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| **What will we be learning?*****Number:*** Place Value, Types of number, Properties of number, arithmetic procedures with Integers (inc negatives) and decimals.***Geometry:*** Parallel and triangle angle facts.***Algebra:*** Conventions, vocabulary, interpreting and manipulating algebraic expressions. | **Why this? Why now?**A deep understanding of the properties of number and our number system is the foundation of all maths that is to follow. Strengthening prior understanding allows new concepts and ideas to form and be connected throughout Key Stage 3 and beyond.Geometry and Algebra units provide new content discovery early in Year 7 and provide the foundation for these topics to be investigated further in Year 8, 9 and beyond. | **Key Words:**DecimalSignificant FiguresCube rootExponentHighest Common FactorIndexLowest Common MultiplePrime Factor DecompositionSquare RootVenn DiagramAdditive IdentityAssociativeCommutativeDistributiveMultiplicative IdentityRational NumberReciprocalBinomialEquationExpressionFactoriseFormulaSubstitute/SubstitutionVariable |
| **What will we learn?*** Understand place value including in the context of measures.
* Order and compare numbers using <, >, =.
* Understand the principle of numbers being written in different bases. Converting between binary and decimal.
* Understand multiples, factors, primes (including prime factorisation), square, cubes roots and exponents.
* Understand the mathematical structures that underpin the four operations.
* Be able to apply the four operations to positive/negative integers and decimals.
* Understand parallel angle facts and angle facts in triangles.
* Be able to use and apply the laws of arithmetic, commutative, associative and distributive law and calculate using the correct order of operations.
* Use and apply algebraic notation and conventions to manipulate algebraic expressions.
* Be able to form, expand, simplify and factorise algebraic expressions.
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| **What opportunities are there for wider study?****Dr Frost Maths** is the primary resource that we use for homestudies and it has lots of useful revision tools.  Alongside this, you can search for a specific topic and you can either practise some questions online or watch a video. Under the resources section, there is also a “Full Coverage” document for some topics that have a huge bank of exam questions on the topic in question.  [https://www.drfrostmaths.com/course.php?sid=-10](https://www.drfrostmaths.com/course.php?sid=-10%E2%80%AF%E2%80%AF)**Corbett Maths -** video links as well as Practice Questions and Textbook Exercises and answers available.  [https://corbettmaths.com/contents/](https://corbettmaths.com/contents/%E2%80%AF)**MathsGenie -** website that has videos and exam questions (along with worked solutions).  <https://www.mathsgenie.co.uk/advance-information.html> Computing – use of binary numbersInvestigating different number systems from different cultures including Roman, Babylonian, Arabic.**Career Link**Cryptologist  |
| **How will I be assessed?**Half term assessmentsHomestudy tasksQuality of classwork |