|  | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 | Week 11 | Week 12 |
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| $\begin{aligned} & \text { E } \\ & \substack{5 \\ \frac{3}{2} \\ \hline} \end{aligned}$ | Similarity |  |  |  |  |  | Developing Algebra |  |  |  |  |  |
|  | Congruence, similarity and enlargement |  |  | Trigonometry |  |  | Representing solutions of equations and inequalities |  |  | Simultaneous equations |  |  |
| $\stackrel{\text { no }}{\text { no }}$ | Geometry |  |  |  |  |  | Proportions and Proportional Change |  |  |  |  |  |
|  | Ang bea |  | Working circ | with es | Vec |  |  |  | Perce and In | $\begin{aligned} & \text { tages } \\ & \text { terest } \end{aligned}$ | Probability |  |
| 흥E55 | Delving into data |  |  |  | Using number |  |  |  |  |  | Expressions |  |
|  | Collecting, representing and interpreting data |  |  |  | Noncalculator methods |  | Types of number and sequences |  | Indices and Roots |  | Manipulating expressions |  |

## Year 10 | Autumn Term 1 | Congruence, Similarity and Enlargement

## Congruence, Similarity and Enlargement

## Small Steps

- Enlarge a shape by a positive integer scale factor
- Enlarge a shape by a fractional scale factor
- Enlarge a shape by a negative scale factor
- Identify similar shapes
- Work out missing sides and angles in a pair given similar shapes
- Use parallel line rules to work out missing angles
- Establish a pair of triangles are similar
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Congruence, Similarity and Enlargement

## Small Steps

- Explore areas of similar shapes

Explore volumes of similar shapes

- Solve mixed problems involving similar shapes
- Understand the difference between congruence and similarity
- Understand and use conditions for congruent triangles
- Prove a pair of triangles are congruent
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10 | Autumn Term 2 | Trigonometry

## Trigonometry

## Small Steps

- Explore ratio in similar right-angled triangles
- Work fluently with the hypotenuse, opposite and adjacent sides
- Use the tangent ratio to find missing side lengths
- Use the sine and cosine ratio to find missing side lengths
- Use sine, cosine and tangent to find missing side lengths
- Use sine, cosine and tangent to find missing angles
- Calculate sides in right-angled triangles using Pythagoras' Theorem

Select the appropriate method to solve right-angled triangle problems
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10 | Autumn Term 2 | Trigonometry

## Trigonometry

## Small Steps

- Work with key angles in right-angled triangles
- Use trigonometry in 3-D shapes
- Use the formula $\frac{1}{2} a b \sin C$ to find the area of a triangle
- Understand and use the sine rule to find missing lengths
- Understand and use the sine rule to find missing angles
- Understand and use the cosine rule to find missing lengths
- Understand and use the cosine rule to find missing angles

Choosing and using the sine and cosine rules
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10 | Autumn Term 3 | Equations and Inequalities

## Equations and Inequalities

## Small Steps

- Understand the meaning of a solution
- Form and solve one-step and two-step equations
- Form and solve one-step and two-step inequalities
- Show solutions to inequalities on a number line
- Interpret representations on number lines as inequalities
- Represent solutions to inequalities using set notation
- Draw straight line graphs
- Find solutions to equations using straight line graphs
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10 | Autumn Term 3 | Equations and Inequalities

## Equations and Inequalities

## Small Steps

- Represent solutions to single inequalities on a graph
- Represent solutions to multiple inequalities on a graph
- Form and solve equations with unknowns on both sides
- Form and solve inequalities with unknowns on both sides
- Form and solve more complex equations and inequalities
- Solve quadratic equations by factorisation* (*Also Foundation tier. Higher cover now, Core will cover in Year 11)

Solve quadratic inequalities in one variable
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10 | Autumn Term 4 | Simultaneous Equations

## Simultaneous Equations

## Small Steps

- Understand that equations can have more than one solution
- Determine whether a given $(x, y)$ is a solution to a pair of linear simultaneous equations
- Solve a pair of linear simultaneous equations by substituting a known variable
- Solve a pair of linear simultaneous equations by substituting an expression
- Solve a pair of linear simultaneous equations using graphs
- Solve a pair of linear simultaneous equations by subtracting equations
- Solve a pair of linear simultaneous equations by adding equations
- Use a given equation to derive related facts
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10 | Autumn Term 4 | Simultaneous Equations

## Simultaneous Equations

## Small Steps

- Solve a pair of linear simultaneous equations by adjusting one equation
- Solve a pair of linear simultaneous equations by adjusting both equations
- Form a pair of linear simultaneous equations from given information
- Form and solve pair of linear simultaneous equations from given information
- Determine whether a given $(x, y)$ is a solution to both a linear and quadratic equation

Solve a pair of simultaneous equations (one linear, one quadratic) using graphs
Solve a pair of simultaneous equations (one linear, one quadratic) algebraically

- Solve a pair of simultaneous equations involving a third unknown
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10 | Spring Term 1 | Angles and Bearings

## Angles and Bearings

## Small Steps

- Use cardinal directions and related angles
- Draw and interpret scale diagrams
- Understand and represent bearings
- Measure and read bearings
- Make scale drawings using bearings
- Calculate bearings using angles rules
- Solve bearings problems using Pythagoras and trigonometry
- Solve bearings problems using the sine and cosine rules
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10 | Spring Term $2 \mid$ Working with Circles

## Working with Circles

## Small Steps

- Recognise and label parts of a circle
- Calculate fractional parts of a circle
- Calculate the length of an arc
- Calculate the area of a sector
- Circle theorem: Angles at the centre and circumference
- Circle theorem: Angles in a semicircle
- Circle theorem: Angles in the same segment
- Circle theorem: Angles in a cyclic quadrilateral
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Working with Circles

## Small Steps

- Understand and use the volume of a cylinder and cone
- Understand and use the volume of a sphere
- Understand and use the surface area of a sphere
- Understand and use the surface area of a cylinder and cone
- Solve area and volume problems involving similar shapes
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10 | Spring Term 3 | Vectors

## Vectors

## Small Steps

- Understand and represent vectors
- Use and read vector notation
- Draw and understand vectors multiplied by a scalar
- Draw and understand addition of vectors
- Draw and understand addition and subtraction of vectors
- Explore vector journeys in shapes
- Explore quadrilaterals using vectors
- Understand parallel vectors
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10 | Spring Term 3 | Vectors

## Vectors

## Small Steps

- Explore collinear points using vectors

Use vectors to construct geometric arguments and proofs
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10 | Spring Term $4 \mid$ Ratios and Fractions

## Ratios and Fractions

## Small Steps

- Compare quantities using a ratio
- Link ratios and fractions
- Share in a ratio (given total or one part)
- Use ratios and fractions to make comparisons
- Link ratios and graphs
- Solve problems with currency conversion
- Link ratios and scales
- Use and interpret ratios of the form $1: n$ and $n: 1$
- Solve 'best buy' problems
- Combine a set of ratios
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Ratios and Fractions

## Small Steps

- Link ratio and algebra
- Ratio in area problems
- Ratio in volume problems

Mixed ratio problems
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10| Spring Term $5 \mid$ Percentages \& Interest

## Percentages \& Interest

## Small Steps

- Convert and compare fractions, decimals and percentages
- Work out percentages of amounts (with and without a calculator)
- Increase and decrease by a given percentage
- Express one number as a percentage of another
- Calculate simple and compound interest
- Repeated percentage change
- Find the original value after a percentage change
- Solve problems involving growth and decay
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Percentages \& Interest

## Small Steps

## Understand iterative processes

Solve problems involving percentages, ratios and fractions
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10 | Spring Term 6 | Probability

## Probability

## Small Steps

- Know how to add, subtract and multiply fractions
- Find probabilities using equally likely outcomes
- Use the property that probabilities sum to 1
- Using experimental data to estimate probabilities
- Find probabilities from tables, Venn diagrams and frequency trees
- Construct and interpret sample spaces for more than one event
- Calculate probability with independent events
- Use tree diagrams for independent events
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10 | Spring Term 6 | Probability

## Probability

## Small Steps

- Use tree diagrams for dependent events
- Construct and interpret conditional probabilities (Tree diagrams)
- Construct and interpret conditional probabilities (Venn diagrams and two-way tables)
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Year 10| Summer Term 1| Delving into Data

## Delving into data

## Small Steps

- Understand populations and samples
- Construct a stratified sample
- Primary and secondary data
- Construct and interpret frequency tables and frequency polygons
- Construct and interpret two-way tables
- Construct and interpret line and bar charts (including composite bar charts)
- Construct and interpret pie charts

Criticise charts and graphs
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Delving into data

## Small Steps

- Construct histograms
- Interpret histograms
- Find and interpret averages from a list
- Find and interpret averages from a table
- Construct and interpret time series graphs
- Construct and interpret stem-and-leaf diagrams
- Construct and interpret cumulative frequency diagrams
- Use cumulative frequency diagrams to find measures
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Delving into data

## Small Steps

- Construct and interpret box plots
- Compare distributions using charts and measures
- Compare distributions using complex charts and measures
- Construct and interpret scatter graphs
- Draw and use a line of best fit
- Understand extrapolation
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Non-calculator methods

## Small Steps

- Mental/written methods of integer/decimal addition and subtraction
- Mental/written methods of integer/decimal multiplication and division
- The four rules of fraction arithmetic
- Exact answers
- Rational and irrational numbers (convert recurring decimals here)
- Understand and use surds
- Calculate with surds
- Rounding to decimal places and significant figures
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Non-calculator methods

## Small Steps

- Estimating answers to calculations
- Understand and use limits of accuracy
- Upper and lower bounds
- Use number sense
- Solve financial maths problems
- Break down and solve multi-step problems
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Types of Number and Sequences

## Small Steps

- Understand the difference between factors and multiples
- Understand primes and express a number as a product of its prime factors
- Find the HCF and LCM of a set of numbers
- Describe and continue arithmetic and geometric sequences
- Explore other sequences
- Describe and continue sequences involving surds
- Find the rule for the $n^{\text {th }}$ term of a linear sequence

Find the rule for the $n^{\text {th }}$ term of a quadratic sequence
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Indices and Roots

## Small Steps

- Square and Cube numbers
- Calculate higher powers and roots
- Powers of ten and standard form
- The addition and subtraction rules for indices
- Understand and use the power zero and negative indices
- Work with powers of powers
- Understand and use fractional indices

Calculate with numbers in standard form
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Manipulating expressions

## Small Steps

- Simplify algebraic expressions
- Use identities
- Add and subtract simple algebraic fractions
- Add and subtract complex algebraic fractions
- Multiply and divide simple algebraic fractions
- Multiply and divide complex algebraic fractions
- Form and solve equations and inequalities with fractions
- Solve equations with algebraic fractions
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

## Manipulating expressions

## Small Steps

## - Represent numbers algebraically

- Algebraic arguments and proof
(H) denotes Higher Tier GCSE content

R denotes 'review step' - content should have been covered at KS3

