

BLOCK 1 (21 PERIODS) (2 topics) August - September 12 periods Numeracy 12 periods Angles 9 periods BLOCK 2 (33 PERIODS) (5 topics) October - November 6 periods Integers 6 periods Coordinates 4 periods Fractions and Percentages 12 periods Money 5 periods Ratio 6 Periods BLOCK 3 (39 PERIODS) (4 topics) December - February 15 periods Algebra 15 periods Statistics 12 periods Special Numbers 6 periods Patterns 6 periods BLOCK 4 (32 PERIODS) (5 topics) February - May 6 periods Length and Area 10 periods Circle 8 periods Volume and Nets 8 periods Symmetry 6 periods Volume and Nets 8 periods Symmetry 6 periods	Greenfaulds High School Version6 August 2017	Level 3 Mathematics Programme of Study	Page 2
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Symmetry 6 periods	Volume and Nets		•
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Benchmarks in red are revision of level 2 BLOCK 1

Topic 1

Numeracy

Time	Benchmarks	CfE	Resources	Activities
12 Periods	 Rounding to nearest 10,100,1000 Rounding to 1, 2, 3 decimal places Rounding to 1, 2, 3 significant figures Estimate answers , problem solving using rounding Multiply by multiples of 10 Divide by multiples of 10 Multiply by a 2 digit numbers BOOKLET Add, Subtract, Multiply and Divide decimals Order of Operations (BODMAS) Mental calculations 	3.01a 3.03a 3.03b 3.09a 4.03b	TJ 3(a) Chapter 1 Rounding Chapter 2 Whole Numbers	MW- Number -Topic 12 Target 2, 4-12 (nearest 10,100,1000) Target 3 (1,2,3 &4 decimal places) Target 4, 1-3 (identify sig. figs) Target 4, 4-12 (round to 1, 2, 3 sig fig) MW -Number - Topic 4, Target 4 (x/÷ by 10, 100, 100) Topic 1, Target 3, 8-9 (long multiplication) Topic 5, All Targets (+/-/ x/÷ decimals) Topic 8, Target 1, 1-2 (BODMAS) BODMAS Colouring Problem BODMAS Activity target Worksheet

Topic 2 Anales

Time	Benchmarks	CfE	Resources	Activities
9 Periods	 Level 2 revision-Types of Angle, Naming Angles Complementary, Supplementary Angles Calculating Missing Angles, Angles in ∆ add to 180° Corresponding Angles, Alternate Angles, Missing Angles with parallel lines 	2.17b 3.17a	TJ 3(a) Chapter 3 Angles TJ 3(b) Chapter 6 Angles	MW- Geometry and Measures - Topic 8 Target 1, 1-6 Target 2, 1-3 Target 2, 1-7 and Target 3, 7-9 Target 3, 1-6 Target 4, 3-4 Target 4, 1-2

BLOCK 1 ASSESSMENT (Non Calculator ONLY)

*If time permits Extension Chapter 9 TJ 3(b) on Scale Drawing and Bearings.

BLOCK 2

Topic 3 Integers

Time	Benchmarks	CfE	Resources	Activities
6 Periods	 Negative numbers in context-Money, temp, time Adding / subtracting +ve integers, Adding -ve integers Subtracting -ve integers 	3.04a 3.03b 2.18a 4.18a	TJ 3(a) Chapter 4 Integers	MW - Number - Topic 6 Targets 1,2&3 Target 4, 1-3 Target 4, 4-5 Target 4, 6-8
	 Multiplying Integers Ext: Dividing Integers 	4.18b		Target 5, 5&7 Target 5, 6&8

Topic 4 Coordinates

Time	Benchmarks	CfE	Resources	Activities
4 Periods	 Plot and describe Coordinates in first quadrant Reading and plotting Coordinates in four quadrants Reflecting in x and y -axes 	3.18a	TJ 3(a) Chapter 5 Coordinates	MW - Algebra and Problem Solving Topic 17, Target 1, 1-2 MW - Geometry and Measures Topic 20, Target 1, 1-2

Topic 5 Fractions and Percentages

In an attempt to get pupils confident with working out percentages we will ask them to calculate their HW marks as a percentage from this chapter onwards and will check their answers, this requires rounding to nearest whole also.

Time	Benchmarks	CfE	Resources	Activities
12 Periods	 Equivalent fractions Simplifying Fractions, BOOKLET Fractions of a quantity Changing top-heavy to mixed fractions and vice versa Adding fractions with same denominator Adding fractions with different denominators 	3.03a 3.03b 3.10a 3.07b 3.07c 3.08a 4.07a	TJ 3(a) Chapter 9 Fractions L3 BOOKLET -Fractions of a quantity	MW - Number - Topic 17 Target 2 Target 3 Target 5 Target 4 MW - Number - Topic 18 Targets 3&4 Target 5 (mult/div fractions)
	 Ext: multiplying fractions, 4.8; dividing fractions Finding common percentages Calculating Percentages with a calculator Linking Fractions <> Decimal <> % 	4.07b	TJ 3(b) Chapter 8 Fractions (x /÷) TJ 3(a) Chapter 6 %ages, Fractions and Decimals	www.math-drills.com Converting between fractions, decimals and percentage worksheet Topic 19 – Target 3 Topic 19 – Target 4 Topic 20 – Target 1, 7-8

Topic 6 Money					
Time	Benchmarks	CfE	Resources	Activities	
5 Periods	 Foreign Exchange Compares costs-Best Buys, Best Deal Demonstrates understanding of the benefits and risks of using bank card 	2.09a 2.09b 3.09a 3.09b	TJ 3(b) ONLY Chapter 2 Money	Best Buy challenge Questions	

Topic 7 Ratio

Time	Benchmarks	CfE	Resources	Activities
				MW - Number - Topic 21
	 Expresses quantities as a ratio 	3.08a	TJ 3(a)	Targets 2&3
6	 Simplifying Ratios 	4.08a	Chapter 11 Ratio	Target 1
Periods	Ratio Calculations			Target 4, 3-4
			ТЈ 3(Ь)	
	 Proportional division 		Chapter 10 Proportion	Target 3
			(Ex1, 2, 3 ONLY)	

BLOCK 2 ASSESSMENT

BLOCK 3

Topic 8 Algebra

Ensure that you teach pupils to distinguish between times(x) and variable (x). Solving equations should be taught using the balance method and, when class are ready, moving onto doing the opposite or undoing the equation

Time	Benchmarks	CfE	Resources	Activities
15 Periods	 Chapter 7 Simplifying expressions Breaking brackets Breaking brackets and tidying up Solving simple equations Solving equations with brackets Substitution, Evaluating formulae 	3.14a 3.15a 3.15b 4.15a 4.15b 4.14a 4.15a	TJ 3(a) Chapter 7 Algebra	MW - Algebra and Problem Solving Topic 3 Topic 4 Topic 4 Topic 6 Topic 8, Target 1, 3-5 and Targets 2&3 Topic 9, Targets 2-4
	 Chapter 5 Solving equations with x on both sides Ex.2 Ext: Solving equations with fractions Solving inequalities 		TJ 3(b) Chapter 5 Algebra	Topic 16, Target 1, 1-2 Topic 16, Target 3, 1-4 Topic 25, Target 3, 1-4 www.math-drills.com

Topic 9 Statistics

Time	Benchmarks	CfE	Resources	Activities
12 Periods	 Chapter 12 Bar Graphs and Line Graphs Interpreting and Drawing Pie Charts Drawing Pie Charts with a protractor Mean and Range Median and Mode Stem and Leaf Conducting a survey 	3.20a 3.20b 3.21a 4.20a 4.20b 4.21a	TJ 3(b) Chapter 12 Statistics	MW - Statistics and Probablity Topic 5 and Topic 6, Target 1, 1-2 Topic 8 Topic 3, Target 3(mean), Target 4(range) Topic 3, Target 3(median), Target 1 (mode) Topic 9
	 Chapter 13 Probability as a Fraction Ex 3 ONLY Ex: Independent and Dependant Events 		TJ 3(b) Chapter 13 Probability	Topic 10, Target 1 and Target 2, 1 & 9-11

Topic 10 Special Numbers

Time	Benchmarks	CfE	Resources	Activities
				MW - Number
	Chapter 1	3.03a	ТЈ 3(Ь)	
6	 Squares, Cubes and Powers 	3.05a	Chapter 1 Powers and	Topic 10, Target 1, 1-5 and Targets 3&5
Periods	• Roots	3.05b	Roots	Topic 10, Targets 2&4
		3.06a		
	Chapter 3		ТЈ 3(Ь)	
	 Multiples, I.c.m 		Chapter 3 Multiples and	Topic 9
	 Factors and h.c.f. 		Factors	Topic 7
	Prime Numbers			Topic 8, Target 1
	• Ext: Prime Decomposition			Topic 8, Target 2&3

Topic 11 Patterns

Time	Benchmarks	CfE	Resources	Activities
				MW -Algebra & Problem Solving -
	• Sequences	3 .13a	ТЈ 3(Ь)	Topic 14
6	 Simple linear patterns, y= mx 		Chapter 4 Patterns and	
Periods	 More complicated patterns, y=mx+c 		Relationships	
	• Ext: Linear Graphs			

BLOCK 3 ASSESSMENT

BLOCK 4

Topic 12 Length and Area

Time	Benchmarks	CfE	Resources	Activities
10 Periods	 Chapter 8 Perimeter & Area of rectangle, Square and Triangle Area of:- Rhombus Kite Parallelogram Trapezium Area of composite shapes 	2.11a 2.11b 2.11c 2.16a 3.11a 3.11b	TJ 3(a) Chapter 8 Perimeter/Area	MW - Geometry and Measures Topic 10, Target 1 (Perimeter) Topic 11, Target 1, Tgt 2, 1-2, Tgt3, 1-4 (Area) Topic 11, Target 5, 5-6 Topic 11, Target 5, 1-2 Topic 11, Target 5, 2-4 Topic 11, Target 5, 7-8 Topic 11, Target 2, 3-7 and Target 3, 5-6
	 BOOKLET:- Units of Length, Perimeter, Weight Calculations using kg, g Capacity 		L3 BOOKLET Converting Units	Topic 2, Targets 1-3 Topic 12, Target 1, 1-5

Topic 13 Circles

Time	Benchmarks	CfE	Resources	Activities
	Chapter 10			MW - Geometry and Measures
	• Parts of a Circle	4.16b	TJ 3(a)	
8	Circumference of Circle		Chapter 10 Circle 1	Topic 25, Target 1 and Target 2, 1-2
Periods	 Finding the Diameter 			
	Chapter 14			
	Area of Circle		TJ 3(a)	Topic 25, Target 1, 3-4
	 Problems involving part circles 		Chapter 14 Circle 2	Topic 25, Target 2, 3-4

Topic 14 3D Shapes

Time	Benchmarks	CfE	Resources	Activities
8 Periods	 Revision : Dimensions, faces, edges, vertices Volume of a cuboid and composite shapes Volumes of Triangular Prism and composite shapes Net and Surface Area of a Cuboid Net and Surface Area of a ∆ prism 	2.16b 3.16a	TJ 3(a) Chapter 12 Volume <mark>L3 BOOKLET</mark> 3D Shapes	MW - Geometry and Measures Topic 7, Target 2 Topic 12, Targets 3-5

Topic 15 Symmetry

Time	Benchmarks	CfE	Resources	Activities
				MW - Geometry and Measures
	 Identifies all lines of symmetry 	2.19a	ТЈ 3(Ь)	Topic 3, Targets 4-5
6	Rotational symmetry	3.19a	Chapter 11 Symmetry	Topic 4, Targets 1-2
Periods	Create half turn symmetry			Topic 4, Target 3
	 Slide symmetry 			Topic 19, Target 3