

Year 9 Autumn 1

Foundation

Higher

Number

Integers and place value

- Ordering positive and negative numbers
- Use the simple less than and greater than
- Adding and subtracting positive and negative numbers
- Multiplication table up to 10×10
- Multiply and divide numbers by 10, 100 and 1000
- BIDMAS
- Rounding to the nearest 10, 100 and 1000
- Estimating answers

Calculations, checking and rounding

- Add, subtract, multiply and divide whole numbers and decimals
- Multiply and divide by numbers between 0 and 1
- Product rule of counting
- Rounding to the nearest 10, 100 and 1000
- Rounding to a given number of decimal places
- Rounding to a given number of significant figures
- Estimating answers

Decimals

- Decimals and place values
- Ordering decimals
- Adding and subtracting decimals
- Multiplying and dividing decimals
- Multiply and divide by numbers between 0 and 1
- Round to the nearest whole number
- Rounding to a given number of decimal places
- Rounding to a given number of significant figures
- Estimating
- Efficient use of a calculator

Indices, Roots, Reciprocals and Hierarchy of Operations

- Integer powers of 10
- Efficient use of a calculator
- Estimating powers and roots of numbers
- Values of numbers with positive, fractional and negative index
- Reciprocal
- A number to powers zero
- Laws of indices (numbers)
- Solve problems involving indices
- BIDMAS
- Ordering numbers including indices

Assessment 1

<p>Indices, Powers, and Roots</p> <ul style="list-style-type: none"> - Finding squares and cubes of numbers - Finding square roots and cube roots of numbers - Recall cube numbers such as 1^3, 2^3, 3^3, 4^3, 5^3 and 10^3 - Know that square root of a number produces two answers - Index notation - Adding, subtract, divide and multiply numbers in index form - Index notation for powers of 10 including negative - Laws of indices 	<p>Factors, Multiples and Primes</p> <ul style="list-style-type: none"> - Factors, multiples and prime numbers - Prime factor decomposition - HCF and LCM - Solve problems with HCF and LCM
<p>Factors, Multiples and Primes</p> <ul style="list-style-type: none"> - Listing three-digit numbers - Even and odd numbers - Identify factors, multiples and prime numbers - Prime factor decomposition - LCM and HCF - Solve problems with HCF and LCM 	<p>Standard Form and Surds</p> <ul style="list-style-type: none"> - Writing large and small numbers in standard form and vice versa - Adding and subtracting in standard form - Multiplying and dividing in standard form - Interpreting calculator display and standard form - Understand surd notation - Simplify surds
<p>Algebra</p>	
<p>Basic Algebra</p> <ul style="list-style-type: none"> - Algebraic notations - Expressions, terms, identities, equations, formula and identity - Collecting like terms - Cancelling down algebraic expressions - Laws of indices and algebra 	<p>Algebra Basic</p> <ul style="list-style-type: none"> - Language of algebra - Algebraic expressions - Terms, expressions, identity, equations and formula - Collect like terms - Substitution - Index notation and algebra - Multiply out brackets - Factors of algebraic terms - Product of two linear brackets - Factorising simple expressions - Factorising quadratic expressions - Difference between two squares

<p>Expanding and Factorising single Brackets</p> <ul style="list-style-type: none"> - Expanding simple brackets - Expanding and simplifying the outcome - Algebraic factors - Factoring 	<p>Setting Up, rearranging and Solving Equations</p> <ul style="list-style-type: none"> - Set up simple equations - Solve simple linear equations - Simple equations with unknown on both sides - Linear equations and problem solving - Substitution - Change the subject of formula - Simple proof of identities - Iteration
<p>Expressions and Substitution into Formulae</p> <ul style="list-style-type: none"> - Worded problems and algebraic expressions - Substitutions - Substitutions and worded problems 	<p>Sequences</p> <ul style="list-style-type: none"> - Generate sequences from number patterns - Term-to-term rule - Position-to-term rule - Nth term of sequences - Generate terms of quadratic sequences - Nth term of quadratic sequences - Term to term rule of geometric sequences - Sequences and real-life problems
<p>Statistics</p>	
<p>Tables</p> <ul style="list-style-type: none"> - Use suitable data collection techniques - Data collection sheet - Sort, classify and tabulate data; both discrete and continuous - Construct tables for time series - Time notation: 12- and – 24 hour clock - Two-way table - Travel timetable - Draw and interpret frequency table - Mode and modal group from a frequency table or diagrams 	<p>Averages and Range</p> <ul style="list-style-type: none"> - Two-way table - Sort, classify and tabulate data - Averages and small data set - Advantages and disadvantages of mean, median and mode - Stem-and-leaf diagram including back-to-back - Averages and frequency table - Averages and grouped frequency table - Explain why the mean from a grouped frequency table is only an estimate
<p>End-of-Term Assessment</p>	

