

MATHS YEAR 8: NUMBER, ALGEBRA, GEOMETRICAL REASONING, SEQUENCES AND GRAPHS

Curriculum core purpose. Intent

How does this curriculum fit into the OBHS Curriculum Specification?

Maths is taught over seven lessons per two week timetable. As a subject it is split into smaller units, namely; number, algebra, geometry, statistics and probability. Rather than teaching number followed by algebra and so on, it is chunked for variety for teacher and student. The emphasis on year 8 scheme of learning being on number and algebra but this is not taught in isolation.

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?

Over the academic year, learning and progress is built on prior topics taught. Basics and consolidation occurs whenever there are gaps in understanding and complexity of each topic continues throughout the year. Topics are taught in increasing level of difficulty in terms of units previously mentioned. Key Stage 3 scheme of learning forms a prerequisite to Key Stage 4. For example, using Pythagoras' Theorem requires knowledge of basic algebra including solving simple equations, area, indices and basic shapes which are covered at Key Stage 3.

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 8 curriculum can be summarised as follows: Arithmetic, Geometrical reasoning, basic algebra, other number (proportion, ratio, measures, equivalence, percentages and fractions) and sequences and graphs.

Subject specific pedagogy

In Maths, notes and worked examples are given, explaining key words and terms. Each topic taught is broken down into smaller chunks and modelled through teacher examples; understanding is checked by self, peer assessment and using mini-whiteboards ('show me' boards). This ensures the work is pitched at the right level and any misconceptions are addressed. When the topic content is securely understood then application to various contexts and is then linked to other areas.

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>Here you might consider the minimum skills you would want students to have developed through the learning tasks and pedagogy in your subject lessons over the course of this year. See example below.</p> <p>Students are expected to develop their level of Mathematical resilience throughout the course both at KS3 and KS4. As the level of complexity of the problems increase they are expected to attempt different mathematical approaches until they reach a sensible, appropriate solution.</p> <p>Whilst initial teaching and learning is sometimes best suited to individual work, paired and group work are excellent tools for problem solving. During paired or group work students need to work collaboratively with others, often learning from mistakes, sharing ideas and discussion.</p>