

MATHS YEAR 9: ARITHMETIC, ALGEBRA, SEQUENCES AND GRAPHS, STATISTICS

Curriculum core purpose. Intent

How does this curriculum fit into the OBHS Curriculum Specification?

In year 9 Maths is split into smaller units, namely; number, algebra, sequences and graphs, statistics and probability which builds on year 8 maths scheme of learning. Year on year the content continues to build as does the skills required to complete the work. Basic numeracy continues to be reinforced across the school in form times.

How is this linked to prior learning? How do units/ topics/ chunks fit together to form the curriculum narrative and prepare students for the next phase of their learning?

The year 8 scheme of work forms the prerequisite knowledge and whilst some parts are revisited when gaps in knowledge appear, year 9 has significant additional content and is now referred to as 'Foundation' and 'Higher'. Rather than teaching all number, followed by all algebra and so on the students are taught the work in smaller chunks. Connections and relationships between these units work are encouraged by this method and helps to reinforce each other. Depending on the ability of the students and other relevant factors such as time this linking between topics may occur as extension to the existing piece of work or looking at the bigger picture.

How does this curriculum respond to local and national agendas (e.g. SMSC and BV)?

Topics are not taught in isolation they are linked wherever possible to real life context and across other areas of the curriculum.

Content-Knowledge and Skills.

The year 9 curriculum can be summarised as follows:

Core and Extension:

Number, basic algebra, sequences and graphs and statistics.

Whilst the units look the same and as an example, the core first unit would look at the four operations with 3 by 3 digits whilst the extension first unit looks at the four operations using decimals. Depending on the ability of the maths set would depend on which level of scheme of learning is mainly followed. Through differentiation when understanding is secure, teachers are encouraged to extend the challenge of each topic to minimise a gap forming between sets.

Subject specific pedagogy

In comparison to years 7 and 8 the year 9 curriculum builds in terms of content but also in terms of the skills involved. In previous years the work is taught in fairly basic depth, however, relationships between topics are reinforced and looked at in context. Mastery of each topic and extension is given to achieve greater depth. Worded questions and 'multi-layered' problems are started in year 9. Open discussion of how problems can be tackled are encouraged.

Resources and support

Basic scaffolding of worked examples, notes and questions is given from various sources and formats to support all students in their understanding. A Concrete, Pictorial, Abstract approach is taken. Manipulatives such as multilink cubes, playing cards, number lines are encouraged to enable students to visualise new concepts.

Feedback, assessment and progress.	Habits
<p>Students are formally assessed at the end of each term based on the scheme of learning. Each assessment is cumulative so that the complexity increases throughout the year. Student's exercise books are marked on a two / three week cycle and feedback is given in a number of ways: students are encouraged to self and peer assess by green pen marking of their own work for instant feedback. Whilst marking, teachers will periodically model solutions where a consistent mistake is made and complete a green sheet at the end of the student's work indicating 'next steps', which are then reviewed in the next two marking cycle as per policy. Topics are then re-taught by the teacher following the exercise books being returned as appropriate and students complete personalised DIRT work according to the feedback. DIRT work can be consolidation, application or extension depending on the level of understanding of the student. This may be of the form of consolidation but those secure in their understanding may be extension.</p> <p>Assessment, feedback from student voice and from teachers leads to changes in the scheme of learning and this is reviewed on an yearly basis. Assessments are moderated initially within department to gauge their effectiveness and at SET department meetings.</p>	<p>Over years 7 and 8 students subject knowledge will have significantly increased therefore their focus is on resilience.</p> <p>The skills that we are looking for students to develop are;</p> <ul style="list-style-type: none"> ● Students to persevere with more complex problems and attempt different ways to tackle them. They should be able to reflect on their own mistakes and learn from them. ● Students should dare to try more complex work despite it looking difficult rather than admitting defeat. <p>These skills will be highlighted in lessons, taught and practiced.</p>