

Maths at The Brakenhale School

Frequently asked questions

Are students set for Maths?

- Students are set shortly after arriving at The Brakenhale School using Key Stage 2 results, information from the primary schools. There will be 2 top sets, and the rest of the year will be taught in mixed ability classes.

How many students in a Maths class?

- We currently have a maximum of 32 students per class. In some classes, we have smaller classes to ensure we can provide additional support.
- Years 8 - 9 are taught Maths in mixed ability classes with 2 top sets in each year group. In Year 7 we have an additional set each side to support the students who have weak numeracy skills.
- Year 10 & 11 are taught as year groups, which allows us to streamline the students.

What do students need to bring to Maths lessons?

- Students need to provide pen, pencil, ruler, rubber, compasses, protractor and a scientific calculator (Casio is preferred).

Where can I buy Maths equipment?

- The school shop (in the Print Room) sells all these items at very reasonable prices. (Often cheaper than supermarkets)

How can I help my child with Maths?

- Practise times tables up to 12×12
- All students need to be able to tell the time, using an analogue watch and know how many days are in each month
- Check that homework is being completed and set out properly showing working where appropriate
- Encourage the use of a ruler and a sharp pencil for drawing
- Practise mental Maths and estimating so that students don't rely too much on calculators

$$\begin{array}{r} 2 \\ 24 \\ \times 16 \\ \hline 240 \\ 144 \\ \hline 384 \end{array}$$
$$\begin{array}{r} 28.8 \\ 432.0 \\ 30 \downarrow \\ 132 \downarrow \\ 120 \downarrow \\ \hline 120 \\ 120 \\ \hline 0 \end{array}$$

Answer: 384

Answer: 28.8

What will my child learn in their first year?

- See overleaf for our summary of topics taught in Year 7 and 8.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
7	Addition and Subtraction	Multiply and Divide	Algebra	Angle Geometry	Fractions, Decimals and Percentages	Statistics
	<ul style="list-style-type: none"> Place Value (including decimals, inequalities statements) Real and rational numbers Adding and Subtracting (including decimals, negatives, common denominator fractions, like terms) Perimeter Rounding Adding Estimation Word Problems Arithmetic sequences (not nth term) Fibonacci sequences Triangle Numbers Pascal's Triangle Range? 	<ul style="list-style-type: none"> Multiplying and Dividing (including decimals, negatives, fractions, algebra) BIDMAS Area of Rectangle, triangle and parallelogram Multiples and Factors HCF and LCM – from listing Primes – what they are not decomposition Estimation Word Problems Geometric sequences (not nth term) Mean Squares and Cubes 	<ul style="list-style-type: none"> Solving Linear Equations and inequalities Substitution Algebraic terminology (expression, term, identity etc...) Worded problems Factorising Expanding brackets and simplifying Nth term Changing the subject Index laws 	<ul style="list-style-type: none"> Draw and measure angle types and drawing lines Finding unknown angles (point, line, vertically opposite, triangles, quadrilaterals and other polygons) Properties of triangles, quads etc. Geometric notation Constructing accurate triangles and quadrilaterals. Congruency Angles in Parallel Lines Bearings 	<ul style="list-style-type: none"> Ordering Fractions Add and Subtract fractions Add and Subtract mixed numbers Fractions of amounts Convert between FDP Multiplying and Dividing mixed numbers Percentage of amount Percentage increase, decrease – multipliers Reverse percentages Percentages greater than 100 Repeated fractional/percentage change 	<ul style="list-style-type: none"> Types of data Collecting and organising data Averages and Range (inc. comparison) Averages from grouped data Consideration of Outliers Read and Interpret statistical diagrams Construct statistical diagrams (bar charts, pie charts, histograms, line graphs, pictograms, stem and leaf, scatter graphs) Comparing data sets
8	Ratio and Proportion	2D Geometry	Probability	Algebra & Graphs	3D Geometry	Recap
	<ul style="list-style-type: none"> Solve worded proportion problems Ratio notation 1:n, n:1 Best Buys Sharing into a ratio Finding missing value in a ratio Combining ratios Metric and currency conversions Conversion graphs Compound units (SDT, DMV, PFA) Scales drawings Similar shapes Direct and indirect proportion Percentage change Recipes 	<ul style="list-style-type: none"> Area of trapezium, circle, compound shapes Pythagoras' Theorem Transformations Parts of a circle Circumference of a circle Constructions (angle bisector, perpendicular bisector, perpendicular from a point, perpendicular to a point) Loci Loci problems 	<ul style="list-style-type: none"> Words Probability scale Listing outcomes Sum of probabilities Venn diagrams including set notation Two-way table Frequency trees Sample space Tree diagrams FDP skills recapped Experimental probability Expected frequency Profit/Loss problems 	<ul style="list-style-type: none"> Co-ordinates in 4 quads Mid-points Equation of a line Parallel and perpendicular Quadratic graphs Exponential and reciprocal Simultaneous equations graphically Solve simultaneous equations Travel graphs Real life graphs Sequences 	<ul style="list-style-type: none"> Properties of 3D shapes Plans and elevations Accurate drawings (isometric) Nets Volume Surface area Converting volume units 3D Pythagoras 	<ul style="list-style-type: none"> Calculator skills Remix weeks to recover all topics