

Key Stage 1 - Key Facts

Number Bonds

Year 1 - Number bonds to 10: 1+9, 3+7, 2+8, 3+7, 4+6, 5+5

Year 2 - Number bonds to 20: e.g. 19+1, 18+2, 17+3.

Addition and Subtraction

Year 1 Key Strategy: Use number bonds to + and - bridging 10

Year 2 Key Strategy: Add and subtract within 100 by applying knowledge of number bonds to ten.

Number Facts

Place Value:

- Year 1 - Know one more and one less of any given 2-digit number
- Year 2 - Recognise the place value of each digit in two-digit numbers

Doubling and halving:

- Year 1 - Know double and half of numbers within 20

Times table facts:

- Year 2 - Know, recall multiplication and division facts for the 2, 5 and 10 times tables

Fractions

Year 1:

- A half = 1 of 2 equal parts of an object, shape, quantity
- A quarter = 1 of 4 equal parts of an object, shape, quantity

Year 2:

- Find $\frac{1}{3}$ $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ of lengths, shapes, sets of objects
- Find simple fractions of quantities: $\frac{1}{2}$ of 6 = 3
- Know $\frac{1}{2} = \frac{2}{4}$

Geometry

Year 1 - Know the names common 2D and 3D shapes.

Year 2 - Properties of common shapes:

- 2D - sides and lines of symmetry
- 3D - edges, vertices, faces

Position and Direction:

- Year 1 - recognise whole, half, quarter and three-quarter turns
- Year 2 - recognise right angles, quarter, half and three-quarter turns (clockwise, anti-clockwise)

Measures

Know and use standard units:

- °C
- cm and m
- g and kg
- L and ml
- £ and p

Year 2 - Know and convert between intervals of time:

- 1 hour = 60 minutes
- 1 day = 24 hours
- 1 week = 7 days

Lower Key Stage 2 - Key Facts

Addition and Subtraction

Key Strategy: Add and subtract using formal written columnar methods

Year 3 - 3-digit numbers

Year 4 - 4-digit numbers

Mental strategies:

- Know all the number bonds to 100 that include multiples of 5: e.g., 15+85, 45+55, 40+60, 25+75.
- Add 1s, 10s, 100s to 3- and 4-digit numbers

Number Facts

Place Value:

- Year 3 - Recognise the place value of each digit in 3-digit numbers
- Year 3 - Know 10 and 100 more and less than a given number (up to 3-digits)
- Year 4 - Recognise the place value of each digit in 4-digit numbers
- Year 4 - Round any number to the nearest 10, 100 or 1,000

Times table facts:

- Year 3 - Know, recall multiplication and division facts for the 2, 3, 4, 5, 8 and 10 times tables
- Year 4 - recall multiplication and division facts for times tables up to 12×12

Fractions and Decimals

Year 3:

- Find unit and non-unit fractions (with small denominators) of discrete sets of objects
- Compare and order unit fractions and fractions with the same denominator

Year 4:

- Add and subtract fractions with the same denominator
- Know decimal equivalents to $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{10}$ $\frac{1}{100}$
- Know effect of dividing 1 and 2-digit numbers by 10 and 100
- Compare numbers up to 2 decimal places

Geometry

Year 3:

- Know terms: right angle, horizontal line, perpendicular lines, parallel lines
- Know angles as a property of shape and turn

Year 4 - properties of shape:

- Know and use terms: acute and obtuse angles, lines of symmetry, quadrilateral
- Know and classify quadrilateral types and triangle types based on their properties

Year 4 - position and direction:

- Know and read coordinates in the first quadrant

Measures

Year 3 - use standard units: °C, cm and m, g and kg, L and ml, £ and p

Year 4 - convert between metric units: km/m, £/p, h/mins,

Year 3 - Know and convert between intervals of time:

- 1 minute = 60 seconds
- 1 hour = 60 minutes
- 1 day = 24 hours
- 1 week = 7 days
- 1 month = 28/29/30/31 days
- 1 year = 365/366 days

Upper Key Stage 2 - Key Facts

Place Value and Calculation

- Recognise the value of each digit in numbers
- Round numbers up to the nearest 10, 100, 1,000....
- Multiply and divide by 10/100/1000 using place value
- Year 5 - Count backwards/forwards with negative and positive numbers through 0
- Year 6 - Calculate intervals across 0
- Yr 5 key strategies: Formal written methods for addition, subtraction, multiplication and short division
- Yr 6 key strategies: all formal written methods including long division

Fractions and Decimals

Year 5:

- Know how to calculate equivalent fractions, use to compare, order, calculate fractions
- Write equivalent decimals and fractions
- Compare and order decimals up to 3 d.p.

Year 6:

- Know how to calculate equivalent fractions, use to compare, order, calculate fractions
- Write equivalent percentages, decimals and fractions
- Know the value of digits in numbers given to 3 d.p. and use to multiply and divide by 10/...
- Use common factors to simplify fractions

Geometry

Year 5 Angle facts:

- Acute $< 90^\circ$
- Right angle = 90°
- Obtuse between $91-179^\circ$
- Straight line angle = 180°
- One whole turn = 360°

Year 6 Angle facts:

- Angles in a triangle = 180°
- Quadrilateral angles = 360°

Year 6 - Position and Direction:

- describe positions on the full coordinate grid (all 4 quadrants)
- draw and translate simple shapes on the coordinate plane, and reflect them in the axes

Number Facts

Year 5 - Prime numbers:

- A prime number has exactly 1 factor pair - 1 and the number itself.
- 1 is not a prime number, as it only has one factor: $1 \times 1 = 1$
- 2 is the only even prime number.
- Know the first 10 prime numbers: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29

Year 5 - Square numbers:

- A square number is a number multiplied by itself.
- Memorise the first 10 square numbers: $1^2 = 1 \times 1 = 1$, $2^2 = 2 \times 2 = 4$, ...

Year 6 - Cubed numbers:

- A cubed number is a number multiplied by itself twice, for example: $3^3 = 3 \times 3 \times 3$

Measures

Know how to convert metric units:

10mm = 1cm

1000mm = 1m

100cm = 1m

$\frac{1}{2}$ m = 50cm = 500mm = 0.5m

100000cm = 1km

1000m = 1km

$\frac{1}{2}$ km = 500m = 0.5km

1000g = 1kg

$\frac{1}{2}$ kg = 500g $\frac{1}{4}$ kg = 250g = 0.25kg

1000ml = 1 l

$\frac{1}{2}$ l = 500ml $\frac{1}{4}$ l = 250ml = 0.25 l

Number Bonds

Year 1 - Number bonds to 10: 1+9, 3+7, 2+8, 3+7, 4+6, 5+5

Year 2 - Number bonds to 20: e.g. 19+1, 18+2, 17+3.

Plus...

Know all the number bonds to 100 that include multiples of 5: e.g., 15+85, 45+55, 40+60, 25+75.

Know number bonds to 1: 0.1+0.9, 0.3+0.7, 0.2+0.8, 0.3+0.7, 0.4+0.6, 0.5+0.5

Times Tables Facts

Year 3: Know, recall multiplication and division facts for the 2, 3, 4, 5, 8 and 10 times tables

Year 4: Recall multiplication and division facts for multiplication tables up to 12×12

Plus...

Year 4: use known X table facts to multiply and divide multiples of 10 and 100 (e.g. $40 \times 30 = 1200$)

Year 5: use known X facts to derive number facts (x and ÷ by multiples of 10, factors and multiples).

Upper KS2 Number Facts

Prime numbers:

- A prime number has exactly 1 factor pair - 1 and the number itself.
- 1 is not a prime number, as it only has one factor: $1 \times 1 = 1$
- 2 is the only even prime number.
- You should be able to list the first 10 prime numbers: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29

Square numbers:

- A square number is a number multiplied by itself.
- Memorise the first 10 square numbers: $1^2 = 1 \times 1 = 1$, $2^2 = 2 \times 2 = 4$, ...

Cubed numbers:

- A cubed number is a number multiplied by itself twice, for example: $3^3 = 3 \times 3 \times 3$

Equivalent F.D.P.

Recognise percentage, fraction and decimal equivalents (e.g.):

$$50\% = \frac{1}{2} = 0.5$$

$$10\% = \frac{1}{10} = 0.1$$

$$30\% = \frac{3}{10} = 0.3 \dots$$

$$20\% = \frac{1}{5} = 0.2$$

$$40\% = \frac{2}{5} = 0.4$$

$$60\% = \frac{3}{5} = 0.6 \dots$$

$$25\% = \frac{1}{4} = 0.25$$

$$75\% = \frac{3}{4} = 0.75$$

$$1\% = \frac{1}{100} = 0.01$$

$$3\% = \frac{3}{100} = 0.03 \dots$$

Measures

Know how to convert metric units:

$$10\text{mm} = 1\text{cm}$$

$$1000\text{mm} = 1\text{m}$$

$$100\text{cm} = 1\text{m}$$

$$\frac{1}{2}\text{m} = 50\text{cm} = 500\text{mm}$$

$$100000\text{cm} = 1\text{km}$$

$$1000\text{m} = 1\text{km}$$

$$\frac{1}{2}\text{km} = 500\text{m}$$

$$1000\text{g} = 1\text{kg}$$

$$\frac{1}{2}\text{kg} = 500\text{g} \quad \frac{1}{4}\text{kg} = 250\text{g}$$

$$1000\text{ml} = 1\text{l}$$

$$\frac{1}{2}\text{l} = 500\text{ml} \quad \frac{1}{4}\text{l} = 250\text{ml}$$

Geometry

Know the names and properties of common 2D and 3D shapes.

Read coordinates - know x-axis comes before y-axis.

Angle facts:

- Acute $< 90^\circ$
- Right angle = 90°
- Obtuse between $91-179^\circ$
- Straight line angle = 180°
- Angles in a triangle = 180°
- Quadrilateral angles = 360°

Time Maths Facts

- 60 seconds in a minute
- 60 minutes in a hour
- 24 hours in a day
- 7 days in a week
- 52 weeks in a year
- 4 weeks in a month
- 365 days in a year
- A leap year happens every 4 years: February has 29 days on a leap year

30 days have September, April, June and November, All the rest have 31, Excepting February alone. Which only has but 28 days clear, And 29 in each leap year.