

## The North Gosforth Academy Maths Learning Journey – Year 9

The below descriptions are indicative of the skills a pupil working at these levels will develop throughout their journey through our Year 7 mathematics curriculum. Some criteria are cumulative and therefore levels include many elements of the preceding levels by implication.

Level	Definition
<b>Emerging</b>	<p>Students are able to demonstrate fluency in Mathematics and a developing ability to decision make and solve problems.</p> <p>Students working at this level can:</p> <ul style="list-style-type: none"> <li>• Accurately recall number facts, terminology and definitions</li> <li>• Use and interpret notation correctly</li> <li>• Accurately carry out routine procedures or tasks requiring single step solutions</li> <li>• Recall basic number facts with increasing accuracy.</li> <li>• Communicate basic information</li> </ul>
<b>Developing</b>	<p>Students have an increasing ability to use and apply standard mathematical concepts. Their ability to solve problems and select correct techniques is increasing.</p> <p>Students working at this level can:</p> <ul style="list-style-type: none"> <li>• Recall and use notation, terminology, facts and definitions; perform routine procedures, including some multi-step procedures</li> <li>• Interpret and communicate basic information; make deductions and use reasoning to obtain results</li> <li>• Solve problems by translating simple mathematical and non-mathematical problems into mathematical processes</li> <li>• Provide basic evaluation of methods or results</li> <li>• Interpret results in the context of the given problem</li> </ul>
<b>Achieving</b>	<p>Students have an increasing ability to use and apply standard techniques. They have increasing independence when solving problems within mathematics and in other relevant contexts.</p> <p>Students working at this level can:</p> <ul style="list-style-type: none"> <li>• Confidently recall terminology, facts and definitions; perform routine procedures, including multi-step procedures</li> <li>• Solve problems by translating simple mathematical and non-mathematical problems into mathematical processes</li> <li>• Begin to make and use connections between different parts of mathematics and apply them to a range of problems</li> <li>• Interpret results in the context of the given problem</li> <li>• Evaluate methods used and results obtained</li> </ul>
<b>Exceeding</b>	<p>Students are confident in their ability to reason, interpret and communicate mathematically.</p> <p>Students working at this level can, generally:</p> <ul style="list-style-type: none"> <li>• Make deductions, inferences and draw conclusions from mathematical information</li> <li>• Construct chains of reasoning to achieve a given result</li> <li>• Interpret and communicate information accurately</li> <li>• Present arguments and proofs with increasing confidence</li> <li>• Perform multi-step procedures effectively by applying terminology and using formulae</li> <li>• Interpret and communicate information effectively</li> </ul>

	<ul style="list-style-type: none"> <li>Use strategies to solve mathematical and non-mathematical problems by translating them into mathematical processes, realising connections between different parts of mathematics and confidently combining skills to solve problems</li> </ul>
<b>Excelling</b>	<p>Students have an extensive ability to solve problems within mathematics and in other contexts.</p> <p>Students working at this level can, generally:</p> <ul style="list-style-type: none"> <li>Perform procedures accurately</li> <li>Interpret and communicate complex information accurately</li> <li>Make deductions and inferences and draw conclusions</li> <li>Construct substantial chains of reasoning, including convincing arguments and formal proofs</li> <li>Generate efficient strategies to solve complex mathematical and non-mathematical problems by translating them into a series of mathematical processes</li> <li>Make and use connections, which may not be immediately obvious, between different parts of mathematics</li> <li>Critically evaluate methods, arguments, results and the assumptions made</li> </ul>

Throughout Key Stage 3 assessments are designed to assess both skills and knowledge. They will assess newly taught content as well as some previous taught topics to ensure students can recall content over time.

A mathematical concept e.g. area, will be taught every year and will get progressively more complex over time. If you require more specific detail on what topic is taught when please refer to the departmental curriculum intentions.

Content

In Year 9, the students' Knowledge journey increases in challenge further to include...								
In Year 8, students' Knowledge journey increases in challenge to include...						Assessment 1	Assessment 2	Assessment 3
In Year 7, students' Knowledge journey includes...			Assessment 1	Assessment 2	Assessment 3			
<b>Assessment 1</b>	<b>Assessment 2</b>	<b>Assessment 3</b>	<b>Number:</b> properties, calculations, FDP <b>Algebra</b> equivalence, indices and standard form <b>Algebra</b> expressions, substitution, <b>Algebra</b> expressions, substitution,	<b>Number:</b> properties, calculations, FDP <b>Algebra</b> equivalence, indices and standard form <b>Algebra</b> expressions, substitution,	<b>Algebra</b> sequences, graphs <b>Geometry</b> area, volume, units of measure, transformations <b>Data</b> averages, charts and graphs	<b>Number:</b> FDP equivalence, fractions, percentages indices and standard form <b>Algebra</b> expressions, substitution, <b>Geometry</b> constructions	<b>Number:</b> ratio, proportional reasoning <b>Algebra</b> equations, formulae, inequalities, sequences <b>Geometry</b> area, volume, units of measure	<b>Algebra</b> graphs <b>Geometry</b> angles, Pythagoras' theorem, transformations <b>Data</b> probability, averages, charts and graphs

