LOWER 4ths/YEAR 8 SYLLABUS ALL GROUPS

Girls in the lower 4ths are taught in 2 ability groups but in order that there can be easy transfer between groups, both groups will follow the same syllabus. More revision and consolidation may be needed in group 2 and harder parts of topics may not be completed.

Book 8A ST(P) is the main teaching book.

The basic work of the Junior school and that from book 7A is continually revised and consolidated. Many Number, Shape and Space, Measure and Handling Data topics are extended and new topics within these areas are introduced along with a greater emphasis on Algebra.
Again correct setting out of methods and the need to show all workings is stressed
The year begins with a new topic – probability.

Programs within the PPM software are used

Homework will usually be done in homework books. Note sheets (see below) appropriate for this year, must be given,- to be copied into notebooks, some as homework, some in own time – extra egs. can be given if staff wish.

Tests listed below must be done by all, at the same time, the completed scripts + test paper + % order list filed in labled folder in filing cabinet in B1.5. The results must be entered onto the appropriate spreadsheet.

The books cover all 5 ATs, it is therefore important to do some of the investigation questions with all pupils whilst the harder questions (in green boxes) should only be tackled by the more able pupils. Some investigations/puzzles are given as voluntary tasks.

Pupils are encouraged to use the summary sections on the green pages in the text book for revision purposes and to refer to their notebook.

NOTES

21(simple prob.)	6 (indices)	18 (calc / sig fig)	27 a (area)	27 b (compound area , perimeter)
29 (circles)	36 (volumes)	23 (fractions 2)	24 (easy %)	19 (equations)
16 (polygons)	25 (ratio)	31 (transformations)		

TESTS

55 (simple prob)	17 (indices etc.)	26 (areas)	27 (circles)	25 (volumes)
4 (fractions)	10 (simple %)	60 (equations)	(ratio)	41 (transformations)

SCHEME OF WORK – MATHEMATICS. **YEAR: L4ths sheet 2**

CONTENT	KEY CONCEPTS	PRIOR KNOWLEDGE	RESOURCES	ASSESSMENT	TIME
1 Probability DEFINITION SIMPLE POSSIBILITY SPACE	Idea of chance probability scale Experimental, theoretical P(A) formula Relative freq, P(not A) Practical 2 events	none	Book 7A chapt 13 Book 8A chapt 2 PPM **Notes 21** (probability)	**Test 55** (probability)	7 lessons + test
2. Numbers INDICES (STANDARD FORM) ROUNDING ESTIMATION	Rev of notation, meaning, rules for + and – -ve indices powers of 10- simple standard form large, small nos. calculator sig fig common sense practical use NB board uses 1 s.f.	Notation Meaning **Notes 2 (whole nos.)** **Notes 17 9rounding)** **Notes 5 (dec)**	Book 8A chapt 1 **Notes 6** (indices) **Notes 18** (calc, sigfigs)	**Test 17** (indices) **Repeat**	6/7 lessons + test
3. Scatter Graphs & Questionnaires	Practical situations Collecting data Correlation +ve and -ve Lines of best fit Questionnaires – idea of bias Simple, unambiguous questions	Data collection Graph scales	Book 8A chapt 8 PPM ***Omnigraph***	**1 question test** **page 22 qu 9, 10**	6 lessons

SCHEME OF WORK – MATHEMATICS. **YEAR: L4ths sheet 3**

CONTENT	KEY CONCEPTS	PRIOR KNOWLEDGE	RESOURCES	ASSESSMENT	TIME
4. **Areas** PARALLELOGRAMS TRIANGLES SQUARE ROOTS	Quick rev of area Sq cm to sq m etc. Formula for parallelogram Area of triangle Backward use of formula Compound shapes	Area of rectangle **Notes 8 (units)**	PPM Book 8A chapt 7 **Notes 27** (areas) **Notes 27b** (compound, perimeter)	**Test 26 (areas)**	
5. **Circles** PI CIRCUMFERENCE AREA	History Def. Formula Compound Area of circle, sectors Compound areas	None **Notes 8 (units)**	PPM Book 8A chapt 9 **Notes 29** (circles)	**Test 27** (circles)	
6. **Volumes** 2D and 3D	Surfaces and solids. Units Cubes and cuboids formula Prisms ,def and formula Compound litres	Cubes and cuboids **Notes 8 (units)**	Book 8A chapt 18 sheet **Notes 36** (volumes)	**Test 25** (volumes)	

SCHEME OF WORK – MATHEMATICS. **YEAR: L4ths sheet 4**

CONTENT	KEY CONCEPTS	PRIOR KNOWLEDGE	RESOURCES	ASSESSMENT	TIME
7. **Fractions and %** MULTIPLICATION DIVISION MIXED OPERATIONS % 	Rev of + and- Cancelling Mixed numbers Order and setting out Fraction of % -Fraction of 100 %of % increase and decrease	**Notes 4** **(+ and – fractions)**	Book 8A chapt 3 Rev ex 1.2 qu 1 – 6 Book 8A chapt 4 **Notes 24** (easy %)	**Test 4** (fractions) **Test 10** (simple %)	
8. Algebra	Brackets Indices Substitution Sequences nth term	Book 7A chapt 17 **Notes 12 13** Basic algebra Directed nos.	Book 8A chapt 10 Rev ex		
9. Equations 4 RULES TRIAL & IMPROVEMENT (may be left to U4ths)	Forming equations from problems Simplifying Square roots x cubed Spread sheet	**Notes 14** Easy eq	PPM Book 8A chapt 12 Book 8A chapt 17 ***IT spread sheets*** ***Excel or works*** **Notes 19** (equations)	**Test 60** (equations)	

SCHEME OF WORK – MATHEMATICS. **YEAR: L4ths sheet 5**

CONTENT	KEY CONCEPTS	PRIOR KNOWLEDGE	RESOURCES	ASSESSMENT	TIME
10. <u>Scale drawing</u>	Scales Simple 3 fig bearings	Construction of triangles	PPM Book 8A chapt 20		
11. <u>Polygons</u> ANGLES TESSELATIONS	Names, regular Geometrical properties 2D Exterior angles formula Interior angles formula	Triangles Quads **Notes 1 (angles)** **Notes 15** (triangles Quads)	Book 8 A chapt PPM **Notes 16** (polygons) Posters		
12. <u>Ratio</u> **<u>May be left to U4th</u>**	Meaning, simplification Division in given ratio Maps Proportion	fractions	Book 8A chapt 5 **Notes 25** (ratio)	**Test**	
13.<u>Transformations</u> TRANSLATIONS	Revision of reflections, rotations Co-ordinates, properties Translations, slide congruency	Symmetry Simple reflection Simple rotations	PPM Book 8A chapt 11 **Notes 31** (transformations) ***omnigraph***	**Test 41** (transformations)	

SCHEME OF WORK – MATHEMATICS. **YEAR: L4ths sheet 6**

CONTENT	KEY CONCEPTS	PRIOR KNOWLEDGE	RESOURCES	ASSESSMENT	TIME
`14. <u>Graphs</u> STRAIGHT LINES TRAVEL GRAPHS	Sketching, rules, origin gradient, y intercept comparisons line from equations table of results for plotting practical applications – conversions reading and constructing **D = S x T** average speed	Co-ordinates	Graph books Book 8A chapt 22 PPM **Notes** **O*mnigraph***	Later in U4ths	
15 <u>Statistics</u> DATA	Continuous Range Modal value Frequency polygons	Book 7A Chapts 3, 19 **Notes 10 (av)**	Book 8A chapt 15 ***IT spread sheets*** ***Excel / works***		
16 <u>Two Way Tables</u>	Compact way of giving large amount of info. Timetables Mileage charts Use to increase non calc skills	Basic arithmetic	sheets		