

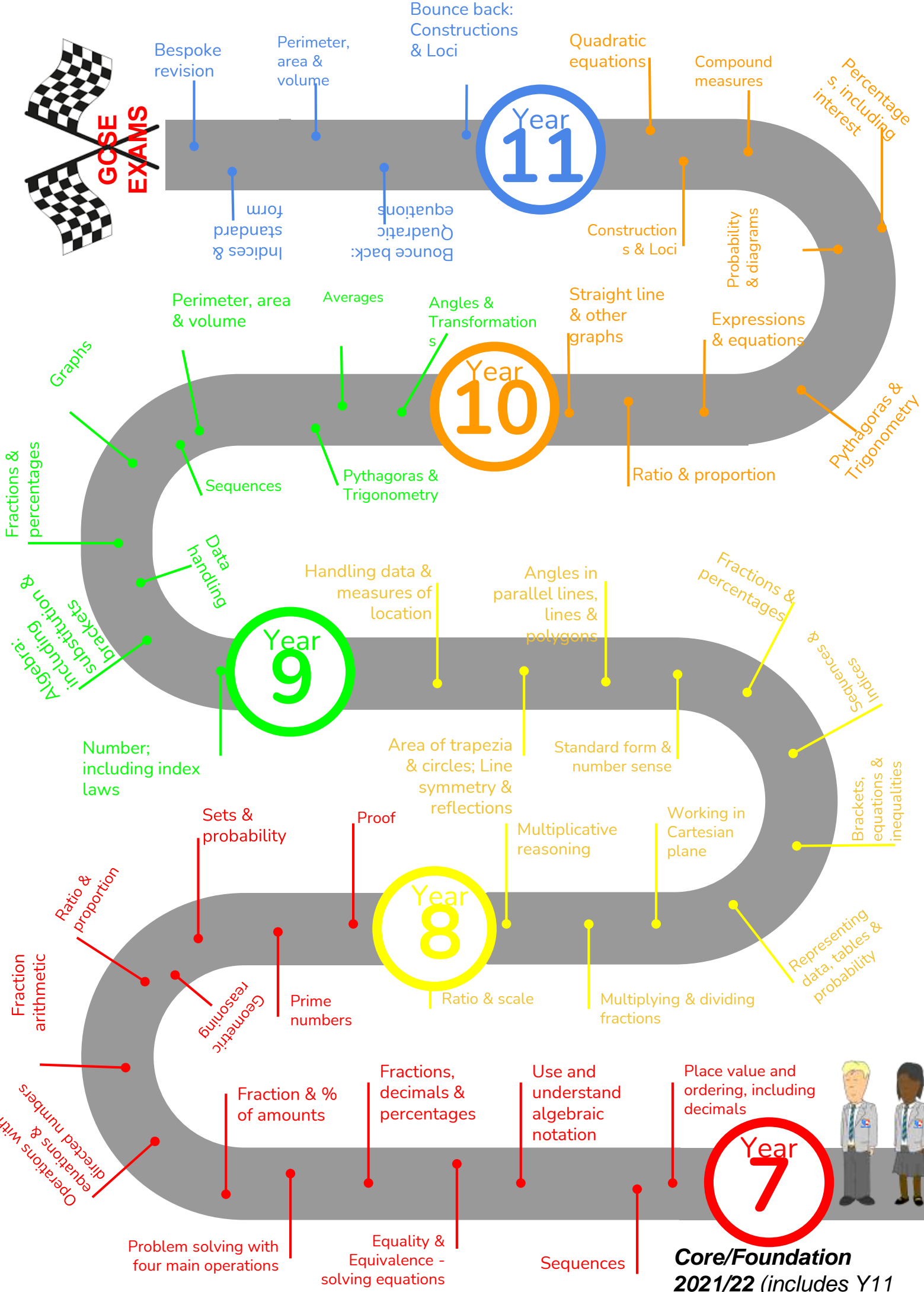


Year 11 Foundation Scheme of Learning

MODULE 1



Bishop Chadwick
Catholic Education Trust



GCSE EXAMS

Year 11

Year 10

Year 9

Year 8

Year 7



Core/Foundation 2021/22 (includes Y11 bounce back)

Bespoke revision

Perimeter, area & volume

Bounce back: Constructions & Loci

Quadratic equations

Compound measures

Percentages, including interest

Indices & standard form

Bounce back: Quadratic equations

Constructions & Loci

Probability & diagrams

Perimeter, area & volume

Averages

Angles & Transformations

Straight line & other graphs

Expressions & equations

Pythagoras & Trigonometry

Graphs

Fractions & percentages

Sequences

Pythagoras & Trigonometry

Ratio & proportion

Algebra: including substitution & brackets

Data handling

Handling data & measures of location

Angles in parallel lines, lines & polygons

Fractions & percentages

Year 9

Number; including index laws

Area of trapezia & circles; Line symmetry & reflections

Standard form & number sense

Indices, Sequences & Inequalities

Sets & probability

Proof

Multiplicative reasoning

Working in Cartesian plane

Brackets, equations & inequalities

Ratio & proportion

Fraction arithmetic

Geometric reasoning

Prime numbers

Year 8

Ratio & scale

Multiplying & dividing fractions

Representing data, tables & probability

Operations with directed numbers

Fraction & % of amounts

Fractions, decimals & percentages

Use and understand algebraic notation

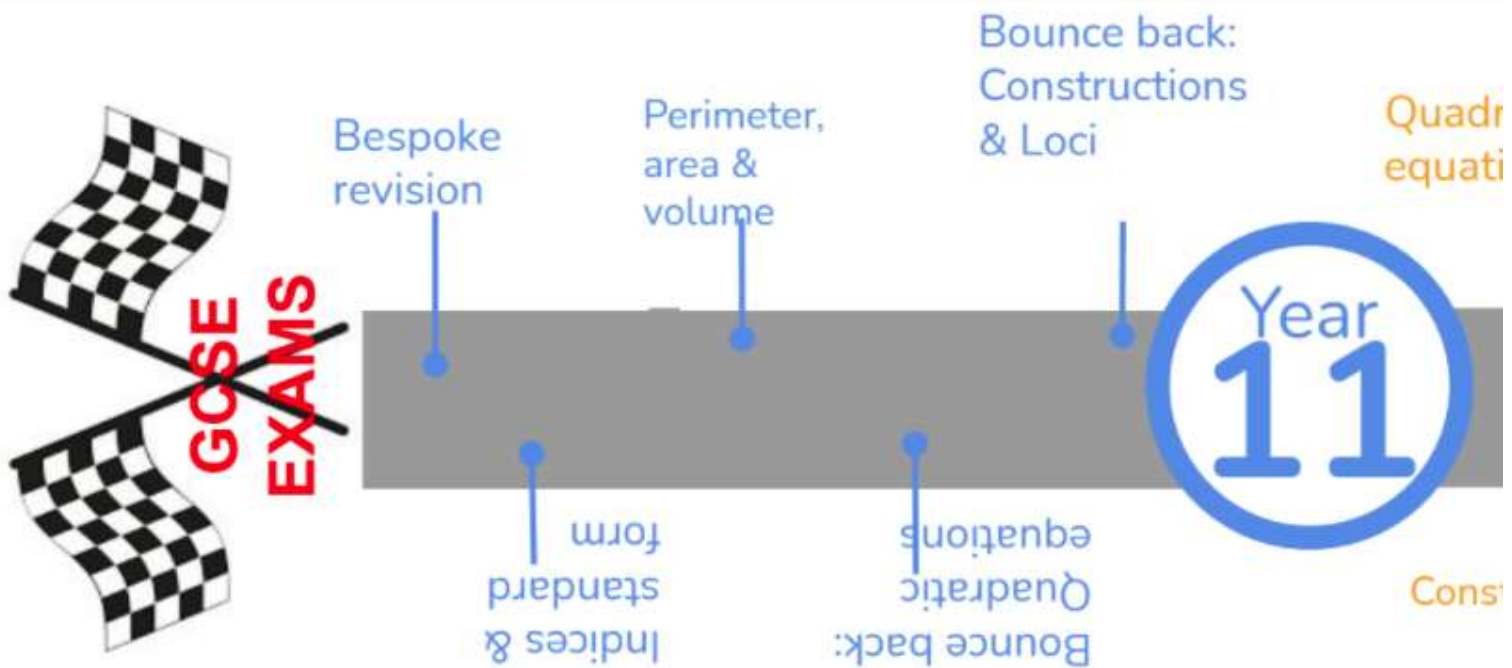
Place value and ordering, including decimals

Problem solving with four main operations

Equality & Equivalence - solving equations

Sequences

This is what your child will be taught as part of the GCSE foundation course in Year 11 in their MATHS lessons.



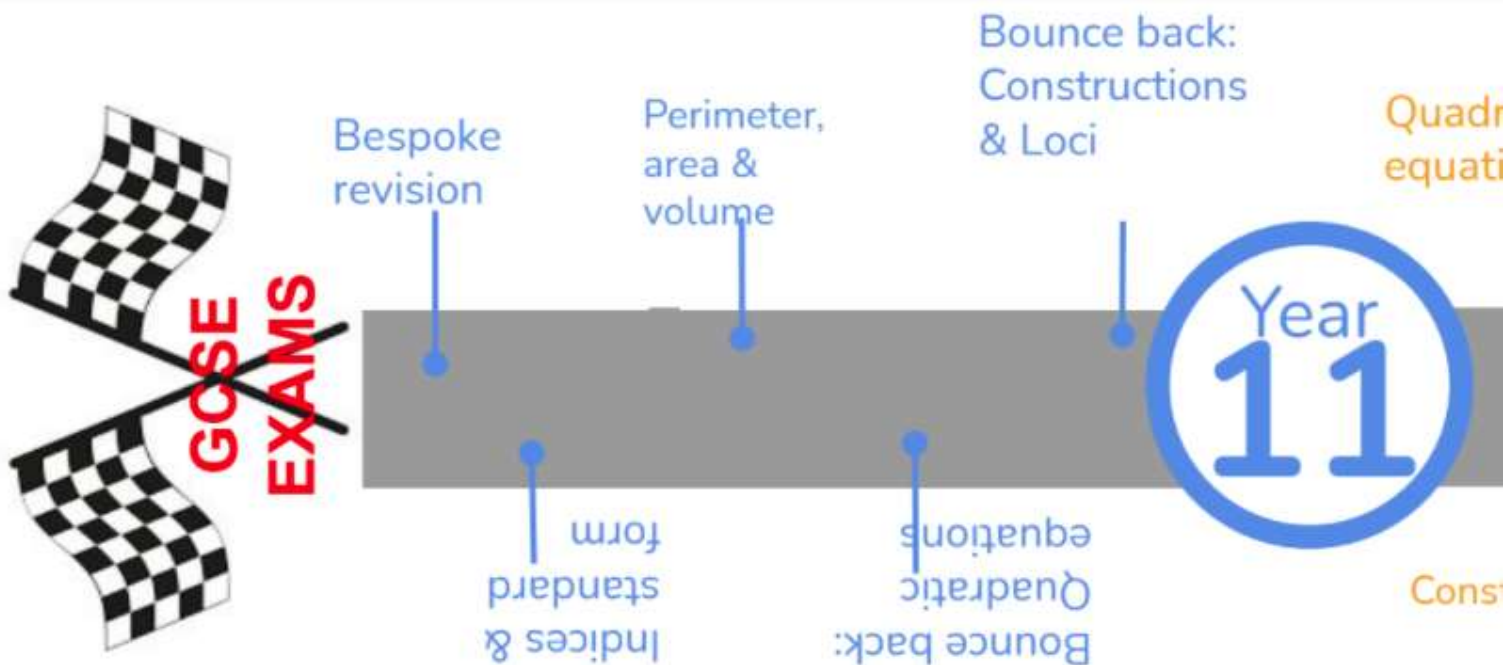
Cross Curricular Lessons



They will also have specific lessons linked to other subjects and a diet of retrieval built into their lessons.

In Year 11 Module 1 your child will study only two topics due to time being allocated for revision and mock examinations. The two topics are:

- Constructions & loci
- Quadratic equations & graphs



The Year 11 scheme of learning includes elements of our 'bounce back' scheme, which takes into account the periods of lockdown.



Constructions & Loci



Topics covered in this unit include:

- Plans and elevations
- Scale drawing
- Constructing triangles, bisectors to angles and lines
- Loci
- Bearings

Locus of a distance from a straight line

All points are equidistant (the same distance) from line.

The ends of the line are fixed points

Equipment needed
The line is straight so a ruler is used for the straight lines parallel to your original line

Construct a perpendicular from a point

Use a compass and draw an arc that cuts the line. Use the point to place the compass

Keep the compass the same distance and now use your new points to make new interconnecting arcs

Connecting the arcs makes the bisector

If P is a point on the line the steps are the same

Scale drawings

A picture of a car is drawn with a scale of 1:30

For every 1cm on my image is 30cm in real life

The car image is 10cm

Image	Real life
1cm	30cm
10cm	300cm

$\times 10$ $\div 10$

Locus of a distance from a point

All points are equidistant (the same distance) from the fixed point in the middle.

Equipment needed
The radius is the distance from the fixed point

If the point is in the corner it can only make a quarter circle

Constructing Triangles

Link to steps → R

Side, Angle, Angle

Side, Angle, Side

Side, Side, Side

Keywords

Protractor: piece of equipment used to measure and draw angles

Locus: set of points with a common property

Equidistant: the same distance

Discorectangle: (a stadium) – a rectangle with semi circles at either end

Perpendicular: lines that meet at 90°

Arc: part of a curve

Bisector: a line that divides something into two equal parts

Congruent: the same shape and size

In the algebra unit your child will study:

- Expanding double brackets
- Solving by factorising
- Plotting and using quadratic graphs
- Plotting cubic and reciprocal graphs
- Graphs of proportionality.



Keywords

Simplify: grouping and combining similar terms

Substitute: replace a variable with a numerical value

Equivalent: something of equal value

Coefficient: a number used to multiply a variable

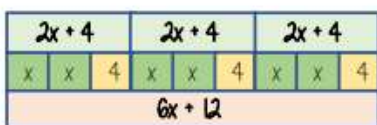
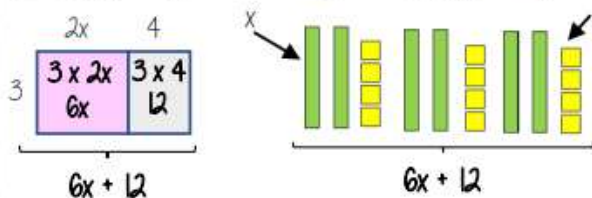
Product: multiply terms

Highest Common Factor (HCF): the biggest factor (or number that multiplies to give a term)

Inequality: an inequality compares two values showing if one is greater than, less than or equal to another

Multiply single brackets

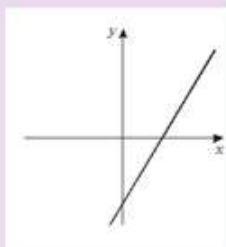
$$3(2x + 4)$$



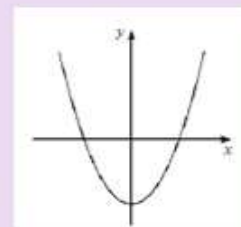
Different representations of $3(2x+4) = 6x + 12$

Unit 2: ALGEBRA

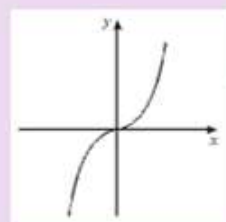
Types of Graphs



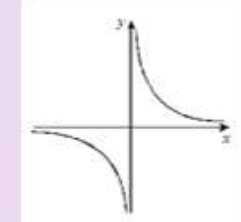
Linear



Quadratic



Cubic



Reciprocal

Expand $(x + y)(x + y)$

Multiply in grid method

x	x	y
x	x^2	xy
y	xy	y^2

$$= x^2 + xy + xy + y^2 = x^2 + 2xy + y^2$$

We recommend pupils have a Casio scientific calculator.

The Casio calculator featured is the one we use when demonstrating in lessons.



