

**Subject:** Maths      **Year** 10      **Ability** Foundation

Half Term 4 / weeks	Week 1-2	Week 3-4	Week 5	
<b>Topic</b>	Unit 22 Data handling	Unit 23 Inequalities	Unit 24 – Standard Form	Reteach and Retention
<b>Topic overview</b>	To recall and recap more basic charts and diagrams before adapting this knowledge to include more complicated diagrams	To recall the knowledge gained when handling and solving equations and extend this into inequalities including diagrammatically.	The first introduction to standard form, using the notation to write big or small numbers understanding the notation this creates.	Focus on the process of reteach and retention, knitting together the learning in reaction to the assessments completed
<b>Pupils will learn...</b>				
<b>Components</b>	<ul style="list-style-type: none"> <li>To produce and interpret comparative and dual bar charts.</li> <li>To produce pictograms.</li> <li>To produce frequency polygons for grouped data</li> <li>To produce and interpret a histogram.</li> <li>To produce and interpret pie charts.</li> </ul>	<ul style="list-style-type: none"> <li>To represent inequalities on a number line.</li> <li>To solve linear inequalities.</li> <li>To represent inequalities graphically</li> <li>To solve quadratic inequalities.</li> <li>To solve problems involving inequalities.</li> </ul>	<ul style="list-style-type: none"> <li>To write numbers in standard form and vice versa.</li> <li>To perform calculations in standard form.</li> <li>To use a calculator to perform calculations in standard form.</li> </ul>	Staff complete a program of adaptive reteaching on specific topics based on the individual/class needs within their groups. Regular assessments are used to identify gaps in learning. Any gaps found are then addressed in lessons to help support learning and retention. Clear areas for improvement are monitored by individual staff and at a departmental level.
<b>What pupils should already know (prior learning components)</b>	Students should have a strong understanding of scales, using a protractor and be able to recall basic angle facts. Students will also need to be able to work out percentages and fractions of amounts	Students will need knowledge of the inequality symbols and remember how to solve solving linear equations. Algebraic manipulation such as expanding brackets and gathering like terms will be needed as well as knowing how to find the equation of horizontal and vertical lines, equations of straight lines in the form $y = mx + c$	Students will need knowledge of basic indices rules and place value	All the half term content will have been covered by this point. Staff will use departmental tracking documents to analyse the gaps in learning from the most recent assessments and all previous assessments. The ability to structure and breakdown a problem-solving question as exemplified in the TFI questions throughout the course.
<b>Transferrable knowledge (skills)</b>	These data handling ideas and skills should allow students to be able to understand these charts and diagrams in wider life.	The topic will bring together the handling of algebra with the ability to show this information in diagrammatic form. This in turn will further support solving, drawing linear graphs and being able to identified regions.	The topic will build students' confidence with basic standard form. These skills can underpin almost all of subsequent mathematics where standard form is used as part of a larger question. This is particularly the case with standard form notation which will be used repeatedly in density or speed questions when very large or small numbers are needed.	This activity should serve to highlight and address areas of weakness in teaching and learning or retention. This early intervention to understand specific key areas for improvement or development. This should help to build confidence and improve students' ability to answer these and directly sequential problems.
<b>Key vocabulary pupil will know and learn</b>	Comparative, Dual bar chart, Pie chart, Pictogram, Line graph, Frequency polygon, Grouped data, Histograms, Equal class intervals, Axes,	Inequalities, Number line, Linear equations, Graphical inequalities, Solid lines, Dotted lines,	Standard form, Ordinary number, Calculations, Mass, Speed,	

<b>Assessment activities</b>	Homework 22 Data handling Year 10 test 10	Homework 23 Inequalities Year 10 test 10	Homework 24 – Standard Form Year 10 test 10	AFL and adaptive teaching will continue to support staff to assess the address areas.
<b>Resources available</b>	Mathswatch clip: 63, 16, 65, 205, 128	Mathswatch: 138, 139, 198, 212	Mathswatch: 83, 77	Before any assessments are completed, revision and guidance materials are provided for students to assist in independent study.
Notes <b>Why this topic is important...</b>	Understanding how data is life skill that allows people of all ages to understand and process data that is being presented including hiding/promoting data. This topic works with existing basic skills and moves through the more complicated charts that students should be able to create and read. A strong focus should be made in what is “meant” in the data and what the data “shows” and “does not show”	The manipulation and solving of standard equations are a key element of this unit as it will be needed to solve inequalities. The unit starts with students being able to show a given inequality on a number line before moving to solving them. After solving students should then be able to show these on a diagram. Students will then need to recall plotting of straight lines to be able to identify regions that satisfy given inequalities pulling together a number of previously discrete topics.	In this unit the ideas to standard form are introduced to allow students the ability to see the need for a way of writing either very big or small numbers. The need and value of accuracy will also be visited. This unit should aim to allow students the ability to handle standard form when it appears as a part of a larger question.	This is an important point in the curriculum plan that enables individual teachers to review the gaps in learning for the classes they teach. The half-termly assessments are used to track students’ progress and enable teachers to react quickly to any gaps in knowledge and prepare students for the next assessment. The feedback and modelling of the exam answers enables students to pick up exam techniques and the ability to communicate effectively.