| 边 WERNETH $\begin{gathered}\text { SCHOOL } \\ \text { SS3 MATHS Year } 8 \text { Progression Grid }\end{gathered}$ |  |  |  |
| :---: | :---: | :---: | :---: |
|  | Working Towards | Expected Standard | Greater Depth |
|  | By the end of Year 8 a student should be able to: | By the end of Year 8 a student should be able to: | By the end of Year 8 a student should be able to: |
| A U T U M N | Can find the next term in a range of sequences including linear, geometric and fibonacci <br> Can generate a sequence from a given rule <br> Can solve simple one step and two step equations using function machines Can state the numbers that satisfy an inequality <br> Can draw an inequality on a number line Can substitute into simple formula Able to represent a repeated multiplication in index form <br> Can square and cube roots numbers Can apply the three basic laws of indices separately | Able to find the nth term of a sequence from numbers and pictorial representations Can generate a sequence from a $n$th term Can calculate if a number is in a sequence through solving equations Can solve two step equations involving answers that are negatives and decimals Can solve basic equations involving applications such as perimeter and angles Can solve an inequality displaying answer on a number line Can substitute into complex formula involving negative and indices Can use several index laws in one question to simplify an algebraic expression involving multiple variables Can expand and factorise single brackets | Can solve multi step equations that involve fractions and algebraic simplification <br> Can solve equations where the perimeter of two shapes needs to be equated <br> Can solve an inequality between two intervals for $x$ <br> Can simplify expressions involving fractional powers <br> Can expand and simplify multiple singular brackets |


| S P R I N | Can measure and draw angles to 1 degree accuracy <br> Can find missing angles on lines, points and triangles <br> Can find angles in parallel lines <br> Can write a ratio and simplify <br> Reduce a ratio to its simplest form <br> Can interpret a scale on a diagram and or map <br> Can draw and measure a bearing | Can create a variety of constructions using a compass and protractor including perpendicular bisectors <br> Can find angles in parallels lines using multiple rules <br> Can find internal and external angles of polygons <br> Can share in a ratio given the total or part Can use ratio to convert between two currencies <br> Can calculate bearings using angle facts Can draw a plan and elevation of shapes | Can choose a appropriate construction to find a locus of a point Can find angles in parallels using solving equations Can problem solve with internal and external angles of polygons including finding the number of sides Can combine two ratio's to find a missing part |
| :---: | :---: | :---: | :---: |
| S <br>  <br> $M$ <br> $M$ <br> $M$ | Can find the area of basic shapes (Square, rectangle, triangle) <br> Can name the parts of a circle <br> Can find the surface area of a cube <br> Can find the volume of a cube <br> Can construct and interpret bar and line charts <br> Can calculate a mean, mode, median or range from a data set | Can find the area of more complex shapes including trapeziums Can find the area of a compound shape Can find the area and circumference of a circle <br> Can find the surface area of a 2D shape Can find the volume of a 3D shape Can find the surface area and volume of a cylinder <br> Can construct and interpret a pie chart Can compare two distributions displayed in different charts Can find an average from grouped data | Can find missing sides in complex shapes given the area <br> Can find the area of a compound shape involving circles <br> Can use the volume of a shape to answer a functional based question <br> Can find the volume of a compound solid <br> Can find the mean of a data set given information of multiple sets <br> Can find missing values in grouped data |

