



**Topic: Volume, Nets and Surface Area**

**Prior learning:**  
Area  
Perimeter

Multiplication  
Substitution

Learning sequences			Endpoints
	Acquiring	On track	
<b>Main Learning Steps</b>	<ul style="list-style-type: none"> <li>■ Find the area of various 2D shapes</li> <li>■ Recognize of nets 3D shapes</li> </ul>	<ul style="list-style-type: none"> <li>■ Find the volume of prisms</li> <li>■ Find the surface area of triangular prisms</li> </ul>	<ul style="list-style-type: none"> <li>■ Given surface area find the volume and vice versa</li> <li>■ Find volumes and surface areas including algebraic lengths</li> </ul>
	<ul style="list-style-type: none"> <li>■ Be able to draw nets from 3D shapes</li> <li>■ Find the volume of cuboids and cuboids</li> </ul>	<ul style="list-style-type: none"> <li>■ Find the area of circles</li> <li>■ Find the volume of prisms including cylinders</li> </ul>	
<b>Assessments</b>	<ul style="list-style-type: none"> <li>• Check of understanding in class and homework</li> <li>• End of year assessment will contain questions from this and all previous topics</li> </ul>		

<b>Where will we use these ideas again:</b> Further surface area and volume	Problem solving with areas
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**Topic: Fractions, Decimals and Percentages (Chapter 10)**

**Prior learning:**

Familiarity with operations  
Equivalent and simplifying

Use of a calculator

Understanding of fractions, decimals and percentage conversions

Learning sequences				Endpoints
	Acquiring	On track	Extending	
Main Learning Steps	<ul style="list-style-type: none"> <li>■ Convert basic fractions, decimals and percentages</li> <li>■ Find 10% and 5% of an amount</li> </ul>	<ul style="list-style-type: none"> <li>■ Convert FDP using division</li> <li>■ Find any % of an amount (non-calc)</li> <li>■ Increase an amount using a multiplier</li> </ul>	<ul style="list-style-type: none"> <li>■ Convert re-occurring fractions to decimals and vice versa</li> <li>■ Find the original value using a multiplier</li> <li>■ Express changes in values as a percentage</li> </ul>	<ul style="list-style-type: none"> <li>■ To convert between fractions, decimals and percentages</li> <li>■ To find a percentage of an amount without and with a calculator</li> <li>■ To find a fraction of an amount</li> <li>■ To find the whole value given a fraction of an amount</li> <li>■ To increase and decrease using a multiplier</li> <li>■ To find the original value using a multiplier (H)</li> <li>■ To express changes as a percentage (H)</li> <li>■ Complete frequency trees using FDPs</li> </ul>
	<ul style="list-style-type: none"> <li>■ Conver FDP with values over 100</li> <li>■ Find 20%, 25% and 50% of an amount</li> <li>■ Find percentage of an amount with a calculator</li> <li>■ Find a fraction of an amount</li> </ul>	<ul style="list-style-type: none"> <li>■ Advancing</li> <li>■ Given a fraction find the full amount</li> <li>■ Decrease an amount using a multiplier</li> <li>■ Complete frequency trees using FPDs</li> </ul>		
Assessments	<ul style="list-style-type: none"> <li>• Check of understanding in class and homework</li> <li>• End of unit test</li> </ul>			

<p><b>Where will we use these ideas again:</b> Further use of multiplier Compound and simple interest</p>	Probability
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**Topic: Types of Number and Number Skills (Chapter 12)**

**Prior learning:**

- Factors
- Multiples

Rules of rounding

Learning sequences				Endpoints
	Acquiring	On track	Extending	
Main learning steps	<ul style="list-style-type: none"> <li>■ Recognize square and cubed numbers</li> </ul>	<ul style="list-style-type: none"> <li>■ Find the prime factor decomposition of values</li> <li>■ Round to decimals places</li> </ul>	<ul style="list-style-type: none"> <li>■ Complete calculations with integers and indices</li> <li>■ Complete calculations with decimals including multi-step equations</li> </ul>	<ul style="list-style-type: none"> <li>▪ To recognize squares, cubes, primes and roots</li> <li>▪ To find the HCF and LCM through listing</li> <li>▪ To find the prime factor decomposition</li> <li>▪ To find the HCF and LCM of two or more values using Venn diagrams</li> <li>▪ To complete indices calculations with integers</li> <li>▪ To round to various decimal places and significant figures</li> <li>▪ To complete estimation calculations</li> </ul>
		Working towards		
	<ul style="list-style-type: none"> <li>■ Find the square and cubed number of any values</li> <li>■ Recall square roots</li> <li>■ Find the HCF and LCM of values through listing</li> <li>■ Round to nearest 10, 100, 1000 etc.</li> </ul>	<ul style="list-style-type: none"> <li>■ Find the HCF and LCM of values using PF decomposition and Venn Diagrams</li> <li>■ Round integers and decimals to significant figures</li> </ul>		
Assessments	<ul style="list-style-type: none"> <li>• Check of understanding in class and homework</li> </ul>			

<p><b>Where will we use these ideas again:</b></p> <p>Exterior and interior angles</p> <p>Area of more complex shapes</p>	<p>Volume</p> <p>Surface area</p> <p>Circle theorems</p>
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**Topic: Transformations (Chapter 15)**

*Prior learning:*  
Coordinates

Drawing accurate shapes

<i>Where will we use these ideas again:</i> <b>Learning sequences</b>			<b>Endpoints</b>
GCSE transformations	<b>Acquiring</b>	<b>On track</b>	
<b>Main learning steps</b>	<ul style="list-style-type: none"> <li>■ Recall the rotational symmetry of shapes</li> <li>■ Reflect shape on a grid</li> </ul>	<ul style="list-style-type: none"> <li>■ Rotate shapes on a graphical plane including an internal point of reflection</li> <li>■ Describe reflection and rotation</li> <li>■ Translate shapes with words</li> </ul>	<ul style="list-style-type: none"> <li>■ Describe Enlargement</li> <li>■ Enlarge with a fractional scale factor</li> <li>■ Enlarge shapes on a graphical plane from a point (not negative)</li> <li>■ Describe and complete multiple transformations</li> </ul>
	<b>Working towards</b>	<b>Advancing</b>	
	<ul style="list-style-type: none"> <li>■ Reflect shapes on a graphical plane</li> <li>■ Rotate shapes on a grid</li> </ul>	<ul style="list-style-type: none"> <li>■ Translate shapes using vectors</li> <li>■ Describe translation</li> <li>■ Enlarge shapes on a grid</li> </ul>	
<b>Assessments</b>	<ul style="list-style-type: none"> <li>• Check of understanding in class and homework</li> </ul>		

<p><i>Where will we use these ideas again:</i> Graphs GCSE Transformations</p>	
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**Topic: Sequences (Chapter 8) and Multiplicative Change (Chapter 2)**

*Prior learning:*  
Number Patters

Substitution  
Calculations

Multiplication  
Units

Learning sequences				Endpoints
	Acquiring	On track	Extending	
<b>Main learning steps</b>	<ul style="list-style-type: none"> <li>Find the next in a linear sequence</li> <li>Find the missing term in a sequence</li> </ul>	<ul style="list-style-type: none"> <li>Generate a linear sequence from its nth term</li> <li>Find the missing term when two or more gaps in a sequence</li> <li>Find the nth term of a negative sequence</li> </ul>	<ul style="list-style-type: none"> <li>Find the nth term of a quadratic sequence</li> <li>Find the constant with direct proportion</li> </ul>	<ul style="list-style-type: none"> <li>To find the next term in a sequence (linear and non-linear)</li> <li>To generate a sequence from its nth term</li> <li>To find the missing term in a sequence</li> <li>To find the nth term of a sequence</li> <li>To use direct proportion to find values</li> <li>To complete and use conversion graphs</li> <li>To interpret and use scale drawings</li> </ul>
		Working towards		
	<ul style="list-style-type: none"> <li>Find the next in a non-linear sequence</li> <li>Find the nth term of a linear sequence</li> </ul>	<ul style="list-style-type: none"> <li>Generate a non-linear sequence from its nth term</li> <li>Using direct proportion find values</li> <li>Complete and use conversion graphs</li> <li>Interpret and use scale drawings</li> </ul>		
<b>Assessments</b>	<ul style="list-style-type: none"> <li>Check of understanding in class and homework</li> </ul>			

<p><b>Where will we use these ideas again:</b> Indirect proportion Non-Linear nth terms</p>	<p>Graphs</p>
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