

GOAL Assessments support APP at KS3

The GOAL interactive mathematics assessments support teachers in implementing the Assessment of Pupils' Progress initiative. This document shows how the questions map to the APP guidelines.

Level 2

Assessment focus	Bullet point	GOAL strand
Numbers and the number system	Begin to understand the place value of each digit; use this to order numbers up to 100	Strand 1
Algebra	Recognise sequences of numbers, including odd and even numbers	Strand 5
Calculating	Use mental recall of addition and subtraction facts to 10	Strand 2
	Use mental calculation strategies to solve number problems including those involving money and measures	Strand 3
	Choose the appropriate operation when solving addition and subtraction problems	Strand 4
Shape, space and measures	Use mathematical names for common 3-D and 2-D shapes	Strand 6
	Distinguish between straight and turning movements ...	Strand 7
	Begin to use a wider range of measures ...	Strand 8
Handling data	Sort objects and classify them using more than one criterion	Strand 9
	Communicate their findings, using the simple lists, tables, pictograms and block graphs they have recorded	Strand 10

Level 3

Assessment focus	Bullet point	GOAL strand
Numbers and the number system	Recognise negative numbers in contexts such as temperature	Strand 1
Algebra	Recognise a wider range of sequences	Strand 4
Calculating	Derive associated division facts from known multiplication facts	Strand 2
	Multiply and divide two digit numbers by 2, 3, 4 or 5 as well as 10 with whole numbers ...	Strand 5
	Add and subtract three-digit numbers using written method	Strand 3
Shape, space and measures	Classify 3-D and 2-D shapes in various ways using mathematical properties such as reflective symmetry for 2-D shapes	Strand 6
	Describe position and movement	Strand 7
	Use a wider range of measures including non-standard units and standard metric units of length, capacity and mass in a range of contexts	Strand 8
Processing and representing data	Construct bar charts and pictograms, where the symbol represents a group of units	Strand 9
	Extract and interpret information presented in simple tables, lists, bar charts and pictograms	Strand 10

Level 4

Assessment focus	Bullet point	GOAL strand
Numbers and the number system	Use place value to multiply and divide whole numbers by 10 or 100	Strand 1
Calculating	Use inverse operations	Strand 4
	Use efficient written methods of addition and subtraction and of short multiplication and division	Strand 2
	Check the reasonableness of results with reference to the context and size of numbers	Strand 3
Algebra	Use and interpret coordinates in the first quadrant	Strand 5
Shape, space and measures	Make 3-D models by linking given faces or edges ...	Strand 6
	Reflect simple shapes in a mirror line ...	Strand 7
	Find perimeters of simple shapes and find area by counting squares	Strand 8
Processing and representing data	Construct and interpret frequency diagrams and simple line graphs	Strand 9
Interpreting data	Understand and use the mode and range to describe sets of data	Strand 10

Level 5

Assessment focus	Bullet point	GOAL strand
Numbers and the number system	Use understanding of place value to multiply and divide whole numbers and decimals by 10, 100 and 1000 and explain the effect	Strand 1
<i>Not specified</i>	Order negative numbers in context	Strand 3
Calculating	Use a calculator where appropriate to calculate fractions/percentages of quantities/measurements	Strand 2
Algebra	Construct, express in symbolic form, and use simple formulae involving one or two operations	Strand 4
	Use and interpret coordinates in all four quadrants	Strand 5
Shape, space and measures	Know and use the angle sum of a triangle and that of angles at a point	Strand 7
	Reason about position and movement and transform shapes	Strand 8
	Understand and use the formulae for area of a rectangle ...	Strand 6
Handling data	Understand and use the mean of discrete data ...	Strand 9
	Interpret graphs and diagrams, including pie charts, and draw conclusions	Strand 10

Level 6

Assessment focus	Bullet point	GOAL strand
Numbers and the number system	Use the equivalence of fractions, decimals and percentages to compare proportions	Strand 1
	Use the equivalence of fractions, decimals and percentages to compare proportions	Strand 3
Calculating	Add and subtract fractions by writing them with a common denominator ...	Strand 2
Algebra	Construct and solve linear equations with integer coefficients, using an appropriate method	Strand 4
	Generate terms of a sequence using term-to-term and position-to-position definitions of the sequence ...	Strand 5
Shape, space and measures	Identify alternate and corresponding angles ...	Strand 7
	Know and use the formulae for the circumference and area of a circle	Strand 8
	Classify quadrilaterals by their geometric properties	Strand 6
Handling data	Select, construct and modify ... pie charts	Strand 9
	Select, construct and modify ... scatter diagrams	Strand 10

Level 7

Assessment focus	Bullet point	GOAL strand
Algebra	Solve inequalities in one variable and represent the solution on a number line	Strand 1
	Square a linear expression, and expand and simplify the product of two linear expressions of the form $(x \pm n)$ and simplify the corresponding quadratic expression	Strand 4
	Use algebraic and graphical methods to solve simultaneous linear equations in two variables	Strand 5
calculating	Make and justify estimates and approximations of calculations: estimate calculations by rounding numbers to one significant figure and multiplying and dividing mentally	Strand 2
	Use a calculator efficiently and appropriately to perform complex calculations with numbers of any size ...	Strand 3
Shape, space and measures	Understand and apply Pythagoras' theorem when solving problems in 2-D	Strand 6
	Enlarge 2-D shapes, given a centre of enlargement and a fractional scale factor, on paper using ICT ...	Strand 7
	Find the locus of a point that moves according to a given rule, both by reasoning and using ICT	Strand 8
Handling data	<i>Estimate values from a scatter diagram*</i>	Strand 9
	Understand relative frequency as an estimation of probability and use this to compare outcomes of an experiment	Strand 10

* question not directly identified in APP

Level 8

Assessment focus	Bullet point	GOAL strand
Calculating	Solve problems involving calculating with powers, roots and numbers expressed in standard form ...	Strand 1
	Solve problems involving calculating with powers, roots and numbers expressed in standard form ...	Strand 2
	Use fractions or percentages to solve problems involving repeated proportional change ...	Strand 3
Algebra	Evaluate algebraic formulae, substituting fractions, decimals and negative numbers	Strand 4
	Sketch, interpret and identify graphs of linear, quadratic and reciprocal functions ...	Strand 5
Shape, space and measures	Understand and use trigonometrical relationships in right angled triangles ...	Strand 6
	Understanding the difference between formulae for perimeter, area and volume in simple contexts by considering dimensions	Strand 7
	Understand and use congruence and mathematical similarity	Strand 8
Handling data	Use tree diagrams to calculate probabilities of combinations of independent events	Strand 9
	Estimate and find the median, quartiles and interquartile range for large data sets, including using a cumulative frequency diagram	Strand 10