

# TeeJay Publishers

## Level D Programme of Work

(Sept 2006)

### Main Resource

- Class Teacher
- Level D Textbook 5 - 14 mathematics (TeeJay Publishers)
- Extension Booklet (TeeJay)
- Extension Puzzles (TeeJay)

### 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 D 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 D 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 D to be carried out prior to any change of timetable (mid - May).

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext <sup>n</sup> /Assessment	End Date
Revision of Level C	4 periods	0	1-7		Use for first 4 periods in August (Ch 0 in booklet form - finish in 4 periods)  Re-set CLASSES according to level C Diag scores	Yes -	Diagnostic Assessment Level C for most (+ level B if struggling)	Set by 1st week Sept
<b>BLOCK 1</b> Whole Numbers	8/10 periods  altogether	1	8-10 11-13 14-16  17-18 18-19 20 21 22 23 24-25	1 2/3 4/5  6 7 8 9 10 11	Place Values, try ALL questions  Add and Subtract Ex 2, qu 1,2, 4 Ex 3 Qu 1,2  Mult/Div by 10, 100 (Ex 4 Qu 1-3 + Ex 4Qu 1-3 done orally Pupils to attempt Ex 4 Q 4-6, Ex 5 Q 4-6  Multiplication by a single digit Q 1 a-f, Q 3  Division by a single digit q 2(a, b, e, f, i, j, m, n) + Q 3, 4  Multiplication 30, 500, etc ALL questions  Round to nearest 10, 100 Q 1, 2 orally + Q 3-5  Using Rounding to estimate answers - Q 1-3  Using a calculator - ALL questions  Topic in a Nutshell - 1 period revision only!	Yes Yes Yes  Yes Yes Yes Yes Yes Yes	Textbook Page 13 Puzzles 1 & 2  Textbook Page 16 Puzzles 1,2,3  Textbook Page 22 Question 4  ASSESSMENT No. 1 - 1 per only	
MENTAL TESTS	1 period				Do 2 tests ( 1 and 2) from LEVEL C - Record			8th Oct

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext <sup>n</sup> /Assessment	End Date
BLOCK 2 Symmetry	1/2	2	26-28	1	Line Symmetry - Define line symm - Do ALL	Y	Textbook Page 31 Q 8, 10	
	1		29-31	2	Creating Symmetrical shapes Q 2 - 5	Y		
Decimals	2	3	33-35	1	What is a decimal ? Review of decimals 1 and 2 decimal places - All questions	Y	Level D mental Tests 1 & 2 should be done during BLOCK 2 and recorded in marks books	
	1		36-38	2	Reading Decimal Scales 1 dec place - Q1 orally then Q 2, 3 2 dec places - Q 4 orally then Q 5, 6	Y		
	1		39-40	3	Rounding to nearest whole number Q 1 and 2 orally then Q 3 to 5	Y		
	1/2		41-43	4	Add & Subtract decimals to 2 dec places Q 1 (a, e, i, m, q) Q 5 (a, c, e, g, i, k) Q 9-15			
Time	1	4	45-46	1	12 and 24 hour times Change to 24 hour time - Q 1 (orally) + Q 2 Change to 12 hour time - Q 3 (orally) + Q 4 - 6	Y	Textbook page 50 Q 8-13	
	1		47-48	2	Time durations - use method given at top of page 47 - Q 1, 2, 5, 9	Y		
	1		49	3	Minutes and Seconds Q 1-4 orally + Q 5-7	Y		
					Revision of Chapters 2, 3, 4 Use Topic in a Nutshells - 2 periods maximum		ASSESSMENT No. 2 - 1 per only	Finish by 12th Nov

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext <sup>n</sup> /Assessment	End Date
BLOCK 3 Statistics	1/2	5	52-55	1	Organising and Interpreting information Frequency Tables - Q 2, 4 Pictographs - Q 5, 6 Bar Graphs - Q 7 - 9 Drawing Bar Graphs - Q 10 - 12	Y	Level D mental Tests 3 & 4 should be done during BLOCK 3 and recorded in marks books  leave for revision at end of Ch 7	
	1		56-58	2	LINE GRAPHS - Interpret Line Graphs - Q 1, 2 orally + 3-5 Drawing Line Graphs - Q 6 - 8	Y		
	1		59-60	3	PIE CHARTS - Q 1, 2 orally + Q 3 - 8	Y		
	1		61-62	4	Interpreting Tables - Q 2, 4, 6	Y		
						-		
Decimals 2	1	6	66	1	Multiply Decimals by 10, 100 Q 1 - 3 orally then Q 4 - 7	Y		
	1		67	2	Division of Decimals by 10, 100 Q 1 - 3 orally then Q 4 - 6	Y		
	1		68-69	3	Multiplication of decimals by single digit Q 1 (orally) - revision of tables Q 2 (a - h) + Q 4	Y		
	1		70-71	4	Division of Decimals by single digit Q 1 (orally) - revision of tables Q 2 (a - h) + Q 4	Y		

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext <sup>n</sup> /Assessment	End Date
(Decimals - cont'd)	1		72-73	5	Mixed problems calculators can be used but stress to pupils they must show working Q 2, 4, 6, 8, 10, 12, 14  DO NOT use Topic in a nutshell at this stage	Y -	Textbook page 73 Q 15, 16  leave for revision at end of Ch 7	
Algebra	1  1/2  1/2	7	75-77  78-79  80-84	1  2  3	Revision work - Basic Equations Q 1-3 (orally) then 6 - 10 Equations (Use COVER-UP method) Q 1, 2 + 3 - 10 (make equn and solve) Function Machines Q 1, 2 (Orally) then Q 3, 5, 7, 9, 11, 13  Revision of Chapters 5, 6, 7 Use Topic in a Nutshells - 2 periods maximum	Y  Y  Y	ASSESSMENT No. 3 - 1 per only	Finish by 10th Dec

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext <sup>n</sup> /Assessment	End Date
<b>BLOCK 4</b>								
Money	2	9	106	1	What is money worth ? - could do orally ?	Y		
			107-109	2	Add/Subtract/Multiply/Divide using money Q 2 (a-d), Q 3(a-d), Q 4 (a - d)	Y	Additional qu's on page 109	
	2		110-113	3	Mixed Problems Q 2, 4, 6, 8, 10, 12, 14, 16 <b>DO NOT use Topic in a nutshell at this stage</b>	Y -	Textbook page 113 Q 17-19 <b>leave for revision at end of Ch 8</b>	
Angles	1	8	87-88	1	Types of Angles Ex 1 can be done orally	Y	Level D mental Tests 5 & 6 should be done during BLOCK 4 and recorded in marks books	
			88-89	2	Naming Angles Q 1 (orally) + Q 2-4	Y		
	2		90-91	3	Measuring Angles Q 1 (orally) + Q 3	Y		
			92-93	4	Drawing Angles Q 1 - do as boardwork + Q 2 Drawing Triangles Q 4 - Do as Boardwork + Q 5			
	1		93-94	5	Calculating Missing Angles - Go over right, straight angles and full turns Q 1 (orally) and Q 2	Y		
			95	6	Vertically opposite angles Q 1, 4 orally + Q 5, 6	Y		
	1		96-97	7	Corresponding angles / Alternate angles Q 1 - 3 (orally) + Q 4, 5 + Q 6 - 8 (orally) + Q 9, 10	Y		
	1		98-99	8	Compass Points - get tyhem to draw compass pts in jotter - mark in 8 directions & bearings Q 1, 2 (orally) + Q 3, 4	Y		
	1		100-102	9	3 Figure bearings - Q 1-3 (orally) + Q 4-8 <b>Revision of Chapters 8, 9</b> <b>Use Topic in a Nutshells - 2 periods maximum</b>	Y		<b>ASSESSMENT No. 4 - 1 per only</b>

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext <sup>n</sup> /Assessment	End Date
BLOCK 5 2-Dimensions	1	10	115-117	1	2 dimension work Most of Ex 1 - orally Define "DIAGONAL" - page 116 Pupils could copy down some of the polygons with short description - Pupils do Q 11	Y	Level D mental Tests 7 & 8 should be done during BLOCK 5 and recorded in marks books  leave for revision at end of Ch 13	
	1		118-119	2	Special Triangles - types of triangles Q 1-3 orally, Q 4 - Perimeters Q 5, 6	Y		
	1		120-121	3	Describing triangles Q 1, 2 (orally) + Q 3-5	Y		
	1		122-123	4	Tiling using 2-D shapes, Q 2, 4, 6, 8	Y		
	1		124-125	5	Circular shapes - Define parts of circles Show link between radius and diameter Q 1-8  DO NOT use Topic in a nutshell at this stage	Y -		
Fractions	1	11	128-129	1	Identifying fractions Q 1, 2 (orally) + Q 3,4	Y	leave for revision at end of Ch 13	
	1/2		130-131	2	Equivalent Fractions Q 1 (orally) Q 2-6 (multiply to find equivalent fractions) Q 7 - 9 (divide to find equivalent fractions)	Y		
	1		132-133	3	Fractions of a quantity Q 1, 2 orally + Q 3-5	Y		
	1/2		134	4	Harder Fractions - All questions  DO NOT use Topic in a nutshell at this stage	Y -		
Percentages	1/2	13	143-144	1	Percentages - Q 1-3 orally + Q 4-7	Y		
	1		145	2	Link fractions - decimals - percentages - All Q's	Y		
	1		146	3	Common %ages - pupils to memorise top page 146 All questions to be attempted	Y		

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext <sup>n</sup> /Assessment	End Date
					Revision of Chapters 10, 11, 13 Use Topic in a Nutshells - 2 periods maximum		ASSESSMENT No. 5 - 1 per only	Finish by 25th Feb
BLOCK 6								
Coordinates	1	12	136-137	1	Coordinates of a point Q 1, 2 orally + Q 3-5	Y	leave for revision at end of Ch 15	
	1		138-140	2	More about x-y axes Q 1, 2 (orally) + Q 3-5	Y		
	1		140-141	3	Coordinates for fun - 1 period for extra practice	Y		
					DO NOT use Topic in a nutshell at this stage	-		
Length & Area	2	14	148-150	1	Measuring & Drawing lengths Most of exercise can be done orally then Q 9, 10	Y	Level D mental Tests 9 & 10 should be done during BLOCK 6 and recorded in marks books	
			151-152	2	Units of length - Define mm, cm, m, km and show how to convert - Q 1 (orally) + Q 2-7	Y		
	1		153	3	Problems involving length Q 1, 3, 5, 7, 9	Y		
	1		154-155	4	Perimeter - Define perimeter and show how to work backwards from perimeter to find lengths Q 1, 3, 5, 7, 9	Y		
	2		156-157	5	Area by counting squares - Define cm <sup>2</sup> Exercise can be done orally	Y		
			158-159	6	Area of rectangle = L x B Q 2-5	Y		
	1/2		160-162	7	Area of R.A.T. - consider area of surrounding rectangle Q 6-8	Y		
					DO NOT use Topic in a nutshell at this stage	-	leave for revision at end of Ch 15	

Topic	Periods	Ch	Pgs	Exer	Comments	H/W	Ext <sup>n</sup> /Assessment	End Date
Patterns	1/2 2	15	164-166 167-170	1 2	Revn work - Basic Patterns Q 1-3 orally + Q 4-12 Sequences Q 1, 3, 5, 7, 9, 11  Revision of Chapters 12, 14, 15 Use Topic in a Nutshells - 2 periods maximum	Y	ASSESSMENT No. 6 - 1 per only	Finish by 1st Apr
BLOCK 7 3 Dimensions	1 1  1	16	172-174 175-176  177-178	1 2  3	Q 1, 2 (orally) + Q 3 - 6 Practical Work - Making skeletons Ex 2 can be used as a practical exercise You may wish to leave the practical work and concentrate in getting pupils to work out length of straw needed to make the skeletons. Nets of cuboids Q 2 - 5  DO NOT use Topic in a nutshell at this stage	Y  Y Y -	Optional Level D mental Tests 11 & 12 could be done during BLOCK 7  leave for revision at end of Ch 17	
Volumes	1 1 1	17	180-181 182-183 183 184	1 2 3 4	What is Volume - Q 1 - 5 (orally) + Q 6-8 Litres and millilitres - All questions Litres $\leftrightarrow$ Millilitres changing - All questions Counting cubes - All questions  Revision of Chapters 16, 17 Use Topic in a Nutshells - 2 periods maximum	Y Y Y	ASSESSMENT No. 7 - 1 per only	Finish by 6th May

FINISH LEVEL D COURSE by 2nd WEEK in MAY

### National Testing

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

**TEST towards END of MAY**