



Park Hall Academy

Maths

Course Overview

KEY STAGE 3 (Years 7, 8 & 9)

Year 7

Autumn 1 (Sept- Oct)	Place value and decimals Multiply and divide by 10, 100 or 1000 Negative numbers Mental addition and subtraction Written addition and subtraction Calculator methods 1 Units of measurement Converting between units Perimeter and area of a rectangle Perimeter and area of a triangle Area of a parallelogram and trapezium Surface area of a cuboid Volume of a cuboid Using letter symbols Collecting like terms Expanding brackets Using a formula Writing a formula Further substitution Further simplification Simplification and division
Autumn 2 (Nov-Dec)	Fraction notation Adding and subtracting fractions Decimals and fractions Fraction of a quantity Percentages Fractions, decimals and percentages My Assessment 1 Calculating angles Angles and parallel lines Angles in triangles and quadrilaterals Properties of triangles Properties of quadrilaterals Properties of polygons



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	Coordinates Plotting horizontal and vertical lines Plotting straight-line graphs The equation of a straight line Real-life graphs Line graphs for time series
Spring 1 (Jan- Feb)	Rounding Order of operations Mental methods of multiplication and division Written methods of multiplication Written methods of division Calculator methods 2 Types of data and averages The mean Frequency tables Bar charts Pie charts Collecting data Designing a questionnaire Grouping data Comparing data
Spring 2 (Mar- Apr)	Reflection Rotation Symmetry Translation Enlargement Tessellations Rangoli Solving equations Unknowns on both sides Further equations Constructing equations Squares and square roots Factors and multiples Prime factors Divisibility tests LCM and HCF using prime factors
Summer 1	Sequences



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Course Overview

(May-June) Sequence rules
Sequences and algebra
Finding a rule from a sequence
Sequences in context

Summer 2 Introducing proportion
Direct proportion
Ratio
Dividing in a given ratio
Ratio and proportion
Percentage problems
The probability scale
Equally likely outcomes
Mutually exclusive outcomes
Experimental probability
Comparing probabilities
Sorting with Venn diagrams
The school fair
The swimming gala
The diving pool and ticket sales
Getting ready
The swimming competitions
The final results

Year 8

Autumn 1
(Sept- Oct) Negative numbers
Multiples and factors
Common factors
Prime numbers
Ordering decimal numbers
Rounding
Square numbers
Square numbers and square roots
Metric measure
Metric and money conversions
Other units of measure
Reading scales
Perimeter and area
Area of a rectangle
Shapes made from rectangles



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Course Overview

	Using symbols Substitution Simplifying expressions
Autumn 2 (Nov-Dec)	Expanding brackets Simplifying harder expressions Formulae Writing a formula Energy in the home Fractions Fractions and decimals Adding and subtracting fractions Fraction of a quantity Finding 10 percent Percentages Fractions, decimals and percentages Angles Opposite angles Properties of triangles Angles in a triangle Parallel lines Properties of quadrilaterals
Spring 1 (Jan- Feb)	Coordinates in four quadrants Coordinates and straight lines Drawing graphs Horizontal and vertical graphs Real-life graphs Conversion graphs Graphs and formulae Patchwork Order of operations Mental addition and subtraction Mental multiplication and division Addition and subtraction problems Multiplication and division problems Planning a survey Collecting data Frequency tables Bar charts



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Spring 2
(Mar- Apr)

Pie charts
Mode, median and range
The mean
Averages from frequency tables
Comparing data sets
Statistical reports
Reflection
Reflection symmetry
Rotation
Rotational symmetry
Translation
Tessellations
Food crops
One-step equations
Equation puzzles
Two-step equations
Making equations
Written addition and subtraction
Written multiplication

Summer 1
(May-June)

Written division
Written arithmetic problems
Calculator skills
Interpreting the display
Lines and angles
Constructing a triangle 1
Constructing a triangle 2
Scale drawing
Paper folding
MyAssessment 3
Term-to-term rules
Position-to-term rules
Real life sequences
Triangular numbers
3D shapes
Isometric drawings
Nets of 3D shapes
Surface area of a cuboid



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Volume of a cuboid

Summer 2

Perspective
Simplifying ratios
Dividing into ratios
Proportion
Proportion problems
Ratio and proportion problems
Comparing proportions
Calculations involving money
Likelihood and chance
The probability scale
Equally likely outcomes
Experimental probability
Venn diagrams
Free-range
MyAssessment 4
The journey to France
Camp Sarlat
The sports day
The expedition
Camp-life

Year 9

Autumn 1
(Sept- Oct)

Powers of 10
Rounding
Order of operations
Multiples, factors, divisibility and prime numbers
Prime factors, the HCF and the LCM
Ordering decimals
Metric measures
Imperial measures
Area
Area of a triangle
Area of a parallelogram
Circumference of a circle
Simplifying expressions.
Using brackets
Formulae



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Autumn 2
(Nov-Dec)

Making expressions
Why do bikes have gears?
Adding and subtracting fractions 1
Adding and subtracting fractions 2
Fraction of a quantity
Multiplying and dividing fractions
Fractions and decimals
Percentage of a quantity
Percentage problems
Repeated percentage change
MyAssessment 1
Angles and lines
Angles in a triangle
Properties of triangles
Angles in a quadrilateral
Properties of quadrilaterals
Horizontal and vertical lines
Tables of values
Drawing straight line graphs
Problems solving using straight line graphs
Straight line rules
Interpreting real-life graphs

Spring 1
(Jan- Feb)

Time-series graphs
Jewellery business
Addition and subtraction
Mental multiplication and division
Written multiplication
Written division
Estimating and approximating
Using a calculator
Designing a survey
Collecting data
Frequency tables
Bar charts
Pie charts
Calculating averages
Scatter graphs
Stem-and-leaf diagrams



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Spring 2
(Mar- Apr)

Frequency diagrams

Writing a statistical report

Reflection and rotation symmetry

Reflection

Translation

Rotation

Enlargement

Enlargement through a centre

Scale drawings

Climate change

Equality and inequality

Solving equations

Balancing equations 1

Balancing equations 2

Writing equations

Square numbers and square roots

Using square numbers and square roots

Indices

Standard form

Using a protractor

Summer 1
(May-June)

Perpendicular lines

Perpendicular bisectors

Angle bisectors

Constructing triangles

Bearings

Garden design

MyAssessment 3

Term-to-term rules

Position-to-term rules

The n th term formula

Recursive sequences

Three-dimensional shapes

Nets

Plans and elevations

Volume of a cuboid

Shapes made from cuboids

Surface area of a cuboid

Golden rectangle



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Summer 2

Ratio

Dividing in a given ratio
Ratio and proportion
Percentages and proportion
Proportional reasoning
Living on a budget
Probability
Mutually exclusive events
Theoretical probability
Counting outcomes
Two events
Probability experiments
Venn diagrams
Crime scene investigation
MyAssessment 4
The AfriLinks project
Building the schoolhouse
Raising the roof and laying the path
The basketball court

KEY STAGE 4 (Years 10 and 11)

Year 10

Autumn

Whole numbers, Decimals, Fractions: Addition and subtraction, Fractions: Multiplication and division, Coordinates, Introduction to algebra, Angles, Collecting data, Charts and graphs, 2-D shapes, Properties of triangles and quadrilaterals

Spring

Factors and multiples, Percentages, Perimeter and area, 3-D shapes, Solving linear equations, Patterns and sequences, Brackets, Formulae, Circle theorems.

Summer

Linear functions
 $y = mx + c$
Similar shapes, Perimeter and area of circles, Scatter graphs and correlation, Ratio and scale, Direct and inverse proportion, The mean (large data sets), Simultaneous equations, Probability, Indices and Surds



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Year 11

Autumn	Standard form, Inequalities, Quadratic functions, Speed and density, Trial and improvement, Angle properties of polygons, Surface area and volume Transformations, Further simultaneous equations, Surface area and volume, Median and interquartile range (large data sets)
Spring	Histograms, Sine, cosine and tangent, Trigonometry for non right-angled triangles, Applications of trigonometry in 3-D, Further functions, Vectors Transformations of graphs
Summer	Revision