Key Stage: 3 – Year 7 Set 1, Year 8 Sets 2, 3 & 4

RIPLEY ST THOMAS
A CHURCH OF ENGLAND ACADEMY

Subject: Mathematics

Aims of the subject:

We aim to develop the full potential of every pupil in Mathematics. We hope that every pupil experiences success and enjoyment in the subject, whether it be equipping them with sufficient Mathematics skills for their day to day life or providing them with a firm foundation for those wishing to pursue Mathematics beyond GCSE. In addition, we hope that we can open our young people's eyes to the creative, imaginative and inspiring world of Mathematics. ,

The Mathematics scheme of learning is divided into units of study consisting of interlinking skills and topics. For each unit of study, pupils will complete a 'common homework' and multiple-choice quizzes. Students will also sit formal assessments three times a year. The 'common homework' will be completed by all the students following this scheme of learning and may take the form of a written task or an online task. In addition to the common homework, pupils will receive homework set by their class teacher. Assessments provide an opportunity for each pupil to demonstrate their ability to recall basic information or perform simple procedures, apply their mathematical understanding to problem solving and contextual problems and to recall information studied in previous units of work.

Year 7

		What will I learn?	What will I do?
Term 1	Unit 1	• Calculate and recognise powers and associated roots beyond cubes • Write a number as a product of its prime factors. • Find the highest common factor of 2 or more numbers from a list AND Venn diagram • Find the lowest common multiple of 2 or more numbers from a list AND Venn diagram • Apply BIDMAS to evaluate a calculation • Apply the four operations to decimals • Round numbers correct to a given number of decimal places • Round numbers correct to a given number of significant figures • Estimate calculations by rounding numbers to 1 significant figure • Truncate numbers to a given number of decimal places/significant figures • Use inequality notation to specify simple error intervals	Common Homework Multiple Choice Quizzes Autumn Assessment (Unit 1)
	Unit 2	• Substitute positive and negative values into formulae and expressions • Simplify expressions by collecting like terms • Expand a single bracket • Factorise linear expressions, including two brackets separated by a + or - • Form and solve equations with an unknown on one side (including brackets) • Interpret and write more complex algebraic expressions and formulae • Plot coordinates in 4 quadrants • Plot a linear graph by generating a table of values, making explicit links to (x,y) co-ordinates • Draw and interpret (single) line graphs from real life situations • Generate and describe a sequence using the nth term • Find the nth term of an arithmetic sequence	Common Homework Multiple Choice Quizzes

Term 2	Unit 3	• Recognise and name regular polygons • Calculate and use the sum of interior and exterior angles of polygons • Solve angle problems relating to regular polygons • Derive and use the formula for area of a trapezium • Find the area of composite shapes made up of triangles and rectangles • Recognise and draw nets of cubes/cuboids/triangular prisms • Work out the volume and surface area of cubes/cuboids and triangular prisms	Common Homework Multiple Choice Quizzes Spring Assessment (Units 1 – 3)
	Unit 4	• Apply the four operations to proper fractions, improper fractions and mixed numbers • Work interchangeably with terminating decimals, corresponding fractions and their percentages. • Calculate fractions of an amount • Calculate percentages of an amount without a calculator • Calculate percentages of an amount with a calculator using decimal multipliers • Calculate percentage increase/decrease • Calculate the percentage change between two quantities • Apply the property that the probabilities of all outcomes sum to 1 • Generate lists and sample space diagrams for single and combined events and use to calculate probabilities. • Calculate expected frequency	Common Homework Multiple Choice Quizzes
Term 3	Unit 5	• Interpret and construct frequency polygons • Interpret and construct a stem and leaf diagram • Calculate the mean, median, mode and range • Make comparisons between two distributions in relation to the mean, median, mode and range from lists and ungrouped frequency tables • Recognise and name positive, negative, no, strong, weak correlation • Understand that if correlation exists, it does not necessarily mean that causality is present • Draw a scatter graph • Draw a line of best where appropriate, and use to estimate values • Interpret and draw pie charts	Common Homework Multiple Choice Quizzes End of year assessments (U1-5)

	Unit 6	• Write a ratio in the form 1:n. • Divide an amount into a given ratio • Solve problems involving ratio including real life contexts • Solve combination ratio questions; a:b and b:c • Recognise examples of direct and inverse proportion • Solve problems involving direct and inverse proportion • Solve best buy/better value problems • Use and interpret scales on maps • Use and interpret scales on scale diagrams and draw a scale diagram	Common Homework Multiple Choice Quizzes

Note on Assessments: Pupils will sit formal assessments in Autumn and Spring. End of year assessments will typically be sat in June with a final topic quiz during July.

How you can support your child's progress

- Practise mental maths skills i.e. addition, subtraction, multiplication and division
- Seek real life opportunities to challenge your child's mathematical knowledge for example calculating best buys, calculating how many pots of paint required to decorate a room etc.
- Encourage independence in repeated learning of unfamiliar topics and homework support using vle.mathswatch.co.uk/vle

Year 8

		What will I learn?	What will I do?
Term 1	Unit 1	• Calculate and recognise powers and associated roots beyond cubes • Write a number as a product of its prime factors. • Find the highest common factor of 2 or more numbers from a list AND Venn diagram • Find the lowest common multiple of 2 or more numbers from a list AND Venn diagram • Apply BIDMAS to evaluate a calculation • Apply the four operations to decimals • Round numbers correct to a given number of decimal places • Round numbers correct to a given number of significant figures • Estimate calculations by rounding numbers to 1 significant figure • Truncate numbers to a given number of decimal places/significant figures • Use inequality notation to specify simple error intervals	Common Homework Multiple Choice Quizzes Autumn Assessment (Unit 1)
	Unit 2	• Substitute positive and negative values into formulae and expressions • Simplify expressions by collecting like terms • Expand a single bracket • Factorise linear expressions, including two brackets separated by a + or - • Form and solve equations with an unknown on one side (including brackets) • Interpret and write more complex algebraic expressions and formulae • Plot coordinates in 4 quadrants • Plot a linear graph by generating a table of values, making explicit links to (x,y) co-ordinates • Draw and interpret (single) line graphs from real life situations • Generate and describe a sequence using the nth term • Find the nth term of an arithmetic sequence	Common Homework Multiple Choice Quizzes

Term 2	Unit 3	• Recognise and name regular polygons • Calculate and use the sum of interior and exterior angles of polygons • Solve angle problems relating to regular polygons • Derive and use the formula for area of a trapezium • Find the area of composite shapes made up of triangles and rectangles • Recognise and draw nets of cubes/cuboids/triangular prisms • Work out the volume and surface area of cubes/cuboids and triangular prisms	Common Homework Multiple Choice Quizzes Spring Assessment (Units 1 – 3)
	Unit 4	• Apply the four operations to proper fractions, improper fractions and mixed numbers • Work interchangeably with terminating decimals, corresponding fractions and their percentages. • Calculate fractions of an amount • Calculate percentages of an amount without a calculator • Calculate percentages of an amount with a calculator using decimal multipliers • Calculate percentage increase/decrease • Calculate the percentage change between two quantities • Apply the property that the probabilities of all outcomes sum to 1 • Generate lists and sample space diagrams for single and combined events and use to calculate probabilities. • Calculate expected frequency	Common Homework Multiple Choice Quizzes
Term 3	Unit 5	• Interpret and construct frequency polygons • Interpret and construct a stem and leaf diagram • Calculate the mean, median, mode and range • Make comparisons between two distributions in relation to the mean, median, mode and range from lists and ungrouped frequency tables • Recognise and name positive, negative, no, strong, weak correlation • Understand that if correlation exists, it does not necessarily mean that causality is present • Draw a scatter graph • Draw a line of best where appropriate, and use to estimate values • Interpret and draw pie charts	Common Homework Multiple Choice Quizzes End of year assessments (U1-5)

	Unit 6	• Write a ratio in the form 1:n. • Divide an amount into a given ratio • Solve problems involving ratio including real life contexts • Solve combination ratio questions; a:b and b:c • Recognise examples of direct and inverse proportion • Solve problems involving direct and inverse proportion • Solve best buy/better value problems • Use and interpret scales on maps • Use and interpret scales on scale diagrams and draw a scale diagram	Common Homework Multiple Choice Quizzes

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