Year 7 Maths

Core Knowledge

Unit 1 – Number

Students will cover all the basics of number – from arithmetic methods, negative numbers, powers, rounding, primes.

Unit 2 – Algebra

Students will be introduced to algebra from using variables to represent unknowns, writing expressions, using formulae, proving identities and be able to perform arithmetic skills with variables.

Unit 3 – Ratio and Proportion

Use fractions to represent amounts of a whole and perform arithmetic skills with fractions. Be able to convert between fractions, decimals and percentages. Use fractions, percentages, decimals and ratio to solve proportional reasoning problems.

Unit 4 – Geometry

Students will become competent with measuring and calculating angles including on parallel lines and in polygons. To be able to name and know the properties of all polygons, identify symmetry and calculate their area. Use mathematical instruments to perform constructions.

Unit 5 – Statistics and Probability

Collect, represent and interpret data using mathematical diagrams and average calculations. Use probability to solve problems.

Full lists of the learning objectives per unit can be found: Year 7 learning objectives

Core Skills
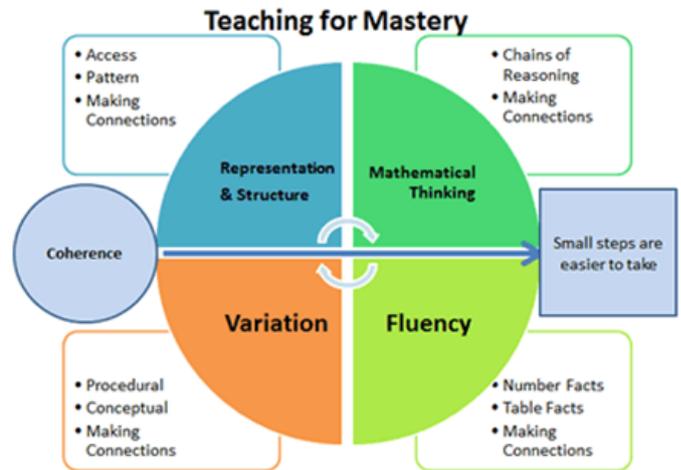
Students in Year 7 are following our new mastery scheme of work developed alongside the NCETM and Maths Hub to ensure latest educational research is leading our pedagogical approach to teaching mathematics. Lessons are broken down into small connected steps that gradually unfold the concept, providing access for all children and leading to a generalisation of the concept and the ability to apply the concept to a range of contexts.

Core skills students will develop are to:

- Use manipulatives and pictorial representations to model mathematical problems
- Be able to reason mathematically
- To be able to follow mathematical processes but also apply knowledge from across the curriculum and make connections between their learning.

Students are pushed to develop their fluency in mathematics by having a large focus of every lesson on developing student's numeracy skills in every unit of work.

Students are also given regular feedback and teacher modelling to encourage students to be able to write meticulous, detailed, and mathematically correct solutions so that students are able to communicate mathematically.

How has learning been assessed?

Students are assessed in two ways.

1. Informally using checkpoint activities, which are a teacher led lesson through an independent piece of work on all learning objectives in most recent unit. 13 checkpoints will occur through Year 7. The timing of which can be seen on our learning objective attachment above.
2. Formal summative assessments occur 3 times a year.
   Assessment 1 – Tests unit 1 only
   Assessment 2 – Tests units 1, 2 and 3
   Assessment 3 – Tests units 1, 2, 3, 4 and 5.

What is coming up in the following year?

The same 5 units of work are revisited in Year 8 but going into greater depth and complexity of mathematics within them.

Year 7 Computing

What have students at St. Crispin's been taught to understand and be able to do?

Core Knowledge

Unit 1 – Impact of technology

This unit has been designed to ensure that learners are given sufficient time to familiarise themselves with the school network. It also allows the teacher to discuss appropriate use of the school network, and to update and remind learners of important online safety issues. Whilst completing this unit, learners will also learn how to use presentation software effectively. In terms of online safety, this unit focuses on respecting others online, spotting strangers, and the effects of cyberbullying.

Unit 2 – PC basics

Students will learn the basic components of computers and how they work together. They will learn how to use computers safely and effectively both at school and home.

Unit 3 – Spreadsheets

The spreadsheet unit for Year 7 takes learners from having very little knowledge of spreadsheets to being able to confidently model data with a spreadsheet. The unit uses engaging activities to progress learners from using basic formulas to writing their own COUNTIF statements. This unit will give learners a good set of skills that they can use in computing lessons and in other subject areas.

Unit 4 – Networks

Networks have changed the way we learn, work, play, and communicate. This unit begins by defining a network and addressing the benefits of networking, before covering how data is transmitted across networks using protocols. The types of hardware required are explained, as is wired and wireless data transmission.

Core Skills

- Develop computational thinking
- Evaluate and apply ICT to solve problems
- Gain practical experience of writing computer programs
- Use a variety of programming languages.

Year 7 Computing continued

What have students at St. Crispin's been taught to understand and be able to do?

Core Knowledge

Learners will develop an understanding of the terms 'internet' and 'World Wide Web', and of the key services and protocols used. Practical exercises are included throughout to help strengthen understanding.

Unit 5- Scratch

During the scratch unit students will be able to build on their programming skills learnt during the microbits unit. Students will create a number of programs during this unit which will test their knowledge on problem solving, sequencing and programming.

Unit 6 – Microbit

This unit applies and enhances the learners' programming skills in a new engaging context: physical computing, using the BBC micro:bit. In the first half of the unit, learners will get acquainted with the host of components built into the micro:bit, and write simple programs that use these components to interact with the physical world.

Core Skills

How has learning been assessed?

Students complete project based tasks within lessons that are submitted for assessment.

What is coming up in the following year?

See Year 8 Curriculum documents—click here.