

St Stephen's School – Carramar

Year 9 Mathematical Development Program

TEACHERS: Mike Williams, Cecelia Raj

PROGRAM – TERM 1 - 2006

Lesson	Week	Chapter 1 Numbers	Class Work	Technology
1-4	1	Revision: <ul style="list-style-type: none"> • Whole Numbers • Decimal And Fractions • Directed Numbers • Indices • Percentages • Mental Strategies 	Coursebook Exercise 1A To 1R Puzzles P 26	
5-7	2	Applications Of Whole Numbers:	Coursebook Applications P 28 <ul style="list-style-type: none"> • Battleships • Sorting Percentages Extensions P 30 <ul style="list-style-type: none"> • Bank Statements • Cross Sections 	Companion Website Technology Applications <ul style="list-style-type: none"> • Coldest Temperatures • Percentages To Fractions And Decimals • Number Properties • Addition And Subtraction Of Directed Numbers
8		Revision	Coursebook Revision Questions P 32	Companion Website Review Questions
9		Assessment Task 1		
Lesson	Week	Chapter 2 Consumer Maths	Class Work	Technology
1-4	3	Revision: <ul style="list-style-type: none"> • Calculations In Business • Percentages In Our Diet 	Coursebook Exercise 2A To 2B	

5-8	4	Develop New Concepts: <ul style="list-style-type: none"> • Percentages Of Quantities • Percentage Change • Discount And Commission • Wages And Tax Scales • Simple Interest And Best Buy 	Coursebook Exercise 2C To 2L Puzzles P 50	
9		Applications Of Consumer Maths:	Coursebook Exploring Shopping 2f Applications P 52 <ul style="list-style-type: none"> • Fundraising • Budgeting Extensions P 54 <ul style="list-style-type: none"> • Compound Interest • Hospital Cover 	Companion Website Technology Applications <ul style="list-style-type: none"> • Petrol To Lpg • Percentage Puzzle • Money Puzzle
10	5	Revision	Coursebook Revision Questions P 56	Companion Website Review Questions
11		Assessment Task 2	Teacher's Resource Chapter Test 2	
Lesson	Week	Chapter 3 Measurement	Class Work	Technology
1-4	6	Revision: <ul style="list-style-type: none"> • Converting Units • Perimeter Of Shapes 	Coursebook Exercise 3A To 3B	
5-6	7	Develop New Concepts: <ul style="list-style-type: none"> • Circumference Of A Circle • Composite Shapes • Area Of Trapezium, Circles And Sectors • Surface Area Of Prisms And Pyramids • Volume Of Prisms And Capacity 	Coursebook Exercise 3C To 3L Puzzles P 80	

7	Applications Of Measurement:	Coursebook Applications P 82 <ul style="list-style-type: none"> • Fish Tanks • Skateboarding • Clothes Line Extensions P 84 <ul style="list-style-type: none"> • Perimeters Of Complex Shapes • Truncated Cones • Maximum Volumes 	Companion Website Technology Applications <ul style="list-style-type: none"> • Luggage Volumes • Units Of Length Puzzle • Maths Terms Puzzle • Units Of Capacity And Volume • Area And Volume Formulas
8	Revision	Coursebook Revision Questions P 86	Companion Website Review Questions
9	Assessment Task 3	Teacher's Resource Chapter Test 3	

Lesson	Week	Chapter 4 Pythagoras	Class Work	Technology
1-8	8-9	Develop New Concepts: <ul style="list-style-type: none"> • Pythagoras' Theorem • Pythagorean Triples • Compound Shapes 	Coursebook Exercise 4A To 4G Puzzles P 106	
9	10	Applications Of Pythagoras: <ul style="list-style-type: none"> • Co-Ordinate Geometry 4h 	Coursebook Applications P 108 <ul style="list-style-type: none"> • Plotting Irrational Numbers • Perigal's Dissection Extensions P 110 <ul style="list-style-type: none"> • Area Of Complex Shapes • Generalising Pythagorean Triples 	Companion Website Technology Applications <ul style="list-style-type: none"> • Pythagorean Triples • Pythagoras Puzzle • Maths Terms Puzzle • Pythagoras Animation
10		Revision	Coursebook Revision Questions P 112	Companion Website Review Questions
11		Assessment Task 4	Teacher's Resource Chapter Test 4	

PROGRAM – TERM 2 – 2006

Lesson	Week	Chapter 5 Trigonometry	Class Work	Technology
1-9	1-2	Develop New Concepts: <ul style="list-style-type: none"> • Labelling Right-Angle Triangles • Tangent Ratios • Finding Sides And Angles Using Tan Extensions: <ul style="list-style-type: none"> • Sine And Cosine Ratios • Finding The Hypotenuse • Angles Of Elevation And Depression • Bearings 	Coursebook Exercise 5A To 5K Puzzles P 136	
10-11	3	Applications Of Trigonometry:	Coursebook Applications P 138 <ul style="list-style-type: none"> • Shooting For Goal • Measuring Tan Extensions P 140 <ul style="list-style-type: none"> • Complex Problems • Areas Of Shapes • Bushwalking 	Companion Website Technology Applications <ul style="list-style-type: none"> • Shooting For A Goal • Trigonometry Puzzle • Trig Ratios Animation
12		Revision	Coursebook Revision Questions P 142	Companion Website Review Questions
13		Assessment Task 5	Teacher’s Resource Chapter Test 5	
Lesson	Week	Chapter 6 Ratio And Rates	Class Work	Technology
1-4	4	Revision: <ul style="list-style-type: none"> • Ratio And Proportion • Simplifying Ratios 	Coursebook Exercise 6A	
5-7	5	Develop New Concepts: <ul style="list-style-type: none"> • Using Ratios • Rates And Speed, Distance And Time • Graphs And Time • Scale Diagrams • Exploring Maps 	Coursebook Exercise 6B To 6H Puzzles P 166	

8	6	Applications Of Ratio And Rates:	Coursebook Applications P 168 <ul style="list-style-type: none"> • The Parthenon • Living Golden Ratios • Designing Houses • Favourite Rectangles Extensions P 170 <ul style="list-style-type: none"> • Density • Complex Ratios 	Companion Website Technology Applications <ul style="list-style-type: none"> • Speed, Distance And Time • Simplifying Ratios Puzzle • Rates Puzzle • Equivalent Ratios Puzzle
9		Revision	Coursebook Revision Questions P 172	Companion Website Review Questions
10		Assessment Task 6	Teacher's Resource Chapter Test 6	
Lesson	Week	Chapter 7 Polygons And Polyhedra	Class Work	Technology
1-2	7	Revision: <ul style="list-style-type: none"> • Naming Angles • Complementary And Supplementary • Triangles, Quadrilaterals And Polygons • Angles In Parallel Lines • Congruent Shapes 	Coursebook Exercise 7A - 7E	
3-6		Develop New Concepts: <ul style="list-style-type: none"> • Similar Shapes • Applications Of Similar Triangles • Drawing 3d Shapes 	Coursebook Exercise 7F -7I Exercise 7J -7K Puzzles P 202	Companion Website Quicktime Movies Nets Of Polyhedra
7	8	Applications Of Polygons And Polyhedra:	Coursebook Applications P 204 <ul style="list-style-type: none"> • Tetrominoes • Pentominoes • Exterior Angles Of A Polygon • Patchwork Extensions P 206 <ul style="list-style-type: none"> • Vertex Angles In Polygons • Pizza Cuts 	Companion Website Technology Applications <ul style="list-style-type: none"> • Nets For Polyhedra • Maths Terms Puzzle • Recognising 3d Shapes • Recognising Plane Shapes • Finding The Size Of Angles: 1,2,3 • Finding Lengths In Similar Figures • Types Of Angles • Properties Of 2d Shapes

8		Revision	Coursebook Revision Questions P 208	Companion Website Review Questions
9		Assessment Task 7	Teacher's Resource Chapter Test 7	
Lesson	Week	Chapter 8 Transformations And Location	Class Work	Technology
1-4	9	Revision: <ul style="list-style-type: none"> • Transformations • Enlargements • Scale Factors And Maps 	Coursebook Exercise 8A -8G	
5-6		Develop New Concepts: <ul style="list-style-type: none"> • Networks • Using Networks 	Coursebook Exercise 8H -8I Puzzles P 228	Companion Website Quick Time Movies <ul style="list-style-type: none"> • Transformation • Geometry In Architecture
7	10	Applications Of Transformations And Location:	Coursebook Applications P 230 <ul style="list-style-type: none"> • Transformation Patterns • Planes Of Symmetry • Maps Extensions P 232 <ul style="list-style-type: none"> • Networks • Critical Paths 	Companion Website Technology Applications <ul style="list-style-type: none"> • Transformations Worksheet • Maths Terms Puzzle
8		Revision	Coursebook Revision Questions P 234	Companion Website Review Questions
9		Assessment Task 8	Teacher's Resource Chapter Test 8	

PROGRAM – TERM 3 - 2006

Lesson	Week	Chapter 9 Algebra And Number Patterns	Class Work	Technology
1-5	1	Revision: <ul style="list-style-type: none"> • Algebraic Expressions • Collecting Like Terms • Substitution • Formulas 	Coursebook Exercise 9A – 9E	
6-13	2-3	Develop New Concepts: <ul style="list-style-type: none"> • Expanding Brackets • Factorisation • Index Numbers • Index Laws • Scientific Notation 	Coursebook Exercise 9F To 9O Puzzles P 268	
14-16	4	Applications Of Algebra And Number Patterns:	Coursebook Applications P 270 <ul style="list-style-type: none"> • Chessboard Rewards • Triads • Balls Extensions P 272 <ul style="list-style-type: none"> • Negative Indices • Index Equations 	Companion Website Technology Applications <ul style="list-style-type: none"> • Magic Squares • Substitution Puzzle • Algebraic Abbreviations • Substitution Into Formulae • Simplifying Algebraic Expressions A , B • Making Sense Of Algebra
17		Revision	Coursebook Revision Questions P 274	Companion Website Review Questions
18		Assessment Task 9	Teacher’s Resource Chapter Test 9	
Lesson	Week	Chapter 10 Solving Linear Equations	Class Work	Technology
1-4	5	Revision: <ul style="list-style-type: none"> • Simple Equations 	Coursebook Exercise 10A	

5-14	6-7	Develop New Concepts: <ul style="list-style-type: none"> • Solving Equations Using Flow Charts • Inverse Operations • Solving Equations With Brackets • Graphing Simultaneous Equations • Substitution Method • Elimination Method 	Coursebook Exercise 10B – 10J Puzzles P 298	
15-16	8	Applications Of Solving Linear Equations:	Coursebook Applications P 300 <ul style="list-style-type: none"> • Break Even Analysis Extensions P 302 <ul style="list-style-type: none"> • Solving Equations With Algebraic Fractions Using Backtracking And Flow Charts 	Companion Website Technology Applications <ul style="list-style-type: none"> • Flowcharts • Maths Terms • Solving Equations
17		Revision	Coursebook Revision Questions P 304	Companion Website Review Questions
18		Assessment Task 10	Teacher’s Resource Chapter Test 10	
Lesson	Week	Chapter 11 Linear Graphs	Class Work	Technology
1-2	9	Revision: <ul style="list-style-type: none"> • Plotting Points 	Coursebook Exercise 11A	
3-6		Develop New Concepts: <ul style="list-style-type: none"> • Linear Patterns And Simple Rules • Plotting Points From Rules • Horizontal And Vertical Lines • Gradients Of Straight Lines • Finding Equations Of Lines • The Gradient And Y-Intercept 	Coursebook Exercise 11B -11I Puzzles P 328	

7	10	Applications Of Linear Graphs:	Coursebook Applications P 330 <ul style="list-style-type: none"> • Web Page Costs • Reflections • Jumping Castle Hire Extensions P 332 <ul style="list-style-type: none"> • Linear Relations • Simultaneous Equations • Plotting Parabolas 	Companion Website Technology Applications <ul style="list-style-type: none"> • Points On A Line • Plotting Co-Ordinates • Lingraph Animation
8		Revision	Coursebook Revision Questions P 334	Companion Website Review Questions
9		Assessment Task 11	Teacher's Resource Chapter Test 11	

PROGRAM – TERM 4 - 2006

Lesson	Week	Chapter 12 Quadratic Functions	Class Work	Technology
1-9	1-2	Develop New Concepts: <ul style="list-style-type: none"> • Solving Quadratic Equations • Worded Problems • Sketching Parabolas 	Coursebook Exercise 12A –12J Puzzles P 354	Companion Website Quick Time Movies <ul style="list-style-type: none"> • Parabolas In Headlights And Satellites
10-12	3	Applications Of Quadratic Functions:	Coursebook Applications P 356 <ul style="list-style-type: none"> • Circle Regions • Handshakes • Optimisation • Curve Stitching Extensions P 358 <ul style="list-style-type: none"> • Algebraic Fractions • Factorising More Difficult Quadratics 	Companion Website Technology Applications <ul style="list-style-type: none"> • Quadratics • Quadratic Functions Puzzle
13		Revision	Coursebook Revision Questions P 360	Companion Website Review Questions

14		Assessment Task 12	Teacher's Resource Chapter Test 12	
Lesson	Week	Chapter 13 Chance	Class Work	Technology
1-5	4	Develop New Concepts: <ul style="list-style-type: none"> • Sample Space Grids • Tree Diagrams • Simulations • Using Sampling Extension: <ul style="list-style-type: none"> • Set Notation And Venn Diagrams • Theoretical Probability 	Coursebook Exercise 13A – 13F Puzzles P 382 Exercise 13G - H	
6-7	5	Applications Of Chance:	Coursebook Applications P 384 <ul style="list-style-type: none"> • Multiplication Bingo • Colour Combinations • Flags Of The World Extensions P 386 <ul style="list-style-type: none"> • The Problem Of Points • Mazes 	Companion Website Technology Applications <ul style="list-style-type: none"> • Two Dice • Maths Terms • Spinners Puzzle • Probability Of Simple Events
8		Revision	Coursebook Revision Questions P 390	Companion Website Review Questions
9		Assessment Task 13	Teacher's Resource Chapter Test 13	
Lesson	Week	Chapter 14 Statistics	Class Work	Technology
1-4	6	Revision: <ul style="list-style-type: none"> • Collecting Data • Column Graphs And Histograms 	Coursebook Exercise 14A -14B	
5-10	7	Develop New Concepts: <ul style="list-style-type: none"> • The Interquartile Range • Stem And Leaf Plots • Mean And Median • Line Graphs • Scattergraphs • Using A Graphics Calculator 	Coursebook Exercise 14C – 14H Puzzles P 416	

11	8	Applications Of Statistics:	Coursebook Applications P 418 <ul style="list-style-type: none"> • Time Series Data • House Prices • Random Numbers Using Pi • Sampling Extensions P 420 <ul style="list-style-type: none"> • Temperatures • Grouped Frequency Tables • Boxplots 	Companion Website Technology Applications <ul style="list-style-type: none"> • World Temperatures • Types Of Graphs • Table Types Puzzle • Maths Terms Puzzle
12		Revision	Coursebook Revision Questions P 422	Companion Website Review Questions
13		Assessment Task 14	Teacher's Resource Chapter Test 14	
	9	Year 9 Camp Final Awards Assembly		