

TeeJay Publishers

Level F Programme of Work Second Edition (May 2004)

- Main Resource** - Class Teacher
Level F Textbook 5 - 14 mathematics (TeeJay Publishers)
- Methodology** - Approximately one half of each lesson should be teacher exposition, demonstration, oral practice (i.e. question and answer, recall and more importantly questions stimulating thinking and response by pupils). Demonstrations on board by pupils.
- As a rule of thumb, no more than one half of any lesson should be class practice.
- Problem Solving** - Generally Extension Booklet and Extension Puzzles should be attempted by pupils as on-going problem-solving scheme, where possible linked to present topic, previous topic studied or independent of any specific topic

Homework

- Homework is provided through Teejay Publishing booklet "Level F Homework". Most exercises in the textbook have a linked homework exercise. These should be used for consolidation of class work or providing those pupils who have reason to be absent from class lessons a means of covering missed work.
- The booklets provide an excellent resource for revision at home prior to class tests and a means for parents to keep track of class work.
- Most homework exercises should be completed by all pupils during the course of the session.

Checking H'Work

Teachers need not mark homework, but **should** ensure that :-

- (a) a quick check be made that h'work is recorded in diary
- (b) a quick check to establish it has been attempted
- (c) homework is corrected by pupil or neighbour each day
- (d) difficulties arising are addressed promptly by teacher
- (e) regular checks are made of setting/neatness/accuracy.

Time Allocation

- The time allocation for each topic should be adhered to as closely as possible (some flexibility built in)
- Assessments for ALL classes are required to be carried out within the 1 or 2 periods of the stated date in order that comparisons, setting, reporting and movement between classes of pupils can be carried out efficiently throughout the session.
- Dates estimated will vary slightly from session to session, precise dates being confirmed at departmental meetings.

Assessments

- (i) Markers should stick strictly to marking schemes (if adjustment is required, marker should consult member of dept. responsible for S1/2).
- (ii) For consistency of marking, generally one member of staff should be allocated to each assessment (Where two are allocated, each should mark designated questions).
- (iii) Marks should be recorded as an overall percentage on the front of the assessment jotter. These marks are then forwarded to the member of staff responsible for updating computer records to be recorded after each assessment.

Mental Calculations

- Mental Calculations are now part of the 5-14 national Assessments and it is therefore necessary to carry out mental calculation practice on a regular basis with all S1/2 classes. In order to satisfy this requirement teachers should spend 5 mins at the a start or end of almost every lesson on mental calculations or alternately a 20 mins block each week. (Practice sheets are provided to support each mental test)
- 2 Mental Tests should be officially used during each "block" of work as specified.
- Parts A and B of any National Test have 6 mental questions in each.
- All mental test practices and National Tests should be carried out strictly as follows :-
 - (a) No written work should be allowed.
 - (b) Each question should be read **twice only** with a slight gap.
 - (c) Pupils given only 10 seconds to answer each question.
 - (d) In class mental assessments, answers should be entered into a mental test jotter which the teacher or neighbour should mark during the period. Teacher should then highlight problems and attempt to clear them up.
 - (e) Practice tests are of a cumulative nature as pupils progress throughout the course. They should be at the level pupils are presently working at (with the exception of the 2 introductory tests set at the previous level).

National Tests

- Pupils who embark on our Level F course in August should hope to complete it by Spring of the following year. Pupils will then be prepared to sit a national Test, using a variety of revision materials.
- Pupils will only be presented for national Test when the teacher considers that they are ready and well prepared.
- National Testing at level F to be carried out prior to any change of timetable (mid - May).

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext ⁿ /Assessment	End Date
BLOCK 1 Revision of Level E	4 periods	-1	1-8		Use for first 4 periods in August (Ch -1 in booklet form - finish in 4 periods) SET CLASSES according to level E Diag scores	Yes -	Diagnostic Assessment Level E Some Level D pupils may be included in this class. the diagnostic assessment being used to determine whether level F is appropriate or should follow Level E	28th Aug
BLOCK 2 Integers	1 1 1 1	2	9-11 12-13 14-15 15-16 17-18	1 2 3 4 5	Revision of Integers Q 1, 3 orally Practical examples using Integers Q2 - orally Q 3, 5, 7, 9 Add/Subtract Integers - do ALL Subtracting Negatives do ALL (especially Q6) Mult/Divide Integers - do ALL DO NOT use Topic in a nutshell at this stage	Y Y Y Y Y -	other questions if time leave for revision at end of Ch 3	8th Sept
Angle Properties	1 1	3	20 21-22 23-25	Revn 1 2	Ensure pupils are reminded and are familiar with all the properties on page 20 Revision of angle properties - do ALL Polygons - pupils to make an ordered list of polygon names and number of sides (3-10 sides possibly some sketches)	 Y Y		

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext ⁿ /Assessment	End Date
BLOCK 2 (...cont'd)	1		26	3	Triangle, Square, Pentagon, Hexagon, Octagon, Nonagon, Decagon - POLY - many, GON - angle Do Q 2 on board - pupils do Q 3, 4, 5(b) Clock Face - Do ALL Revision of Integers and Angles. Use TOPIC in a NUTSHELLS - 2 periods MAX	Y Y	Page 25, Q 6 - 9 ASSESSMENT No. 1 - 1 period only on Chapters 2 and 3	12th Sep
MENTAL TESTS	1 period				Do 2 tests (1 and 2) from LEVEL E		Record your marks	
BLOCK 3								
Multiples / Factors	1 1 1	5	28-29 30-32 32-34 35	1 2 3 4	Understanding multiples Q1, 2 LCM - Q6 - 9 Factors - demonstrate own method for finding all factors - Q 5 - 8, HCF - Q 12, 14 Prime Numbers - discuss and get pupils to list first 10-15 primes - do Q 5, 8 Prime Decomposition (factors) Q 3 DO NOT use Topic in a nutshell at this stage	Y Y Y -	Pge 29, Q 10, 11, 12 Pge 32, Q 15, 16 Level F Mental tests 1-2 should be completed during this section and recorded in marks book rest if time leave for revision at end of Ch 11	19th Sept

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext ⁿ /Assessment	End Date
Scientific Notation	1/2	7	37	1	Optional	Y		25th Sept
			38-39	2	Write in scientific notation Q 2, 3, 4	Y	Pge 39 Q 5	
	40		3	Write in normal form Q 2, 4, 5	Y	Pge 41 Q 6, 7		
	43-44		4	Scientific Notation (small no.'s) Q 1, 2, 3, 6, 7	Y	Pge 44 Q 4, 8, 9		
	1				DO NOT use Topic in a nutshell at this stage	-	leave for revision at end of Ch 11	
Algebra	1	11	46-47	1	Simplifying Algebraic Expressions Q 1 - 4	Y	Pge 47 Q 5	9th Oct
	1		48-49	2	Multiplying out brackets Q 1 a to l 2, (1st 2 columns), Q 3 a to l, 4, 5 a to l	Y		
	2/3		50-51	3	Simplify e.g. $3(x+4) - 5$ Q 1 to 4 (do left hand and middle columns)	Y	Pge 51 Q 5	
	1		51-53	4	Evaluate expressions Q 1, 2, 3, 5, 6, 7	Y	Pge 53 Q 9	
			54	5	Common Factors Q 2, 3, 4	Y		
					Revision of Multiples / Factors, Scientific Notation and Algebra Use TOPIC in a NUTSHELLS - 2 periods MAX		ASSESSMENT No. 2 - 1 period only on Chapters 5, 7 and 11.	

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext ⁿ /Assessment	End Date
BLOCK 4								
Decimals	1	13	56-57	1	Revision level E Q 1 - 5, 10 (orally) + Q 8, 9, 12	Y	Q 13 - 17 if time (optional)	
	1		58-59	2	Add & Subtract decimals Q 1, 2, 4, 6, 9, 10	Y	(rest if time)	
	1/2		60	3	Simple multiplication of decimals Q 1 (1st 2 cols) Q 2, (1st 2 cols) Q 3 a, b, 4 a, c, 5 a, b, e, f	Y	Level F Mental tests 3-4 should be completed during this section and recorded in marks book	
			61	4	Simple division of decimals Q 1 (1st 2 cols) Q 2 (1st 2 cols), Q 3, 5, 7	Y	(rest of time)	
	1/2		62	5	Multiply decimal by decimal Q 1-3 (1st 2 cols) Q 4, 6	Y	(rest if time)	
			63	6	Divide decimal by a single digit decimal Q 1 - 5 (1st 2 cols) Q 7, 9	Y	(rest if time)	
	1/2		64	7	Rounding to 1 decimal place Q 1 - 5 (calcr ✓)	Y	Pge 64 Q 6	
			65-66	8	Significant Figs Q 1 (discuss), 2 (orally), 3 - 5, 6	Y	Pge 66 Q 7 - 12	
			67	9	Profit & loss Q 1 - 3	Y		
	3		68		Hire Purchase Q 4 - 7			
			69		Salaries & Overtime Q 8 - 14			
			70		Foreign Exchange Q 15 - 20			
					DO NOT use Topic in a nutshell at this stage	-	leave for revision at end of Ch 19	6th Nov


Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext ⁿ /Assessment	End Date
Statistics	1	17	73-75	1	Mean, median, mode, range Q 1 - 4 (1st col only) Q 6, 7, a, c, e, 9, 12, 13, 14	Y	Pge 75 Q 15 - 18 (rest if time) Pge 82 Q 5	
	1		76-77	2	Class Intervals Q 2, 3, 6, a, c, d	Y		
	2		78-79	3	Mean from Frequency table Q 2, 3 a, 5, 6	Y		
			80	4	Cumulative Frequency Table - Do ALL	Y		
	2		81-82	5	Pie Charts Q 1, 3, 4	Y		
			83-84	6	Stem-and-leaf diagrams Q 1 - 5 (orally), Q 6	Y		
	3		85-86	7	Scattergraphs Q 1 - 4 (orally) Q 5, 6	Y		
			88	8	Probability (orally)	Y		
			87-88	9	Calculating Probability - Try ALL	Y		
			89	10	Surveys Q 1 - 3 (orally) - collect data as class lesson - allow pupils to complete question in own time - (Q 5 - optional)			
					DO NOT use Topic in a nutshell at this stage	-	leave for revision at end of Ch 19	24th Nov
Percentages	1	19	92-93	1	Revision of Level E Percentages Q 1 - do on Board Q 3, 4, 5 a, b, c, 6 a, b, c, 7 a-h, 8 9 a-d	Y	Pge 93 Q 10-12 - further practice Pge 94-95 (EVEN) - for further practice	
	1		94-96	2	Percentage increase/decrease. Discuss appreciation/Depreciation Method 1 - add or subtract Method 2 - multiplication factor ($\times 1.05$, $\times 0.95$) Use either method - if method 2, show method 1 as an explanation - Do ODD questions	Y		
	1		97	3	A as a percentage of B - Do ODD questions	Y		
	1		97	4	Finding initial value - Do ODD questions	Y		

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext ⁿ /Assessment	End Date
					Revision of Decimals / Stats / Percentages, Use TOPIC in a NUTSHELLS - 1 periods MAX		ASSESSMENT No. 3 - 1 period only on Chapters 13, 17 and 19.	4th Dec
BLOCK 5 AREA	1/2 1 1 1 1	23	101-103 104-106 108-109 110-111 112-113 114-115	1 2 3 4 5 6	Revision of area of square, rectangle, right angled triangle Q 1 a, b, 2 a, 3 a, 4 a, c, k, 5 Area of any Triangle Q 1 a, b, e, g, h, 3, 5, 7, 8 Area of Rhombus and kite Q 3 a, b, c, 4 a, b, c, 6, 9, 12, 13 a, b Area of a Parallelogram Q 2 a, d, e, h, 4, 9, 10 Area of Trapezium Q 1 a, b, 2 a, b, c, 3, 5, 7, 8 Area of Composites shapes - ODD questions DO NOT use Topic in a nutshell at this stage	Y Y Y Y Y Y -	Level F Mental tests 5-6 should be completed during this section and recorded in marks book Pge 114-115 EVEN Q's - extra leave for revision at end of Ch 31	18th Dec

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext ⁿ /Assessment	End Date
Circle Work	2	29	118-120	1	Circumference of a circle Q 2, 3, 5, 7, 8, 9, 11	Y	Pge 120 Q 12-13 (further pract)	12th Jan
			121-122	2	Finding Diameter of Circle Q 2, 3, 5, 7 a, c	Y	Pge 122 Q 8, 9 (further pract)	
	3	29	123-124	3	Area of Circle Q 2 - 7	Y	Pge 126 Q 9 - 12 (further pract) - leave for revision at end of Ch 31	
			125-126	4	Mixed Problems Q 1, 3, 4, 5 a, c, d, 6, 7, 8 DO NOT use Topic in a nutshell at this stage	Y		
Fractions	2/3	31	129-130	1	Mixed Number \leftrightarrow Improper Fraction Q 2, 5, (6, 7 - orally), 9 - 13	Y	Pge 135 Q 13 (further pract) Pge 137 Q 9, 10 (further pract) Pge 139 Q 9, 10 (further pract) ASSESSMENT No. 4 - 1 period only on Chapters 23, 29 and 31.	23rd Jan
			131-132	2	Add & Subtract Fractions Q 1 - 3	Y		
			133-135	3	Harder Add & Subtract Fractions Q 1, 2, 3, 4, 6, 7, 10, 11, 12	Y		
	136-137	4	Multiplication of fractions Q 2, 3, 6, 7, 8	Y				
	138-139	5	Dividing Fractions Q 2, 3, 6, 7, 8 Revision of Areas / Circles / Fractions, Use TOPIC in a NUTSHELLS - 1 periods MAX	Y				

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext ⁿ /Assessment	End Date	
BLOCK 6 Drawing Skills	2	37	141-143	1	Enlargement & Reduction Q 1 g, h, i, 2 a, c, e, g, 3 (orally), 4	Y	Level F Mental tests 7-8 should be completed during this section and recorded in marks book	4th Feb	
			144-147	2	Drawing Triangles 2 sides & included angle - Q 2 a, b, 3 2 angles and a side Q 5 a, b, 6 3 sides Q 8	Y			
	3/4	37	148-149	3	Drawing Quadrilaterals and Regular Polygons Go over construction P 148 Do ALL	Y			
			150-151	4	Scale (Ratio) Maps & distances Q 1 - 6	Y			Pge 151 Q 7, 8 (further pract)
			152-154	5	Bearings (Problems) Q 1 - 5 DO NOT use Topic in a nutshell at this stage	Y			Pge 154 Q 6, 7 (further pract) - leave for revision at end of Ch 43
Ratio & Proportion	1/2	41	157	1	Simple ratios - Do ORALLY	Y	Pge 158-159 Q 4, 5, 11 (fur prac)	4th Feb	
			158-159	2	Simplifying Ratios Whole No. Ratios Q 2, 3, 6 Fractional ratios Q 7, 8, 9 Writing without units Q 10	Y			
	1/2	41	160-161	3	Ratio Calculations Do ALL	Y			
			161-162	4	Proportional Division Q 2, 3, 4, 7	Y			
	2	41	163	5	Proportion Do orally	Y			
			164-165	6	Direct Proportion (EVEN) numbers	Y			
			166-167	7	Linear Graph of Direct Proportion (EVEN) no.'s	Y			

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext ⁿ /Assessment	End Date
.. Proportion (cont'd)	1	41	168-169	8	Inverse Proportion Q 1, 2, 3, 5, 7	Y		
	1		169	9	Mixed Exercise - Discuss when direct / Inverse occurs and let pupils do ALL questions	Y		
					DO NOT use Topic in a nutshell at this stage	-	leave for revision at end of Ch 43	23rd Feb
Equations & Inequalities	3	43	171-172	1	Equations Revision Q 1, 2, 3, (left hand column)	Y		
			173	2	Harder Equations Q 2, 3	Y	Pge 173 Q 4, 5	
			174	3	Equations with Brackets Q 1, 2 3 (1st 2 cols)	Y		
	2	43	175	4	Equations with Fractions Q 2	Y		
			176	5	Harder Equations with Fractions Q 2	Y		
	1	43	177	6	Inequalities Do ALL Revision of Drawing / Ratios / Equations, Use TOPIC in a NUTSHELLS - 1 periods MAX	Y		
							ASSESSMENT No. 5 - 1 period only on Chapters 37, 41 and 43.	9th Mar

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext ⁿ /Assessment	End Date	
BLOCK 7 Time/Dist/Speed	1	47	179	1	Revision of Time - this may be done orally, possibly with some class practice (e.g. Q 1, 2, 3 - left hand column)	Y	Level F Mental tests 7-8 should be completed during this section and recorded in marks book		
			180	2	Time - Distance - Speed Calculations Use the TDS Triangle as aid Distance - Q 1 a, b, c, Q 2 a, b, c, Q 3 a, b, c			Y	
			181	3	Speed - Q 1 a, b, c, Q 2 a, b, c, Q 3 a, b, c	Y			
			182	4	Time - Q 1 a, b, c, Q 2, 3, 4 a, b, c, d	Y			
			183-184	5	Time - Distance - Speed Problems (ODD No.'s)	Y			
			185-186	6	Hours & Minutes → Decimal Times Q 1, 2, 3, 5, 6, 7, 9, 11 a, e, g	Y			
			187-188	7	Decimal Times → Hours & Minutes Q 1, 3, 4, 5, 6, 7, 8	Y		Pge 188 Q 9 - 11	
			189-191	8	Time - Distance graphs Q 1 - 4 DO NOT use Topic in a nutshell at this stage	Y		Pge 191 Q 5, 6 - leave for revision at end of Ch 59	19th Mar
Linear Patterns	3	53	193-196	1	Simple Linear Patterns ($y = ax$) Q 2 - 8 Discuss graph on page 196 - Q 10	Y	Pge 196 Q 11		
			197-200	2	Linear Patterns of the form ($y = ax + b$) Do ALL DO NOT use Topic in a nutshell at this stage	Y	- leave for revision at end of Ch 59	26th Mar	

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext ⁿ /Assessment	End Date
Pythagoras	1	59	202-203	1/2	Discuss Squares & Square Roots Ex 1 Q 1, 2 - Ex 2 Q 1 - 4 - COMPARE	Y		
			204	3	Pythagoras Theorem - you may introduce this topic in your own way, but must be justified Ex 3 - (optional)	N		
	3	59	205-208	4	Calculating Hypotenuse - Do ALL	Y		
			208-210	5	Problems using Pythagoras - ODD Numbers	Y		
			211-212	6	Calculating Shorter side Q 2 - 9	Y		
	3	59	213-215	7	Mixed Examples - Do ALL	Y		
						Revision of T/D/S / Patterns / Pythagoras, Use TOPIC in a NUTSHELLS - 1 periods MAX		
					Preparation for National Testing should now take place - Revision materials will be provided			
							ASSESSMENT No. 6 - 1 period only on Chapters 47, 53 and 59.	30th Apr
							This assessment may be suspended to allow time for National Testing at Level F	

FINISH LEVEL F COURSE - End of April / Start of May

National Testing

Prepare Pupils for National Test
Level F, using Revision Materials and
possibly Practice Test
(4 - 6 periods)

TEST - MID - MAY