

Learning Outcomes – National Curriculum (England)

Numeracy/Mathematics

Reception Class

By the end of Reception Class all children should be able to confidently:

- Count forwards to 100 in unison with other children.
- Count backwards from at least 20.
- Know the next number for any number up to 12, e.g. eight, _____.
- Match one-to-one in counting e.g. one counter, two counters ...
- Subitise (immediately recognise) numbers up to and including 6: do children recognise arrays, e.g. 6 dots on a dice, without counting?
- Match numbers to fingers, e.g. hold up 7 fingers (without counting each finger).
- Begin to compare numbers, e.g. knowing that 6 is bigger than 4.
- Know the story of 6 ($3 + 3$, $2 + 4$, $1 + 5$, $6 + 0$), and the stories of 5 and of 4 and of 3...
- Recognise some 2-digit numbers related to their own experiences. E.g. Daddy is 34, I live at number 56, etc.
- Recognise the difference between 'flat' and 'solid' shapes and describe shapes by mentioning a property, e.g. this one rolls, this one has corners...
- Spot and continue patterns
- Compare the size of things using mathematical language, e.g. Tom is taller than me.

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Year 1

By the end of Year 1 all children should be able to confidently:

- Count on and back in ones to and from 100 and from any single-digit or 2-digit number.
- Count on and back in tens from any 1-digit or 2-digit number, e.g. **23**, 33, 43, 53... Continue to just over 100.

- Locate any number on a 1-100 grid or a beaded line 0-100.
- Know number bonds to 10, e.g. $5 + 5$, $6 + 4$, etc. Also know what is left if objects are taken from 10, e.g. 10 fingers, fold down 4, leaves 6 standing.
- Begin to be aware of unit patterns, e.g.

$2 + 4 = 6$	$7 + 4 = 11$
$12 + 4 = 16$	$17 + 4 = 21$
$22 + 4 = 26$ etc.	$27 + 4 = 31$ etc.
- Recognise the + and – and = signs, and use these to read and write simple additions and subtractions.
- Add small numbers by counting on and subtract small numbers by counting back
- Recognise doubles to double 6 and find related halves (half even numbers ≤ 12).
- Recognise the difference between 2-D and 3-D shapes; identify and describe common 2-D and 3-D shapes.
- Recognise and compare objects according to height or length, weight or capacity, using appropriate mathematical language. E.g. the tree is taller than the bush, the bag is heavier than the shoes, the teapot holds more than the jug.
- Tell the time to the half hour on analogue and digital clocks.
- Sort items into lists or tables.

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Year 2

By the end of Year 2 children should be able to confidently:

- Locate any 2-digit number on a landmarked line and use this to compare numbers; record comparisons using crocodile signs, e.g. $56 > 39$.
- Identify any number on the 1-100 number grid; understand that each number is a multiple of ten and some ones, e.g. 54 is 50 and 4 more.
- Know securely number pairs for all the numbers up to and including 12, e.g. pairs which make 8 ($4+4$, $5+3$, $6+2$, $7+1$, $8+0$) and bonds to 10 ($1+9$, $2+8$, $3+7$, $4+6$, $5+5$).

- Recognise that addition and subtraction are inverse operations and understand that
 $10 - 4 = 6$ as well as $6 + 4 = 10$.
- Count in steps of 2, 5, and 10 from 0.
- Count in halves e.g. $\frac{1}{2}$, 1, $1\frac{1}{2}$, 2, $2\frac{1}{2}$, 3...
- Know different unit patterns when not crossing a ten, e.g. $4 + 3 = 7$
 $14 + 3 = 17$
 $24 + 3 = 27$, etc.
- Begin to recognise unit patterns when crossing a ten, e.g. $5 + 6 = 11$
 $15 + 6 = 21$
 $25 + 6 = 31$, etc.
- Add two single digit numbers ($8 + 7$) by counting up; add two 2-digit numbers which total less than 100 by counting on in tens and ones, e.g. $54 + 37$ as $54 + 30 + 7$.
- Count back in ones or tens to take away, e.g. $27 - 3 =$ or $54 - 20 =$.
- Begin to count up to find a difference between two numbers with a small gap ($42 - 38$).
- Know the 2X, 5X and 10X tables and begin to say how many 10s are in 40 or how many 5s are in 30; use X sign correctly and begin to use \div sign.
- Understand the concept of one half, one quarter and three quarters as numbers ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$) and as operators ($\frac{1}{2}$ of 6 is...?) in a practical context, e.g. on a fraction strip or with smarties on a cake.
- Compare and order objects according to their lengths, weights and capacities using suitable units.
- Identify and describe, with reference to relevant properties, 4 or more common 2-D and 3-D shapes.
- Tell the time on digital and analogue clocks to the nearest quarter of an hour.