Hanley Castle High School curriculum outline for parents: **Maths**

		Autumn Term		Spring Term		Summer Term	
Year 8	**Topic** Big question / Overview	Numbers and the number system Convert numbers into standard form and vice versa. Mathematical movement Understand and use lines parallel to the axes, y=x and y=-x Calculating part 1 Calculating with decimals	Calculating part 2 Apply the order of operations including brackets and powers. Understanding risk I Calculate theoretical probabilities for single events. Measuring data interpret, analyse and compare the distributions of data sets. Algebraic proficiency: tinkering Factorise an expression by taking out common factors.	Algebraic proficiency: tinkering Change the subject of a formula when two steps are required. Proportional reasoning Find a relevant multiplier when solving problems involving proportion. Pattern sniffing Explore number sequences.	Investigating angles apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles Calculating fractions, decimals and percentages Use calculators to increase and decrease an amount by a percentage using multiplicative methods.	Solving equations and inequalities Solve linear equations with unknowns on both sides. Calculating space Apply the formulae for circumference and area of a circle.	Algebraic proficiency: visualising Plot and interpret graphs of linear functions. Understanding risk II Develop understanding of probability Presentation of data Construct and interpret graphs
	Disciplinary knowledge/skills	Reasoning and problem solving with different forms of numbers and graphs.	Problem solving involving measuring data and factorising expressions.	Developing proportional reasoning skills.	Making links to solve angle problems. Further reasoning to calculate FDP.	Forming and solving equations or calculating areas.	Plotting graphs to visualise patterns.
Stage 8	New vocabulary	Prime factorisation Product Venn diagram Standard form Significant figure (Cartesian) coordinates Axis, axes, x-axis, y-axis Origin Quadrant Operation Inverse Long multiplication Short division	Power Indices Roots Probability, Event Outcome Impossible, Unlikely, Evens chance, Likely, Certain Equally likely Mutually exclusive Exhaustive Possibility space Experiment Calculate an estimate Grouped frequency Midpoint Consistency Variable Factorise	Formula, Formulae Change the subject Multiplier Speed Unitary method Units Compound unit Pattern Sequence Linear Term Term-to-term rule Position-to-term rule Ascending Descending	Vertically opposite Parallel Alternate angles, corresponding angles Interior angle, exterior angle Regular polygon Proper fraction, improper fraction, top-heavy fraction, vulgar fraction Multiplier Increase, decrease Percentage change	Equation Operation Solve Brackets Symbol Substitute Graph Point of intersection Circle Centre Radius, diameter, chord, circumference Pi	Linear Coordinate plane Gradient y-intercept Experiment, Combined experiment Frequency tree Enumerate Set Venn diagram Possibility space, sample space Axis, axes Scatter graph (scatter diagram, scattergram, scatter plot) Bivariate data (Linear) Correlation Positive correlation, Negative correlation