WJEC GCSE Mathematics
Foundation Student's Book

(9781444114829)

Mapping Grid to WJEC 2010 Unitised Course

Hodder Education, 2010

WJEC GCSE Mathematics Student's Book mapping grid to Unitised Course

Foundation Tier

Number

Contents of Student's Book	Unit 1	Unit 2	Unit 3
Chapter 1 – Integers, powers and roots 1			
Arithmetic check	√	√	√
Multiples		√	
Factors		√	
Rounding numbers	√	√	√
Multiplication and division	√	√	√
Squares and cubes		√	
Other powers		√	
Square roots		√	
Negative numbers	√	√	
Chapter 2 – Fractions			
Equivalent fractions	√	√	
Expressing a fraction in its lowest terms	√	√	
Finding a fraction of a given quantity	√	√	
Multiplying a fraction by a whole number	√	√	√
Chapter 3 – Decimals			
Place value and ordering decimals		√	
Changing fractions to decimals		√	
Adding and subtracting decimals	√	√	√
Multiplying a decimal by an integer	√	√	√
Multiplying a decimal by a decimal	√	√	√
Chapter 4 – Percentages			
The % symbol	√	√	√
Fractions, decimals and percentages	√	√	
Finding a percentage of a quantity	√	√	√
Percentage increase and decrease	√	√	√
Calculating one quantity as a percentage of another	√	√	
Chapter 5 – Mental methods 1			
Addition and subtraction	√	√	√
Multiplication and division	√	√	√
Squares and square roots		√	
Cubes		√	
Rounding numbers	√	√	√
Adding and subtracting with negative numbers	√	√	√

Contents of Student's Book	Unit 1	Unit 2	Unit 3
Chapter 6 – Using a calculator			
Squares	√		√
Square roots	√		√
Accuracy	√		√
Harder calculations	√		√
Chapter 7 – Integers, powers and roots 2			
Prime numbers and factors		√	
Writing a number as a product of its prime factors		√	
Highest common factors and lowest common multiples		√	
Multiplying and dividing by negative numbers	√	√	√
Powers and roots		√	
Reciprocals		√	
Chapter 8 – Fractions, decimals and percentages			
Comparing fractions	√	√	
Adding and subtracting fractions and mixed numbers	√	√	√
Multiplying and dividing fractions and mixed numbers	√	√	√
Fractions on your calculator	√		√
Changing fractions to decimals		√	
Mental arithmetic with decimals	√	√	
Multiplying and dividing decimals	√	√	√
Percentage increase and decrease	√	√	
Chapter 9 – Ratio and proportion			
What is a ratio?			√
Writing a ratio in the form 1 : *n*			√
Using ratios			√
Dividing a quantity in a given ratio			√
Best value	√	√	√
Chapter 10 – Mental methods 2			
Mental strategies		√	
Rounding to 1 significant figure	√	√	√
Rounding to a given number of significant figures	√	√	√
Using π without a calculator		√	
Deriving unknown facts from those you know	√	√	√

Algebra

Contents of Student's Book	Unit 1	Unit 2	Unit 3
Chapter 11 – Algebra 1			
Using letters to represent numbers		√	
Writing simple expressions		√	
Chapter 12 – Algebra 2			
Collecting like terms		√	
Like and unlike terms		√	
Chapter 13 – Algebra 3			
Expanding brackets		√	
Combining terms		√	
Factorising		√	
Expanding pairs of brackets		√	
Index notation		√	
Chapter 14 – Formulae 1			
Formulae written in words	√		
Some rules of algebra	√	√	√
Formulae written using letters			√
Substituting numbers into a formula	√		√
Chapter 15 – Formulae 2			
Using formulae	√		
Rearranging formulae		√	
Chapter 16 – Sequences 1			
Sequences		√	
Term-to-term rules		√	
Sequences from diagrams		√	
Position-to-term rules		√	
Chapter 17 – Sequences 2			
Using rules to find terms of sequences		√	
Finding the *n*th term of a linear sequence		√	
Some special sequences		√	
Chapter 18 – Coordinates			
Coordinates		√	
Points in all four quadrants		√	
Drawing and completing shapes		√	
Equations of straight lines		√	
Plotting lines from equations		√	
Chapter 19 – Solving equations			
One-step equations		√	√
Two-step equations		√	√
Equations involving fractions		√	√
Word problems		√	√

Contents of Student's Book	Unit 1	Unit 2	Unit 3
Chapter 20 – Equations and inequalities			
Solving equations		√	√
Solving equations with brackets		√	√
Equations with *x* on both sides		√	√
Fractions in equations		√	√
Solving equations by trial and improvement			√
Inequalities		√	
Chapter 21 – Further graphs			
Drawing straight-line graphs		√	
Harder straight-line graphs		√	
Distance–time graphs	√		√
Real-life graphs	√		√
Quadratic graphs		√	

Geometry and measure

Contents of Student's Book	Unit 1	Unit 2	Unit 3
Chapter 22 – Angles, points and lines			
Well-known angles		√	
Types of angle		√	
Identifying angles		√	
Angle facts		√	
Chapter 23 – Triangles, quadrilaterals and cuboids			
The angles in a triangle		√	
Properties of triangles		√	
Congruence			√
Properties of quadrilaterals		√	
Cuboids		√	
Chapter 24 – Circles and polygon			
Circles		√	√
Polygons		√	√
Chapter 25 – Interpreting graphs			
Conversion graphs	√		
Graphs showing change over time	√		√
Travel graphs	√		√
Chapter 26 – Properties of shapes			
Angles made with parallel lines		√	
The angles in a triangle		√	
The angles in a quadrilateral		√	
Special quadrilaterals		√	
The angles in a polygon			√

Contents of Student's Book	Unit 1	Unit 2	Unit 3
Chapter 27 – Constructions 1			
Measuring lengths	√		√
Measuring angles	√		√
Drawing angles	√		√
Drawing triangles using a ruler and protractor only			√
Drawing triangles using compasses			√
Scale drawings and maps	√		
Scale drawings and bearings	√		
Chapter 28 – Constructions 2			
Constructions			√
Loci			√
Chapter 29 – Transformations 1			
Reflection symmetry		√	
Rotation symmetry		√	
Transformations		√	
Chapter 30 – Transformations 2			
Reflections		√	
Rotations		√	
Translations		√	
Chapter 31 – Enlargements			
Scale factor		√	
Centre of enlargement		√	
Fractional enlargements		√	
Chapter 32 – Measures 1			
Using and reading scales	√		
Changing from one unit to another	√		
Approximate equivalents	√		
Estimating measures	√	√	√
Chapter 33 – Measures 2			
Converting between measures	√		
Accuracy in measurement	√		√
Working to a sensible degree of accuracy	√		√
Compound measures	√		√
Chapter 34 – Perimeter, area and volume			
Perimeter	√		√
Area	√		√
The area of a rectangle	√		√
The area of a triangle	√		√
The area of a parallelogram	√		√
Volumes of cubes and cuboids	√		√

Contents of Student's Book	Unit 1	Unit 2	Unit 3
Chapter 35 – Areas, volumes and 2-D representation			
Circles	√		√
Area of complex shapes	√		√
Volume of complex shapes	√		√
Volume of a prism	√		√
Volume of a cylinder	√		√
Surface area of a cylinder	√		√
Plans and elevations	√		
Chapter 36 – Pythagoras' theorem			
Pythagoras' theorem			√
Using Pythagoras' theorem			√
Pythagorean triples			√
Coordinates and midpoints		√	
Chapter 37 – Solving problems 1			
Problems involving time	√	√	√
Problems involving speed, distance and time	√		√
Problems involving units	√	√	√
Reading tables	√		
Chapter 38 – Solving problems 2			
Order of operations	√	√	√
Estimating and checking		√	
Compound measures	√		√
Time	√	√	√
Solving problems	√	√	√

Statistics

Contents of Student's Book	Unit 1	Unit 2	Unit 3
Chapter 39 – Probability 1			
The language of probability and the probability scale		√	
Calculating probabilities		√	
The probability of two events		√	
Experimental probability		√	
Chapter 40 – Probability 2			
Probability of an outcome not happening		√	
Probability involving a given number of different outcomes		√	
Expected frequency		√	
Relative frequency		√	

Contents of Student's Book	Unit 1	Unit 2	Unit 3
Chapter 41 – Data collection			
Collecting data	√		√
Displaying data	√		√
Two-way tables	√		√
Grouping data	√		√
Chapter 42 – Illustrating data			
Pictograms	√		√
Pie charts	√		√
Line graphs	√		√
Chapter 43 – Measures of average and spread			
Median	√		√
Mode	√		√
Mean	√		√
Range	√		√
Modal class			√
Chapter 44 – Interpreting statistics			
Interpreting pictograms	√		√
Interpreting pie charts	√		√
Interpreting line graphs	√		√
Making comparisons	√		√
Chapter 45 – Statistical diagrams			
Frequency diagrams			√
Frequency polygons			√
Scatter diagrams			√
Chapter 46 – Statistical calculations			
The mean from a frequency table			√
Grouped data			√
Continuous data			√
Chapter 47 – Planning and collecting			
Statistical questions	√		