

STEPS TO SUCCESS mathematics



Place Value

Entry Level 1

Entry Level 2

Entry Level 3

FS Level 1

GCSE Foundations

- ♦ Read, write, order and compare numbers to 20
- ♦ Use whole numbers to count up to 20 items, including zero

- ♦ Count reliably up to 100 items
- ♦ Read, write, order and compare numbers up to 200
- ♦ Recognise and sequence odd and even numbers up to 100
- ♦ Approximate by rounding to the nearest 10, and use the rounded result to check answers to calculations

- ♦ Count, read, write, order and compare numbers up to 1000
- ♦ Approximate by rounding numbers less than 1000 to the nearest 10 or 100 and use rounded answers to check results

- ♦ Read, write, order and compare large numbers (up to 1 million)
- ♦ Recognise and use positive and negative numbers
- ♦ Approximate by rounding to a whole number or to one or two decimal places

- ♦ Compare integers of any size and represented in different formats
- ♦ Round to one or two decimal places
- ♦ Round any number to 1, 2, or 3 significant figures

Linked to real-life skills and problem-solving

STEPS TO SUCCESS mathematics



Algebra

Entry Level 1

Entry Level 2

Entry Level 3

FS Level 1

GCSE Foundations

N/A	N/A	<ul style="list-style-type: none"> ♦ Recognise and continue linear sequences of numbers up to 100 	<ul style="list-style-type: none"> ♦ Use simple formulae expressed in words for one-step operations ♦ Use simple formulae expressed in words for two-step operations ♦ Follow the order of precedence of operations 	<ul style="list-style-type: none"> ♦ Simplify expressions by collecting 'like' terms ♦ Expand and factorise brackets with algebraic notation ♦ Simplify expressions with powers ♦ Continue both linear and non-linear sequences ♦ Describe a sequence in words ♦ Solve one-step equations ♦ Solve two-step equations ♦ Plot points in all four quadrants ♦ Plot straight line graphs using tables of values ♦ Interpret straight line graphs using $y=mx+c$
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Linked to real-life skills and problem-solving

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Addition & Subtraction

Entry Level 1

Entry Level 2

Entry Level 3

FS Level 1

GCSE Foundations

- ♦ Add and subtract using three-digit whole numbers
- ♦ Subtract one number from another within 20
- ♦ Recognise and interpret the symbols '+', '-' and '=' appropriately

- ♦ Recognise and interpret the symbols '+', '-' and '=' appropriately
- ♦ Add and subtract two-digit numbers

- ♦ Add and subtract using three-digit whole numbers

- ♦ Add and subtract decimals with up to two decimal places

- ♦ Add and subtract with numbers of any size, including decimals



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Multiplication & Division

Entry Level 1

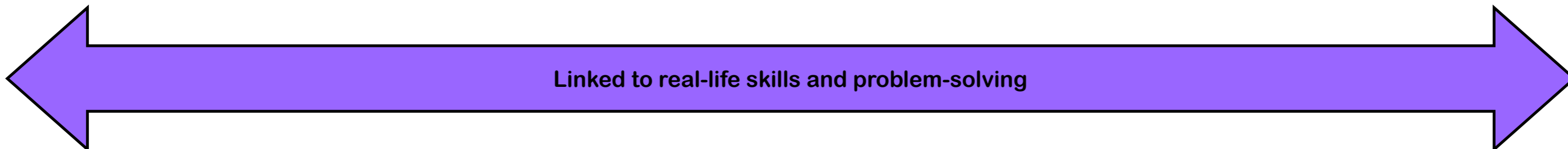
Entry Level 2

Entry Level 3

FS Level 1

GCSE Foundations

<p>N/A</p>	<ul style="list-style-type: none"> ♦ Recognise and interpret the symbols 'x', '÷' and '=' appropriately ♦ Multiply and divide whole numbers within the times tables (12 x 12) ♦ Divide two-digit whole numbers by single-digit whole numbers and express remainders 	<ul style="list-style-type: none"> ♦ Multiply two-digit whole numbers by single-digit whole numbers ♦ Multiply two-digit whole numbers by two-digit whole numbers ♦ Divide three-digit whole numbers by single-digit whole numbers and express remainders ♦ Divide three-digit whole numbers by two-digit whole numbers and express remainders 	<ul style="list-style-type: none"> ♦ Multiply and divide whole numbers and decimals by 10, 100 and 1000 ♦ Use multiplication facts and make connections with division facts ♦ Multiply and divide decimals with up to two decimal places ♦ Calculate the squares of one-digit and two-digit numbers 	<ul style="list-style-type: none"> ♦ Multiply and divide numbers of any size, including decimals ♦ Interpret remainders in practical contexts ♦ Identify all the factor of a number ♦ List a given amount of multiples for a number ♦ Establish whether a number is prime ♦ Calculate square and cube numbers
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Fractions, Decimals & Percentages

Entry Level 1

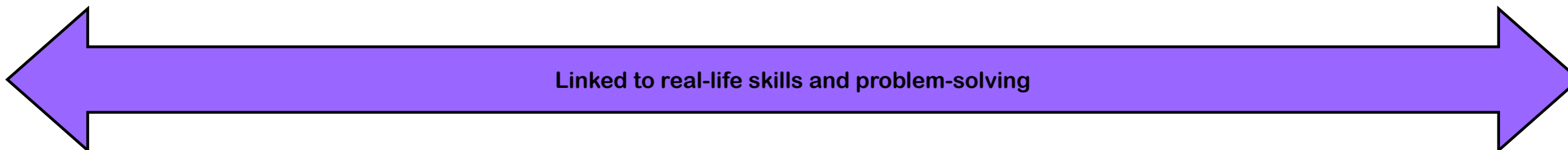
Entry Level 2

Entry Level 3

FS Level 1

GCSE Foundations

<p>N/A</p>	<ul style="list-style-type: none"> ♦ Recognise simple fractions (halves, quarters and tenths) of whole numbers and shapes ♦ Read, write and use decimals to one decimal place 	<ul style="list-style-type: none"> ♦ Read, write and understand thirds, quarters, fifths and tenths including equivalent forms ♦ Read, write and use decimals up to two decimal places ♦ Recognise and continue sequences that involve decimals 	<ul style="list-style-type: none"> ♦ Read, write, order and compare common fraction and mixed numbers ♦ Read, write, order and compare percentages in whole numbers ♦ Calculate percentages of quantities, including simple percentage increases and decreases by 5% and multiples thereof ♦ Estimate answers to calculations using fractions and decimals ♦ Recognise and calculate equivalences between common fractions, percentages and decimals 	<ul style="list-style-type: none"> ♦ Identify and calculate equivalent fractions ♦ Identify equivalences between common fractions, decimals and percentages ♦ Calculate percentages of amounts, including simple percentage increase and decrease
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Ratio & Proportion

Entry Level 1

Entry Level 2

Entry Level 3

FS Level 1

GCSE Foundations

N/A

N/A

N/A

- Work with simple ratio and direct proportions
- Recognise and make use of simple scales on maps and drawings

- Simplify ratios in the form $a:b$ and $1:n$
- Write ratios as fractions
- Calculate ratio parts, and find total amounts from known ratio parts
- Use ratio to calculate with speed, distance and time
- Use proportion to solve scaling problems
- Use proportion to solve problems with exchange rates



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Measurement

Entry Level 1

Entry Level 2

Entry Level 3

FS Level 1

GCSE Foundations

- Describe and make comparisons in words between measures of items including size, length, width, height, weight and capacity

- Use metric measures of length, including millimetres, centimetres, metres and kilometres
- Use measures of weight including grams and kilograms
- Use measures of capacity including millilitres and litres
- Read and compare positive temperatures
- Read and use simple scales to the nearest labelled division

- Use and compare measures of length, capacity, weight and temperature using metric or imperial units to the nearest labelled or unlabeled division
- Compare metric measures of length including millimetres, centimetres, metres and kilometres
- Compare measures of weight including grams and kilograms
- Compare measures of capacity including millilitres and litres
- Use suitable instruments to measure mass and length

- Convert between units of length, weight, and capacity in the same system
- Calculate the area and perimeter of simple shapes including those that are made up of a combination of rectangles
- Calculate the volumes of cubes and cuboids

- Calculate the areas of rectangles and parallelograms
- Calculate the area of a range of triangles

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Money

Entry Level 1

Entry Level 2

Entry Level 3

FS Level 1

GCSE Foundations

- ♦ Recognise coins and write them in numbers (up to 20) with the correct symbol (p)
- ♦ Recognise notes and write them in numbers (up to 20) with the correct symbol (£)

- ♦ Calculate money with pence up to one pound and in whole pounds of multiple items and write the correct symbols (£ or p)

- ♦ Calculate with money using decimal notation and express money correctly in writing in pounds or pence
- ♦ Round amounts of money to the nearest £1 or 10p

- ♦ Calculate simple interest in multiples of 5% on amounts of money
- ♦ Calculate discounts in multiples of 5% on amounts of money
- ♦ Convert between units of money

No new skills at this level. Students working towards taking the GCSE will be expected to be able to perform all prior objectives with money, including calculations, fractions and percentages, and problem-solving tasks.



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Time

Entry Level 1

Entry Level 2

Entry Level 3

FS Level 1

GCSE Foundations

<ul style="list-style-type: none"> ♦ Read analogue clocks to the nearest hour ♦ Read on-the-hour times on 12-hour digital clocks ♦ Know and be able to sequence with days of the week ♦ Know and be able to sequence the months of the year ♦ Know and be able to sequence the seasons 	<ul style="list-style-type: none"> ♦ Know the number of hours in a day ♦ Know the number of weeks in a year ♦ Read and record time in common date formats ♦ Read time displayed on analogue clocks in hours, half hours and quarter hours ♦ Understand hours from a 24-hour digital clock 	<ul style="list-style-type: none"> ♦ Read, measure and record time using am and pm ♦ Read time from analogue and 24-hour digital clocks in hours and minutes 	<ul style="list-style-type: none"> ♦ Convert between units of time 	<p>No new skills at this level. Students working towards taking the GCSE will be expected to be able to perform all prior objectives with time, including converting between formats, recalling key facts, and calculating with time.</p>
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Linked to real-life skills and problem-solving



Entry Level 1

Entry Level 2

Entry Level 3

FS Level 1

GCSE Foundations

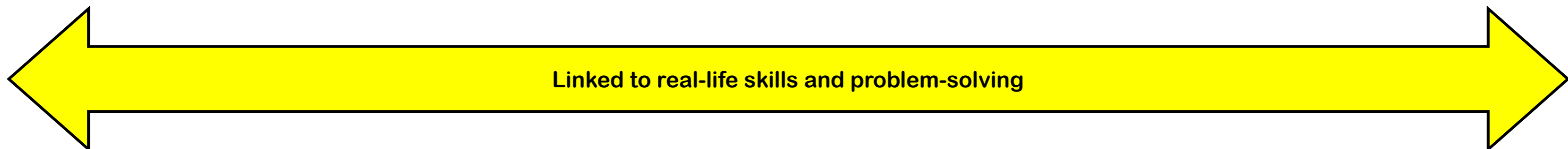
- ♦ Identify and recognise common 2D shapes including circle, rectangle, square and triangle
- ♦ Identify and recognise common 3D shapes including cubes

- ♦ Recognise and name 2D shapes including pentagons and hexagons
- ♦ Recognise and name 3D shapes including cylinders, cuboids, pyramids and spheres
- ♦ Describe the properties of common 2D and 3D shapes including numbers of sides, corners, edges, faces, angles and base

- ♦ Sort 2D and 3D shapes using properties including lines of symmetry, length, right angles, and angles including in rectangles and triangles

- ♦ Draw 2D shapes and demonstrate an understanding of line symmetry and knowledge of relative size of angles
- ♦ Interpret plans, elevations and nets of simple 3D shapes

- ♦ Identify and recall the properties of different triangles
- ♦ Identify and recall the properties of different quadrilaterals
- ♦ Recognise similar shapes
- ♦ Enlarge a shape using a given scale factor
- ♦ Identify 3D shapes from plans and elevations
- ♦ Use ruler and compasses to make accurate constructions of triangles



Linked to real-life skills and problem-solving

STEPS TO SUCCESS mathematics



Position & Direction

Entry Level 1

Entry Level 2

Entry Level 3

FS Level 1

GCSE Foundations

• Use everyday positional vocabulary to describe position and direction including left, right, in front, behind, under and above

• Use appropriate positional vocabulary to describe position and direction including between, inside, outside, middle, below, on top, forwards and backwards

• Use appropriate positional vocabulary to describe position and direction including eight compass points and including full, half and quarter turns

• Use angles when describing position and direction
• Measure angles in degrees

• Classify and measure angles including acute, right, obtuse and reflex
• Calculate unknown angles on straight lines
• Calculate unknown angles in triangles
• Reflect a 2D shape on a coordinate grid, using a line of symmetry given in the form $x=a$ or $y=b$
• Rotate a shape about a point on a coordinate grid



Linked to real-life skills and problem-solving

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Statistics

Entry Level 1

Entry Level 2

Entry Level 3

FS Level 1

GCSE Foundations

- ♦ Read numerical information from lists
- ♦ Sort and classify objects using a single criterion
- ♦ Read and draw simple charts and diagrams including a tally chart, block diagram and bar graph

- ♦ Extract information from lists, tables, diagrams and bar charts
- ♦ Make numerical comparisons from bar charts
- ♦ Sort and classify objects using two criteria
- ♦ Take information from one formats and represent the information in another format including the use of bar charts

- ♦ Extract information from lists, tables, diagrams and charts
- ♦ Create frequency tables
- ♦ Interpret information to make comparisons and record changes, from different formats including bar charts and simple line graphs
- ♦ Organise and represent information in appropriate ways including tables, diagrams, simple line graphs and bar charts

- ♦ Represent discrete data in tables, diagrams and charts including pie charts, bar charts and line graphs
- ♦ Group discrete data and represent grouped data graphically
- ♦ Find the mean and range for a set of quantities

- ♦ Read and interpret speed, distance, time graphs
- ♦ Calculate the mean for sets of discrete data
- ♦ Identify the median and the mode for sets of discrete data
- ♦ Complete and extract information from two-way tables

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Probability

Entry Level 1

Entry Level 2

Entry Level 3

FS Level 1

GCSE Foundations

N/A

N/A

N/A

- Understand probability on a scale from 0 (impossible) to 1 (certain) and use probabilities to compare the likelihood of events
- Use equally likely outcomes to find the probabilities of simple events and express them as fractions

- Recognise when the probabilities of events are equally likely
- Calculate expected frequencies from experimental data



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