

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

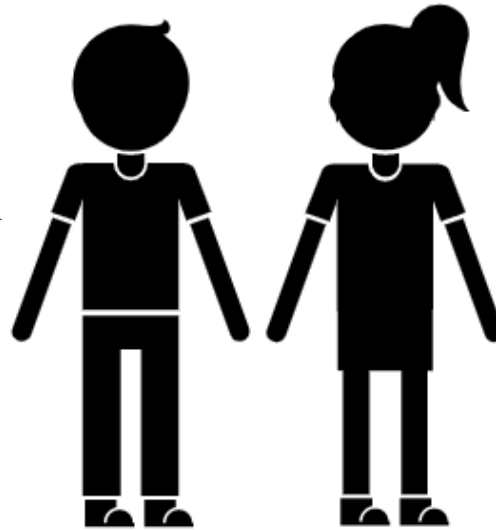


Count within 100, forwards and backwards, starting with any number. (1NPV-1)

Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations. (1G-2)

Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. (1G-1)

Reason about the location of numbers to 20 within the linear number system, including comparing using $<$ $>$ and $=$ (1NPV-2)



Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts. (1AS-2)

Develop fluency in addition and subtraction facts within 10. (1NF-1)

Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers. (1NF-2)

Reason about the location of numbers to 20 within the linear number system, including comparing using $<$ $>$ and $=$ (1NPV-2)

Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers. (1AS-1)

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



Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and nonstandard partitioning (2NPV-1)

Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10. (2NPV-2)

Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties. (2G-1)

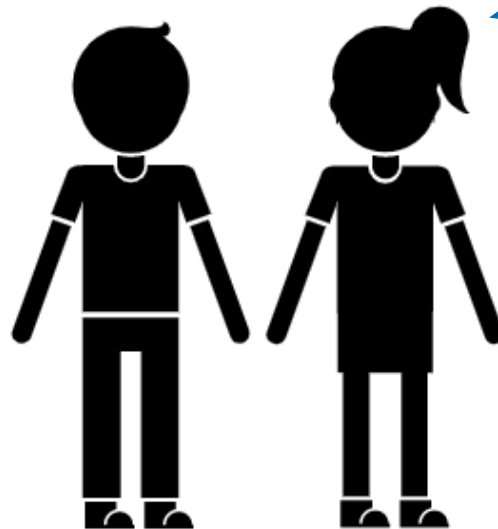
Secure fluency in addition and subtraction facts within 10, through continued practice. (2NF-1)

Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division). (2MD-2)

Add and subtract across 10, for example:
 $8 + 5 = 13$
 $13 - 5 = 8$
(2AS-1)

Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two digit numbers. (2AS-4)

Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. (2MD-1)



By the end of Year 3 children should be able to:



Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10. (3NPV-1)

Draw polygons by joining marked points, and identify parallel and perpendicular sides. (3G-2)

Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations. (3G-1)

Recognise the place value of each digit in three-digit numbers and compose and decompose three-digit numbers using standard and non-standard partitioning. (3NPV-2)

Add and subtract fractions with the same denominator, within 1. (3F-4)

Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10. (3NPV-3)

Reason about the location of any fraction within 1 in the linear number system. (3F-3)

Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts. (3NPV-4)

Find unit fractions of quantities using known division facts (multiplication tables fluency). (3F-2)

Secure fluency in addition and subtraction facts that bridge 10, through continued practice. (3NF-1)

Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts. (3F-1)

Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number (3NF-2)

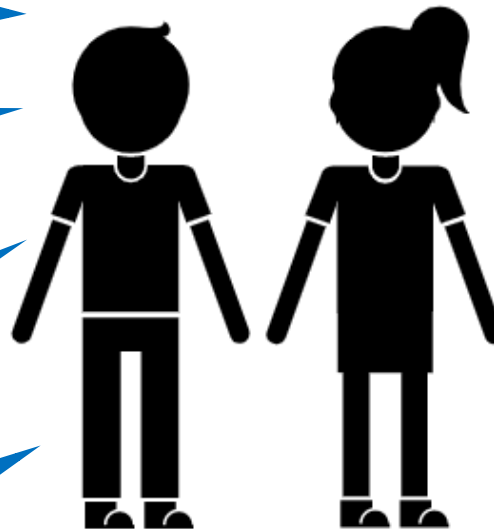
Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division. (3MD-1)

Calculate complements to 100, for example:
 $46 + ? = 100$
(3AS-1)

Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10), for example:
 $80 + 60 = 140$ $140 - 60 = 80$
 $30 - 4 = 120$ $120 \div 4 = 30$
(3NF-3)

Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part-part-whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction. (3AS-3)

Add and subtract up to three-digit numbers using columnar methods. (3AS-2)



By the end of Year 4 children should be able to:



Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100.(4NPV-1)

Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning.(4NPV-2)

Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.(4NPV-3)

Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.(4NPV-4)

Recall multiplication and division facts up to 12 x 12, and recognise products in multiplication tables as multiples of the corresponding number.(4NF-1)

Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, for example:
 $74 \div 9 = 8 \text{ r } 2$
 and interpret remainders appropriately according to the context.
 (4NF-2)

Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry (4G-3)

Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.(4G-2)

Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant. (4G-1)

Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers, for example:
 $\frac{7}{5} + \frac{4}{5} = \frac{11}{5}$
 $3\frac{7}{8} - \frac{2}{8} = 3\frac{5}{8}$ (4F-3)

Convert mixed numbers to improper fractions and vice versa. (4F-2)

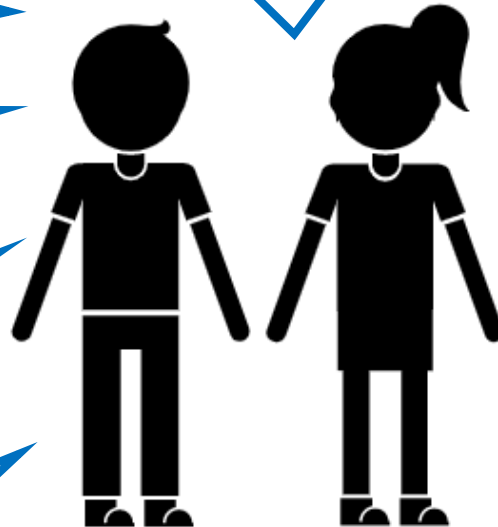
Reason about the location of mixed numbers in the linear number system. (4F-1)

Understand and apply the distributive property of multiplication. (4MD-3)

Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100), for example:
 $8 + 6 = 14$ and $14 - 6 = 8$
 So
 $800 + 600 = 1,400$ $1,400 - 600 = 800$
 $3 \times 4 = 12$ and $12 \div 4 = 3$
 So $300 \times 4 = 1,200$ $1,200 \div 4 = 300$
 (4NF-3)

Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.
 (4MD-1)

Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication (4MD-2)



By the end of Year 5 children should be able to:



Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.(5NPV-1)

Compare areas and calculate the area of rectangles (including squares) using standard units.(5G-2)

Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and nonstandard partitioning. (5NPV-2)

Compare angles, estimate and measure angles in degrees ($^{\circ}$) and draw angles of a given size.(5G-1)

Reason about the location of any number with up to 2 decimal places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.(5NPV-3)

Recall decimal fraction equivalents for $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$, and for multiples of these proper fractions.(5F-3)

Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts. (5NPV-4)

Find equivalent fractions and understand that they have the same value and the same position in the linear number system. (5F-2)

Convert between units of measure, including using common decimals and fractions.(5NPV-5)

Find non-unit fractions of quantities.(5F-1)

Secure fluency in multiplication table facts, and corresponding division facts, through continued practice. (5NF-1)

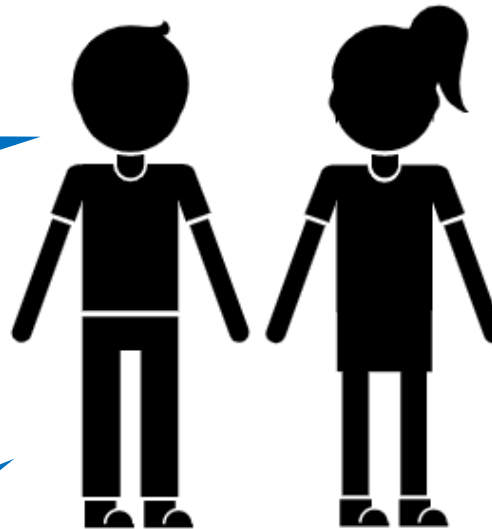
Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.(5MD-1)

Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.(5MD-2)

Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context. (5MD-4)

Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth), for example:
 $8 + 6 = 14$ $0.8 + 0.6 = 1.4$ $0.08 + 0.06 = 0.14$
 $3 \times 4 = 12$ $0.3 \times 4 = 1.2$ $0.03 \times 4 = 0.12$ (5NF-2)

Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.(5MD-3)



By the end of Year 6 children should be able to:



Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).(6NPV-1)

Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems. (6G-1)

Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning.(6NPV-2)

Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.(6F-3)

Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts. (6NPV-3)

Express fractions in a common denomination and use this to compare fractions that are similar in value. (6F-2)

Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.(6NPV-4)

Recognise when fractions can be simplified, and use common factors to simplify fractions. (6F-1)

Solve problems with 2 unknowns. (6AS/MD-4)

Solve problems involving ratio relationships. (6AS/MD-3)

Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number). (6AS/MD-1)

Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding. (6AS/MD-2)

