

Ready to
enter
Year 9

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Mathematics

Geometrical Properties: Polygons

Understand and use angle properties.

Statistics, Measures & Analysis

Understand and calculate measures of central tendency and spread. Construct accurately statistical representations. Interpret reasonably and choose appropriately statistical measures

Solving Linear Equations

Find a solution to a linear equation with one unknown. Solve a linear equation with a single unknown. Solve a linear equation with a single unknown, where obtaining the solution requires two or more steps. Solve efficiently with a single unknown involving brackets.

Sequences

Understand the features of a sequence. Recognise and describe arithmetic sequences.

Year 8 Journey
Starts Here

Constructions

Use the properties of a circle in constructions. Use the properties of a rhombus in constructions.

Area & Volume

Understand the concept of area and use it in problem solving. Understand the concept of volume and use it in problem solving.

Percentages & Proportionality

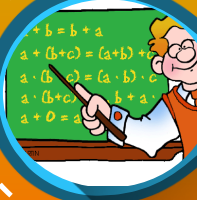
Understand multiplicative relationships can be represented in different ways. Understand percentages as a multiplicative relationship. Understand proportionality.

Graphical Representations

Connect coordinates, equations and graphs. Explore linear relationships.

Estimation & Rounding

Round numbers to a required number of decimal places. Round numbers to a required number of significant figures. Estimate calculations by rounding.



Ready to
enter
Year 8

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Mathematics

Multiplicative Relationships: fractions & ratio

Understand the concept of multiplicative relationships.
Understand fractions as a multiplicative relationship.
Understand ways to represent multiplicative relationships.
Understand ratio as a multiplicative relationship.

Perimeter

Understand the concept of perimeter and use it in a range of problem-solving situations.

Expressions & Equations

Understand and use the conventions and vocabulary of algebra including forming and interpreting algebraic expressions and equations.
Simplify algebraic expressions by collecting like terms.
Manipulate algebraic expressions.

Properties of Number

Understand multiples.
Understand integer exponents & roots.
Understand & use prime factorisation.

Transformations

Understand and use translations.
Understand and use rotations.
Understand and use reflections.
Understand and use enlargements.

Arithmetic with fractions

Work interchangeably with terminating decimals and their corresponding fractions.
Compare and order positive and negative integers, decimals and fractions.
Fluently use strategies for addition, subtraction, multiplication & division of fractions.

Plotting Coordinates

Connect coordinates, equations and graphs.

Arithmetic procedures

Understand and use the structures that underpin addition, subtraction, multiplication & division.
Use the laws and conventions of arithmetic to calculate efficiently.

Place Value

Understand the value of digits in decimals, measures & integers.
Understand multiples.
Understand integer exponents & roots.
Understand & use prime factorisation.

Year 7 Journey
Starts Here

Ready to enter Year 7

Investigations & Y7 Readiness:

- We will be exploring a range of real-life concepts and investigating using all the new mathematical skills we have learnt this year.

Shape:

- Measure, classify and calculate angles
- Find angles in a triangle (including missing angles)
- Find angles in quadrilaterals and polygons
- Draw shapes accurately (including 3-D shapes)

Area, Perimeter and Volume:

- Compare shapes with the same area.
- Find the area and perimeter of rectilinear and compound shapes.
- Find the area of any triangle.
- Find the area of a parallelogram.
- Find the volume of a cuboid.

Decimals:

- Multiply decimals by integers
- Divide decimals by integers
- Multiply and divide decimals in context

Ratio:

- Use ratio language and symbol.
- Look at additive and multiplicative expressions and understand their relationships.
- Understand the relationship between ratio and fractions.
- Draw shapes using scale factors.

Fractions:

- Fractions A**
 - Find Equivalent fractions and simplify.
 - Compare and order fractions
 - Add and subtract fractions (including mixed numbers)
- Fractions B**
 - Multiply fractions by integers
 - Multiply fractions by fractions
 - Divide any fraction by an integer
 - Find fractions of an amount (including finding the whole)

Place Value:

- Read and write numbers up to 10 million in both digits and words.
- To know the value of digits up to 10 million including up to 3 decimal places.
- Compare and order numbers to 10 million.
- To use negative numbers in context and calculate intervals across zero.
- To multiply and divide numbers with up to 3 decimal places by 10, 100 and 1000. (powers of 10)
- Round any integer.

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Mathematics

Position and Direction:

- Read and plot points in four quadrants.
- Translate shapes in the four quadrants.
- Reflect shapes in the four quadrants.

Statistics:

- Interpret and draw Line graphs.
- Interpret and draw dual bar charts.
- Read and interpret pie charts.
- Calculate and draw pie charts with percentages.
- Find the mean average.

Fractions, Decimals and Percentages:

- Understand percentages
- Find and convert equivalent fractions, decimals and percentages
- Order fractions, decimals and percentages
- Find percentage of an amount
- Find missing values

Algebra:

- Understand and use function machines
- Form simple expressions
- Form simple equations
- Solve 1 and 2-step equations
- Find pairs of values
- Solve problems with two unknowns

Converting Units:

- Understand, convert and calculate with units of metric measures.
- Convert between miles and kilometres.
- Understand and calculate imperial measures.

Four Operations:

- Add and subtract integers (including decimals)
- Find common factors and multiples.
- Understand and use the rules of divisibility
- Identify Squares, cubes and primes to 100
- Multiply up to a 4-digit number by a 2-digit number
- Divide using written methods (including long division)
- Solve multi-step problems
- Understand and use the Order of operations (BIDMAS)

Year 6 Journey Starts Here

Ready to enter Year 6

Converting Units

- Convert units of measure.
- Convert from and to fraction and decimal fraction quantities.
- Solve measures problems.
- Convert between common metric and imperial units.
- Convert between miles and kilometres.
- Convert between units of time.

Multiplication and Division

- Multiply and divide by 10, 100 and 1,000.
- Use the above to convert units of measure.
- Describe the units used to measure volume.
- Calculate the volume of a cuboid and compound shapes.
- Explain what a squared and cube number is.
- Use the commutative and distributive laws when multiplying three or more numbers.
- Find all factors of a number.
- Identify a prime number or a composite number.
- Identify a multiple or common multiple of a number.
- Use the factor pairs of '100' to solve calculations efficiently.

Multiplication and Division

- Multiply a three-digit number by a 1-digit number.
- Divide a three-digit number by a 1-digit number
- Use estimation.
- Use efficient strategies to solve problems.

Number and Place Value

Place Value

- Understand numbers to 1,000,000.
- Find $10/100/1,000/10,000/100,000$ more or less.
- Partition numbers to 1,000,000.
- Represent numbers to 1,000,000 on a number line.
- Compare and order numbers to 1,000,000.
- Round to the nearest 10, 100 & 1000 within 1,000,000.

Decimal Fractions

- Understand numbers to 3 decimal places.
- Order numbers with up to 3 decimal places.
- Round decimal fractions
- Add and subtract decimals.

Money:

- Represent money in pounds and pence.
- Compare amounts of money.
- Convert between pounds and pence.
- Calculate change using subtraction.

Mathematics

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Angles

- Compare the size of angles visually.
- Use the terms acute, obtuse and reflex, right angle.
- Use degrees ($^{\circ}$) as a standard unit to measure angles.
- Estimate the size of angles.
- Measure the size of angles using a protractor.

Fractions

- Multiply proper, improper and mixed number fractions by a whole number.
- Find fractions of a quantity.
- Multiply a whole number by a proper fraction
- Find the whole when the size of a unit fraction is known
- Describe and compare two fractions.
- Use the language of equivalent fractions.
- Find equivalent fractions.
- Use knowledge of common equivalents to compare fractions with decimals.

Area & Scaling

- Explain how to make different shapes with the same area.
- Compare the area of different shapes.
- Measure the area of flat shapes.
- Calculate the area of a rectangle.
- Calculate the area of rectilinear shapes.
- Compare and describe lengths.

Negative Numbers

- Read and write negative numbers.
- Identify and place negative numbers on a number line.
- Use knowledge of positive and negative numbers to calculate.
- Explain how negative numbers are used on a coordinate grid.
- Use knowledge of positive and negative numbers to interpret graphs.

Year 5 Journey Starts Here