KS3 Mathematics Curriculum Coverage: 2023 – 2024

Year 8 Summer Term

Sequenced	Block 13: Angles in polygons and parallel lines	Block 14: Area of a trapezium and circles	Block 15: Handling data	Block 16: Measures of location
Key Knowledge	To know: • adjacent angles on a straight line sum to 180˚ • angles around a point sum to 360˚ • vertically opposite angles are equal • angles in a triangle sum to 180˚ • angles in a quadrilateral sum to 360˚ • alternate angles are equal • corresponding angles are equal • co interior angles sum to 180˚ • sum of exterior angles is 360˚ • sum of interior angles in any polygon (n – 2) x 180	To know: • Pi is the ratio between the diameter and circumference of a circle • Pi (π)=3.14 to 2 decimal places • parts of a circle • the relationship between the diameter and the radius is D = 2r • the formula for the area of a trapezium, parallelogram and circle • the location of relevant buttons on a calculator, including Pi • that multiples of Pi and integers are not like terms • to state the correct units for area and perimeter	To know: • the steps involved in setting up a statistical enquiry • advantages and disadvantages of taking a sample • the advantages and disadvantages of using primary and secondary data • understand the idea of bias questions in questionnaires • the difference between continuous and discrete data • the difference between qualitative and quantitative data • recognise different types of graphs and charts for representing data – pictograms, bar charts, line charts, pie charts, line graphs • features that make a misleading graph	To know: • how to calculate the mean, median, mode and range • what an outlier is • when a particular average is more appropriate than another to use • that the total of discrete data in a frequency table is the sum of the data x frequency • how to find the midpoint between two numbers
Key Skills	To be able to: • apply angles rules to find missing angles • apply more than one angle rules to find missing angles • decide on correct methods to deduct angles • give reasons for answers • find missing angles using algebra • **construct angle bisectors and perpendicular (H)**	To be able to: • calculate the area of a rectangles, parallelograms, triangles, trapezia and circles • calculate missing lengths given the area of the above shapes • calculate the area of circles and parts of circles with and without a calculator • give answers as multiples of Pi and rounded to a given degree of accuracy • calculate the area of compound shapes, including those with parts of circles	To be able to: • design and criticise data collection sheets • design and criticise questionnaires • draw and read from pictograms, line graphs and bar charts • draw and interpret pie charts • choose appropriate diagrams and charts dependent on the data set • group quantitative data into frequency tables • find and interpret the range • compare distributions using charts • criticize misleading graphs	To be able to: • calculate and use the mean, median and mode • choose the most appropriate average • find averages from a grouped and ungrouped frequency table • identify outliers • compare distributions using averages and range
	Tier 2 and 3 key vocabulary	Tier 2 and 3 key vocabulary	Tier 2 and 3 key vocabulary	Tier 2 and 3 key vocabulary
Subject specific	adjacent, vertically opposite, obtuse, acute, reflex, right angle, parallel, transversal, alternate, corresponding, co interior, polygon, interior, exterior, bisector, perpendicular	area triangle rectangle parallelogram formula units square rhombus trapezium/trapezia parallel perpendicular compound component shapes sector estimate infinite pi π circle radius diameter squared in terms of pi significant figures decimal place calculate substitute	hypothesis investigation enquiry primary/secondary sample questionnaire questions design multiple choice response box biased pictogram bar chart line chart tally frequency multiple bar chart scale axes comparison key pie chart fraction full turn proportion line graph change read off/from comparison scatter graph bivariate grouped data frequency diagram discrete continuous intervals range spread consistent average compare distribution proportion scale broken axis mislead difference	average mean median mode range modal value total frequency represent subtotal estimate midpoint outlier consistent spread