Maths

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content- WHAT will be learned? What previous learning can be linked? Why this order/sequence? We sequence our curriculum in this order to reduce cognitive load by drawing on prior knowledge and logically plan episodes of learning so that they accumulate in small stages, securing understanding at one stage before moving on to the next. Skills are revisited as via interleaved starters and retrieval practise throughout the year. Knowledge of course content is covered during early stages of the curriculum and then built upon at spaced intervals allowing skills to be improved upon over time.	 Numbers and Numerals Axioms and Arrays Number operations Primes, Factors, Multiples HCF/LCM 	 Negative Numbers Expressions Equations Inequalities 	 Fractions Algebraic Fractions Ratio 	 Percentages Forming and solving equations 	 Angles 2-D shapes Area Accuracy and Estimation 	 Univariate data Bivariate data Probability
Skills- What will be developed?	Learners develop their mathematical fluency in a range of areas through a concrete, pictorial and abstract (CPA) approach. Learners apply their understanding to be able to solve problems in a range of different contexts. Learners explain their reasoning when identifying solutions to problems and when responding to mathematical statements. Number skills are the crucial elements of all aspects of the mathematics curriculum. They form the concrete building block for all other areas within the course so naturally these concepts are covered at the very beginning of the KS3 curriculum.	Learners develop their mathematical fluency in a range of areas through a concrete, pictorial and abstract (CPA) approach. Learners apply their understanding to be able to solve problems in a range of different contexts. Learners explain their reasoning when identifying solutions to problems and when responding to mathematical statements. The basics of algebra are introduced here. After embedding the number skills that are required, it naturally follows that unknown values are brought in to begin the basic processes of modelling and problem solving.	Learners develop their mathematical fluency in a range of areas through a concrete, pictorial and abstract (CPA) approach. Learners apply their understanding to be able to solve problems in a range of different contexts. Learners explain their reasoning when identifying solutions to problems and when responding to mathematical statements. Fractions are a key concept of all mathematical studies but are at a more advanced level than the number work that has been covered so far. To ensure that work with Algebraic fractions can be covered along with numerical fractions this unit of work has been placed	Learners develop their mathematical fluency in a range of areas through a concrete, pictorial and abstract (CPA) approach. Learners apply their understanding to be able to solve problems in a range of different contexts. Learners explain their reasoning when identifying solutions to problems and when responding to mathematical statements. Percentages require the understanding of fractions hence they are taught once all fractions work has been completed. Forming and solving equations builds upon all algebraic skills that are taught previously and	Learners develop their mathematical fluency in a range of areas through a concrete, pictorial and abstract (CPA) approach. Learners apply their understanding to be able to solve problems in a range of different contexts. Learners explain their reasoning when identifying solutions to problems and when responding to mathematical statements. Geometry requires only good numerical skills; questions also delve into problem solving aspects where an understanding of algebra is required. Forming and solving equations is a key element of this topic and it builds upon the skills learned in the previous half terms curriculum.	Learners develop their mathematical fluency in a range of areas through a concrete, pictorial and abstract (CPA) approach. Learners apply their understanding to be able to solve problems in a range of different contexts. Learners explain their reasoning when identifying solutions to problems and when responding to mathematical statements. The Statistical skills learned here rely heavily on the number work foundations from earlier in the year.

Year Group: 7

			after the basic of algebra has been covered.	require a solid knowledge of fractions.		
Key 'How'/'Why' Questions- What powerful knowledge will be gained? What areas/themes/concepts will be explored?	How to apply the content listed above in the real-world address why the skills are learned in school. Contextual questions related to the learning designed to embed the ideas to allow the concepts to be used later in the curriculum where they are built upon in other topics that rely of the fluency of these skills. The number system and manipulation of it are essential in all areas of Mathematics.	How to apply the content listed above in the real- world address why the skills are learned in school. Contextual questions related to the learning designed to embed the ideas to allow the concepts to be used later in the curriculum where they are built upon in other topics that rely of the fluency of these skills. The number system and manipulation of it are essential in all areas of Mathematics. The basics of algebra are essential skills for year 8 Mathematics and beyond. They also underpin a huge amount of the key stage 4 curriculum.	How to apply the content listed above in the real- world address why the skills are learned in school. Contextual questions related to the learning designed to embed the ideas to allow the concepts to be used later in the curriculum where they are built upon in other topics that rely of the fluency of these skills. The number system and manipulation of it are essential in all areas of Mathematics. The basics of algebra are essential skills for year 8 Mathematics and beyond. They also underpin a huge amount of the key stage 4 curriculum. There is now a separate strand for Ratio and Proportion in the KS4 curriculum so a solid understanding at this stage is crucial for progression in	How to apply the content listed above in the real- world address why the skills are learned in school. Contextual questions related to the learning designed to embed the ideas to allow the concepts to be used later in the curriculum where they are built upon in other topics that rely of the fluency of these skills. The number system and manipulation of it are essential in all areas of Mathematics. The basics of algebra are essential skills for year 8 Mathematics and beyond. They also underpin a huge amount of the key stage 4 curriculum. Solving Equations is vital for nearly all areas of Mathematics.	How to apply the content listed above in the real- world address why the skills are learned in school. Contextual questions related to the learning designed to embed the ideas to allow the concepts to be used later in the curriculum where they are built upon in other topics that rely of the fluency of these skills. The number system and manipulation of it are essential in all areas of Mathematics. These skills are essential later in the course.	How to apply the content listed above in the real- world address why the skills are learned in school. Contextual questions related to the learning designed to embed the ideas to allow the concepts to be used later in the curriculum where they are built upon in other topics that rely of the fluency of these skills. The number system and manipulation of it are essential in all areas of Mathematics. Data manipulation is essential in every career. These underpinning skills pave the way for the work-related statistics to be learned.
SEND- how will support be seen? Seating plans? Simplified questions?	 Seating plans for all classes. SEND and identified pupils placed strategically to ensure the best possible support. Colour copies for all Irlen's students All SEND notes taken into consideration for the pupils that this affects. Support given to pupils who struggle or have been identified as weaker in the groups. Classrooms and boards uncluttered to ensure an optimal learning 	 Seating plans for all classes. SEND and identified pupils placed strategically to ensure the best possible support. Colour copies for all Irlen's students All SEND notes taken into consideration for the pupils that this affects. Support given to pupils who struggle or have been identified as weaker in the groups. Classrooms and boards uncluttered to ensure an optimal learning 	 Seating plans for all classes. SEND and identified pupils placed strategically to ensure the best possible support. Colour copies for all Irlen's students All SEND notes taken into consideration for the pupils that this affects. Support given to pupils who struggle or have been identified as weaker in the groups. Classrooms and boards uncluttered to ensure an optimal learning 	 Seating plans for all classes. SEND and identified pupils placed strategically to ensure the best possible support. Colour copies for all Irlen's students All SEND notes taken into consideration for the pupils that this affects. Support given to pupils who struggle or have been identified as weaker in the groups. Classrooms and boards uncluttered to ensure an optimal 	 Seating plans for all classes. SEND and identified pupils placed strategically to ensure the best possible support. Colour copies for all Irlen's students All SEND notes taken into consideration for the pupils that this affects. Support given to pupils who struggle or have been identified as weaker in the groups. Classrooms and boards uncluttered to ensure an optimal learning 	 Seating plans for all classes. SEND and identified pupils placed strategically to ensure the best possible support. Colour copies for all Irlen's students All SEND notes taken into consideration for the pupils that this affects. Support given to pupils who struggle or have been identified as weaker in the groups. Classrooms and boards uncluttered to ensure an optimal learning

	environment (only relevant information given)	environment (only relevant information given)	environment (only relevant information given)	learning environment (only relevant information given)	environment (only relevant information given)	environment (only relevant information given)
Assessment- What? Why?	Informal assessment via low stakes quizzes and cold calling to check the understanding of all pupils regularly.	Informal assessment via low stakes quizzes and cold calling to check the understanding of all pupils regularly.	Informal assessment via low stakes quizzes and cold calling to check the understanding of all pupils regularly.	Informal assessment via low stakes quizzes and cold calling to check the understanding of all pupils regularly.	Informal assessment via low stakes quizzes and cold calling to check the understanding of all pupils regularly.	Informal assessment via low stakes quizzes and cold calling to check the understanding of all pupils regularly.
	GL Assessments for accurate target grades	Formal Maths assessments to determine progress towards target grade. QLA to inform future planning of retrieval practice and interleaved learning. Movement between sets to ensure all pupils are in the correct learning environment.		Formal Maths assessments to determine progress towards target grade. QLA to inform future planning of retrieval practice and interleaved learning. Movement between sets to ensure all pupils are in the correct learning environment.		Formal Maths assessments to determine progress towards target grade. QLA to inform future planning of retrieval practice and interleaved learning. Movement between sets going into the next academic year to ensure all pupils are in the correct learning environment.
What memory for learning skills will be required- modelling? Concrete answers? Retrieval?	Interleaved starters used to retrieval practise. Cold calling in lessons. Questioning techniques to draw out knowledge of pupils and re-enforce their understanding. Model answers using visualisers/surface pro machines. Scaffolding in lessons appropriate to each group. Basic skills practised as starter activities and model answers are demonstrated. Regular checking of understanding of new topics via questioning and mini quizzes	Interleaved starters used to retrieval practise. Cold calling in lessons. Questioning techniques to draw out knowledge of pupils and re-enforce their understanding. Model answers using visualisers/surface pro machines. Scaffolding in lessons appropriate to each group. Continued practise of basic skills as a starter activity along with some questions on topics learned in the early stages of year 7 and model answers are demonstrated where appropriate. Regular checking of understanding of new topics via questioning and mini quizzes	Interleaved starters used to retrieval practise. Cold calling in lessons. Questioning techniques to draw out knowledge of pupils and re-enforce their understanding. Model answers using visualisers/surface pro machines. Scaffolding in lessons appropriate to each group. Questions from previously learned skills are used as starter questions, some basic skills are checked during starter activities as well to ensure that the foundations are regularly revisited. Model answers are demonstrated where appropriate. Regular checking of understanding of new topics via questioning and mini quizzes	Interleaved starters used to retrieval practise. Cold calling in lessons. Questioning techniques to draw out knowledge of pupils and re-enforce their understanding. Model answers using visualisers/surface pro machines. Scaffolding in lessons appropriate to each group. KS3 topics revisited as starters, model answers are demonstrated where appropriate. Regular checking of understanding of new topics via questioning and mini quizzes	Interleaved starters used to retrieval practise. Cold calling in lessons. Questioning techniques to draw out knowledge of pupils and re-enforce their understanding. Model answers using visualisers/surface pro machines. Scaffolding in lessons appropriate to each group. KS3 topics revisited as starters, model answers are demonstrated where appropriate. Regular checking of understanding of new topics via questioning and mini quizzes	Interleaved starters used to retrieval practise. Cold calling in lessons. Questioning techniques to draw out knowledge of pupils and re-enforce their understanding. Model answers using visualisers/surface pro machines. Scaffolding in lessons appropriate to each group. Routines should now be embedded, and pupils should now be able to manage expectations of all aspects of the teaching.

Literacy - reading, extended accurate writing and oracy opportunities	Key words/terms emphasised and highlighted in lessons. Reading and breaking down questions to allow all learners to access the skills needed.	Key words/terms emphasised and highlighted in lessons. Reading and breaking down questions to allow all learners to access the skills needed.	Key words/terms emphasised and highlighted in lessons. Reading and breaking down questions to allow all learners to access the skills needed.	Key words/terms emphasised and highlighted in lessons. Reading and breaking down questions to allow all learners to access the skills needed.	Key words/terms emphasised and highlighted in lessons. Reading and breaking down questions to allow all learners to access the skills needed.	Key words/terms emphasised and highlighted in lessons. Reading and breaking down questions to allow all learners to access the skills needed.
Numeracy/computing skills	All topics require good numeracy skills	All topics require good numeracy skills	All topics require good numeracy skills	All topics require good numeracy skills	All topics require good numeracy skills	All topics require good numeracy skills
Character development	Cold calling ensures that all pupils are required to answer questions as there is a no opt out culture. Pupils with Anxiety around this are managed well and the teachers ensure that they are included but feel supported. Real life examples and experiences are called upon regularly. Routines are vital to character development and in the early stages of the year these will be set by the teacher.	Cold calling ensures that all pupils are required to answer questions as there is a no opt out culture. Pupils with Anxiety around this are managed well and the teachers ensure that they are included but feel supported. Real life examples and experiences are called upon regularly. Routines should be established but they should also be regularly re-iterated to ensure high standards throughout the year. This happens at the start of each half term.	Cold calling ensures that all pupils are required to answer questions as there is a no opt out culture. Pupils with Anxiety around this are managed well and the teachers ensure that they are included but feel supported. Real life examples and experiences are called upon regularly. Routines well established so that pupils feel confident in taking chances and explore the work to their potential with the support of the teacher as a driving force.	Cold calling ensures that all pupils are required to answer questions as there is a no opt out culture. Pupils with Anxiety around this are managed well and the teachers ensure that they are included but feel supported. Real life examples and experiences are called upon regularly. Teacher pupil relationships well established and the confidence from each party is such that they have mutual trust and respect to explore even more difficult concepts.	Cold calling ensures that all pupils are required to answer questions as there is a no opt out culture. Pupils with Anxiety around this are managed well and the teachers ensure that they are included but feel supported. Real life examples and experiences are called upon regularly. Throughout the year pupils are building their skills in conjunction with the teacher and growing in confidence so that they can manage themselves well even if the work becomes too difficult. Working alongside the teacher, each pupil should now know what to do when the work becomes difficult and does	Cold calling ensures that all pupils are required to answer questions as there is a no opt out culture. Pupils with Anxiety around this are managed well and the teachers ensure that they are included but feel supported. Real life examples and experiences are called upon regularly. Pupils by now should be resilient in their maths class and be able to manage themselves well when things become difficult.
Equality/Diversity opportunities	Real world e.g's used Super curriculum available for all learners. Where the curriculum lends itself, a range of diverse careers are incorporated into the real-life applications of the mathematics.	Real world e.g's used Super curriculum available for all learners. Where the curriculum lends itself, a range of diverse careers are incorporated into the real-life applications of the mathematics.	Real world e.g's used Super curriculum available for all learners. Where the curriculum lends itself, a range of diverse careers are incorporated into the real-life applications of the mathematics.	Real world e.g's used Super curriculum available for all learners. Where the curriculum lends itself, a range of diverse careers are incorporated into the real-life applications of the mathematics.	not ignore it. Real world e.g's used Super curriculum available for all learners. Where the curriculum lends itself, a range of diverse careers are incorporated into the real-life applications of the mathematics.	Real world e.g's used Super curriculum available for all learners. Where the curriculum lends itself, a range of diverse careers are incorporated into the real-life applications of the mathematics.
	Open dialogue with teachers from day one regarding potential careers in maths.	Pupils are actively encouraged to ask appropriate questions and seek support.	Real life maths skills are identified within the teaching of the curriculum and highlighted during lessons.	Practical applications of the maths work referred to in lessons and explored in context.	Practical skills in many jobs are embedded in the skills and questions that are covered in lessons. The application of these skills is	All aspects of the curriculum at this stage are important life skills and appear in many careers and such

					addressed I the classroom too.	careers are highlighted within the work
Homework/Independent learning CIAG coverage/links	Regular homework on the topics listed above throughout the half term. Use of Hegarty (Sparx) and Mymaths to aid both homework and independent learning. Super curriculum activities in maths Super curriculum activities in maths. Real life examples and uses for the topics where appropriate such as shopping lists, arrangements, finding the number of permutations of meal choices, as well as solving practical problems such as splitting a bill or calculating ages.	Regular homework on the topics listed above throughout the half term. Use of Hegarty (Sparx) and Mymaths to aid both homework and independent learning. Super curriculum activities in maths Super curriculum activities in maths. Real life examples and uses for the topics where appropriate such as spreadsheets, weather patterns and engineering to highlight potential careers that involve Mathematics.	Regular homework on the topics listed above throughout the half term. Use of Hegarty (Sparx) and Mymaths to aid both homework and independent learning. Super curriculum activities in maths Super curriculum activities in maths. Real life examples and uses for the topics where appropriate. The need for numerical fluency in all careers is shared on a regular basis.	Regular homework on the topics listed above throughout the half term. Use of Hegarty (Sparx) and Mymaths to aid both homework and independent learning. Super curriculum activities in maths Super curriculum activities in maths. Real life examples and uses for the topics where appropriate. The need for numerical fluency, especially with percentages, and problem- solving skills in all careers is shared on a regular basis.	Regular homework on the topics listed above throughout the half term. Use of Hegarty (Sparx) and Mymaths to aid both homework and independent learning. Super curriculum activities in maths Super curriculum activities in maths. Real life examples and uses for the topics where appropriate. Practical skills in many jobs are embedded in the skills and questions that are covered in lessons. The application of these skills is addressed I the classroom	Regular homework on the topics listed above throughout the half term. Use of Hegarty (Sparx) and Mymaths to aid both homework and independent learning. Super curriculum activities in maths Super curriculum activities in maths. Real life examples and uses for the topics where appropriate. All aspects of the curriculum at this stage are important life skills and appear in many careers and such careers are highlighted within the work.
	Open dialogue with teachers from day one regarding potential careers in maths.				too.	