GCSE Mathematics

Course Overview

- **Exam Board** – AQA
- **Usual Age Range** – 14-16
- **Qualification** – Equivalent to 1 GCSE
- **Curriculum Time** – Five 50 minute lessons per week (four if studying single sciences)
- **Assessment** – this curriculum is assessed via 3x 90-minute exams (2 calculator, 1 non-calculator)
- **Grading** – 9-1 (5 is the maximum grade for Foundation Tier).
- **Full specification** - https://filestore.aqa.org.uk/resources/mathematics/specifications/AQA-8300-SP-2015.PDF

Curriculum Intent

The intent of the Mathematics curriculum is to enable UTC students to become the best mathematicians they can be. We aim to do this by building up their skills base and maximising their potential in mathematics, so that when they leave school they are confident and competent to deal with any mathematical problem they face in their lives and future careers.

Our mathematics curriculum will give students the opportunity to:

- become fluent in the fundamentals of mathematics, through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and preserving in seeking solutions.
- communicate, justify, argue and prove using mathematical vocabulary.

All lessons are placed on Google Classroom, enabling students to go back over topics for revision. Students are given a breakdown of each topic with links to websites, textbook pages and career links. Students are encouraged to think about how the mathematical concepts delivered in the classroom relate to careers and the real world.

Weekly homework is set using Sparx. This allows students to consolidate their learning in class alongside an opportunity to revise previously delivered content. Following a summative assessment, students receive question by question analysis highlighting which areas they still need to work on - this is linked to sparx codes to aid independent study on those topics.

Suggested next step destinations after completion include A Level Mathematics and Core Maths (Level 3 in Mathematical Studies).

Almost all future career paths will require a certain level of mathematics, be they in technology, health care or industry. Employers value the many 'soft' skills that mathematics builds up – such as problem solving, critical thinking and numerical awareness.

Study Tips

Students will benefit additional study using the following resources:

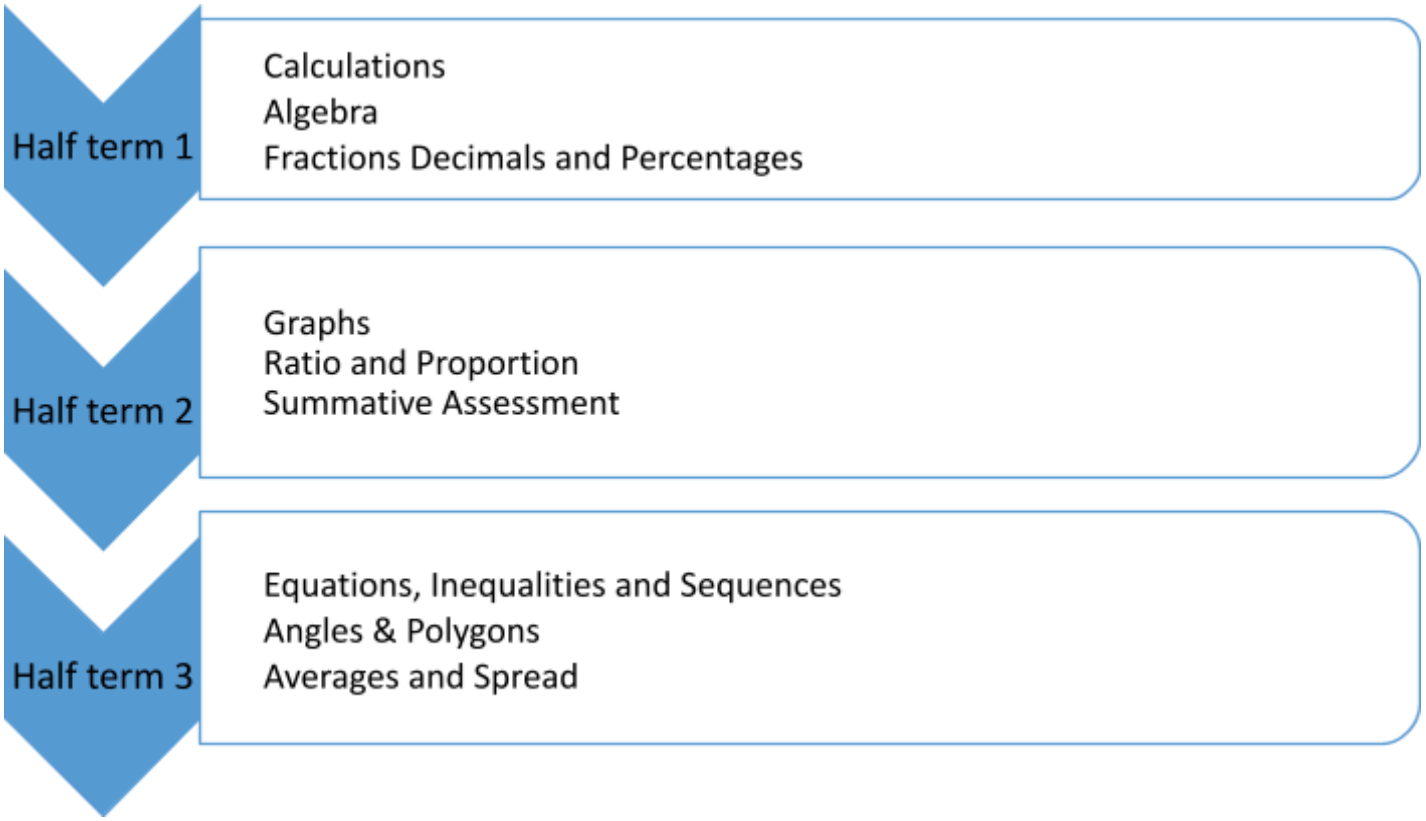
- Sparx Maths - https://www.sparxmaths.uk/ (school login required)
- CorbettMaths – https://corbettmaths.com
- MME - https://mmerevise.co.uk/gcse-maths-revision/
- MathsGenie - https://www.mathsgenie.co.uk/gcse.html
- GCSEPod – https://www.gcsepod.com/gcse-learning-and-revision-pods/

- MyMaths – https://mymaths.co.uk (school login required)
- GCSE Bitesize - https://www.bbc.co.uk/bitesize/subjects/z38pycw
- Seneca - https://senecalearning.com/en-GB/blog/gcse-maths-revision/ (school login required)
- Just Maths - https://justmaths.co.uk/
- Just Maths Foundation Tier Exam Questions - https://justmaths.co.uk/2015/11/29/9-1-exam-questions-by-topic-foundation-version-2/
- Just Maths Higher Tier Exam Questions - https://justmaths.co.uk/2015/12/21/9-1-exam-questions-by-topic-higher-tier/
- Practice Assessments and papers - https://www.aqa.org.uk/subjects/mathematics/gcse/mathematics-8300/assessment-resources

GCSE Mathematics Foundation

- The learning in GCSE Mathematics Foundation strand is structured as follows.

Year 10:



Half term 4

Representing Data
Pythagoras' Theorem
Percentages
Summative Assessment

Half term 5

Algebra
Perimeter and Area

Half term 6

Transformations
Mock Exams

Year 11:

Half term 1

Indices and Standard Form
Probability

Half term 2

Compound Measures
Trigonometry
Mock Exams

Half term 3

Quadratic Equations
Surface Area and Volume
Constructions, Loci & Bearings
Mock Exams

Half term 4

Similarity & Congruence
Vectors
Further Algebra

Half term 5

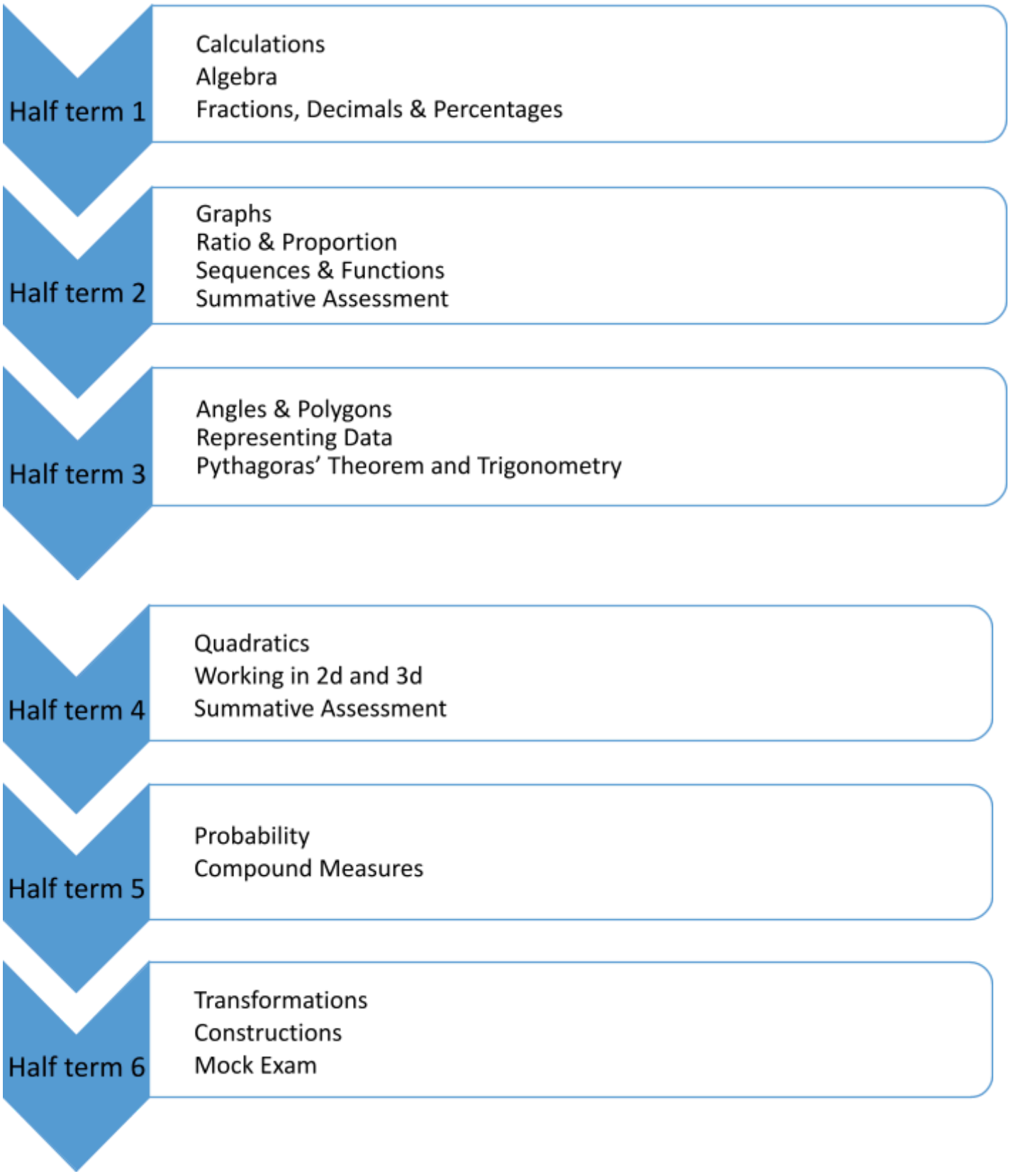
Revision of all key topics.

Half term 6

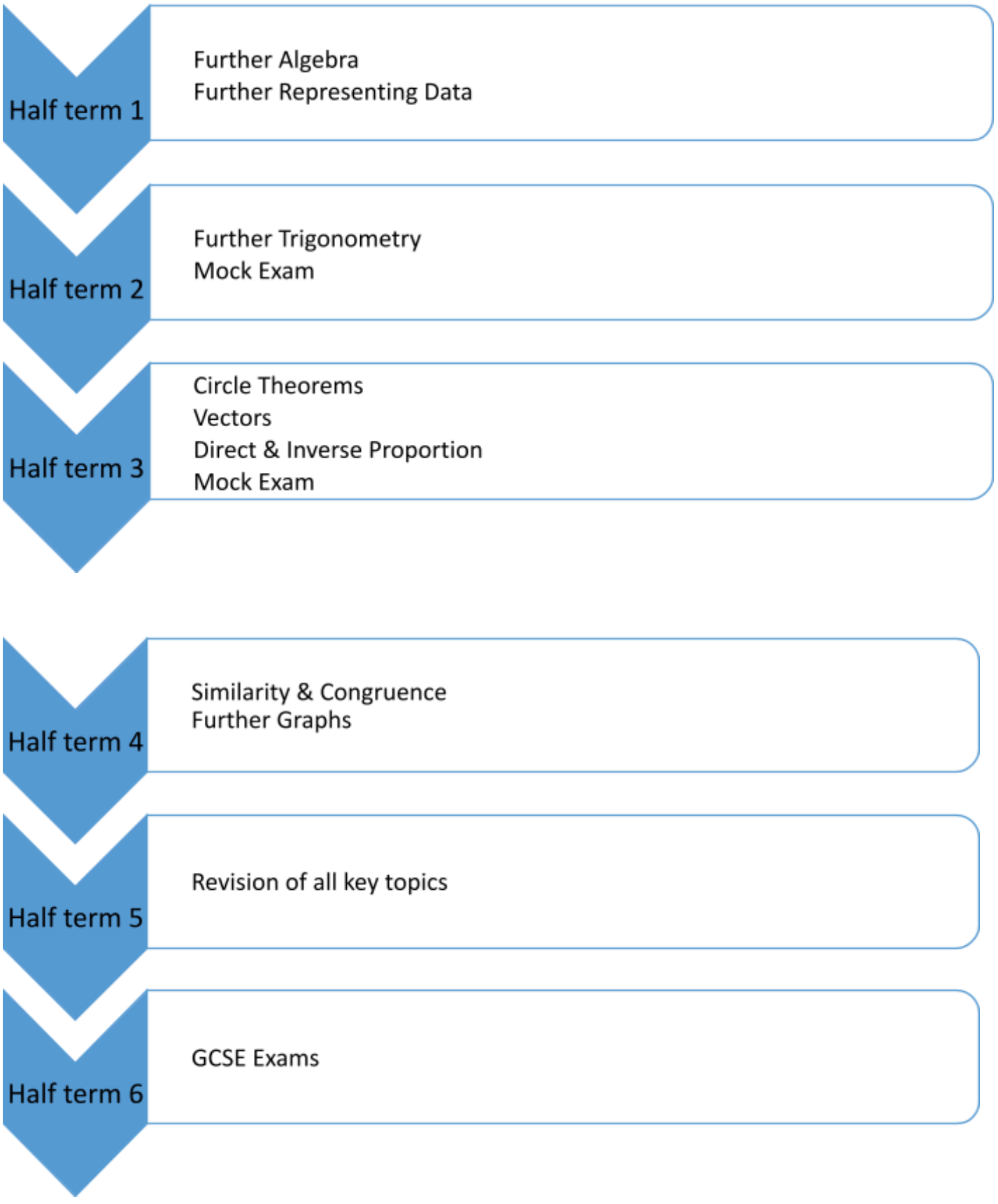
GCSE Exams

GCSE Mathematics Higher
The learning in GCSE Mathematics Higher strand is structured as follows.

Year 10:



Year 11:


Half term 1
Further Algebra
Further Representing Data
Half term 2
Further Trigonometry
Mock Exam
Half term 3
Circle Theorems
Vectors
Direct & Inverse Proportion
Mock Exam
Half term 4
Similarity & Congruence
Further Graphs
Half term 5
Revision of all key topics
Half term 6
GCSE Exams