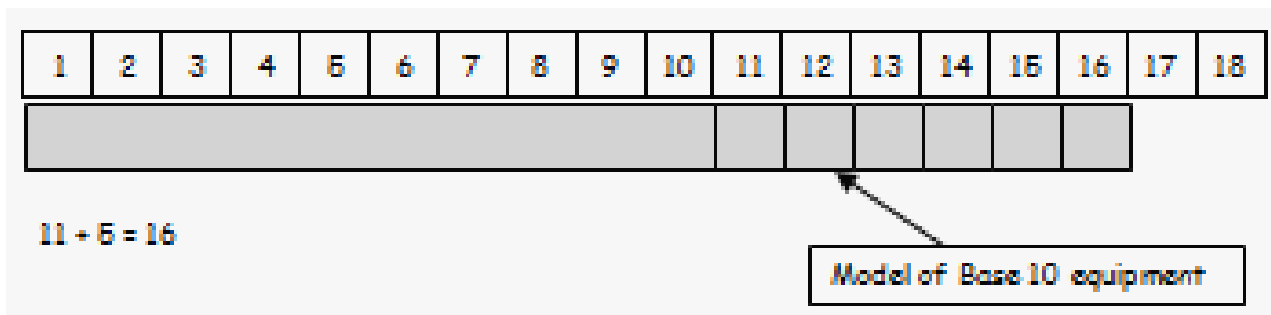


### Early Learning Outcomes- Numbers

Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

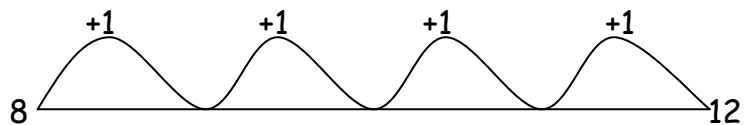
## YEAR 1

- Children will initially use practical equipment to combine groups of objects to find the total.
- Continue to develop points from Foundation Stage.
- Specifically teach children to write one digit in each square.
- Emphasis on the use of appropriate mathematical vocabulary in all situations.
- Begin partitioning when ready.
- Use base 10 equipment to support understanding.



- Using number lines or tracks as appropriate to level of child's development, with aim towards majority of children using number lines by the end of Year 1.

Number lines  $4 + 8 =$



For this number line, the higher number is used as a starting point- this links with encouraging children to 'put the large number in your head and count on.' Method can be used for up to 30 if appropriate.

## YEAR 2

- Emphasis on the use of appropriate mathematical vocabulary in all situations.
- Continue to use base 10 equipment to support calculations.
- Begin partitioning when ready.
- Partitioning with easy numbers, recording in varied informal ways.
- Partitioning (links with place value arrow cards).

$$13 + 14 =$$

$$\begin{array}{l} 13 \qquad 10 + 3 \\ 14 \longrightarrow \underline{10} + \underline{4} \\ \qquad \qquad 20 + 7 = 27 \end{array}$$

$$53 + 26 =$$

$$\begin{array}{l} 53 \qquad 50 + 3 \\ 26 \longrightarrow \underline{20} + \underline{6} \\ \qquad \qquad 70 + 9 = 79 \end{array}$$

$$54 + 27 =$$

$$\begin{array}{l} 54 \qquad 50 + 4 \\ 27 \longrightarrow \underline{20} + \underline{7} \\ \qquad \qquad 70 + 11 = 81 \end{array}$$

$$104 + 110 =$$

$$\begin{array}{l} 104 \qquad 100 + 0 + 4 \\ 110 \longrightarrow \underline{100} + \underline{10} + \underline{0} \\ \qquad \qquad 200 + 10 + 4 = 214 \end{array}$$

Key Stage 2- Number lines to be used for subtraction, not for addition.

### YEAR 3

- Use of appropriate mathematical vocabulary in all situations, i.e. calculation not sum. Sum means to add.
- Children to write H, T, U at top of columns to reinforce place value.
- Compact (column method) to be taught.
- Children to be shown the formal columnar addition method for up to 3 digits, including carrying the digits over.
- **Cross out the 'carried over' number once it has been added on.**

*Carrying ones to tens*

$$\begin{array}{r} 237 + 516 = \text{H T U} \\ 237 \\ + 516 \\ \hline 753 \end{array}$$

*Carrying tens to hundreds*

$$\begin{array}{r} \text{H T U} \\ 534 \\ + 228 \\ \hline 762 \end{array}$$

**Using similar methods, children will:**

- Add several numbers with different numbers of digits;
- Begin to add two or more three-digit sums of money, with or without adjustment from the pence to the pounds;
- Know that the decimal points should be lined up under each other

## YEAR 4

- Secure understanding of compact/ columnar addition.
- Children to add up to 4 digits, including carrying.
- **Cross out the 'carried over' number once it has been added on.**

$$\begin{array}{rcccc} \text{Th} & \text{H} & \text{T} & \text{U} \\ 4 & 7 & 3 & 6 \\ +1 & 5 & 2 & 5 \\ \hline 6 & 2 & 6 & 1 \end{array}$$

## YEAR 5

- Continue to use compact method.
- Add with more than 4 digits using the compact method.
- Carry the tens then repeat with hundreds until calculation is complete.

$$\begin{array}{rcccccc} \text{TTh} & \text{TH} & \text{H} & \text{T} & \text{U} \\ 1 & 4 & 3 & 2 & 4 \\ +1 & 2 & 9 & 3 & 7 \\ \hline 2 & 7 & 2 & 6 & 1 \end{array}$$

**Using similar methods, children will:**

- Add several numbers with different numbers of digits;
- Begin to add two or more decimal fractions with up to here digits and the same number of decimal places;
- Know that the decimal points should be lined up under each other, particularly when adding mixed amounts.

## YEAR 6

- Children to use compact method.
- Using more than 4 digits, including carrying and ensuring the carried numbers are crossed out.

*More than 2 numbers to be added*

$$\begin{array}{r} 35 + 62 + 24 = \text{ T U} \\ 35 \\ 62 \\ + \cancel{1}24 \\ \hline \underline{\underline{121}} \end{array}$$

*More than 4 digits to be added and carried*

TTh	TH	H	T	U
2	5	3	6	6
<del>+1</del>	<del>7</del>	<del>8</del>	<del>5</del>	7
<hr/>				
4	3	2	2	3