HILLSIDE HIGH SCHOOL

KEY STAGE 3 Y7 - Y9 ASSESSMENT STEPS

A Commitment to Excellence

Wade Deacon High School
Birchfield Road, Widnes WA8 7TD
Mr S Corner – Principal MA Maths, PGCE, NPQH

Tel: 0151 423 2721
Email: school@wadedeacon.co.uk
Website: wadedeacon.co.uk

MEMBER OF THE
WADE DEACON TRUST

Key Stage 3 Descriptors	Key Knowledge Skills and Understanding for Key Stage 3 What do students know and what can they do?			
	Number, Ratio, Proportion & Rates of Change	Algebra	Geometry	Probability and Statistics
- Excelling (Step 12) + *(Projected Grade 9 at GCSE)*	Students can • use a range of Index laws including negative and to the power zero • calculate in standard form (multiply, divide, add and subtract) • use a calculator in standard form • complete fractions calculations including mixed numbers • calculate percentage change • use reverse percentages to find original amounts • calculate compound interest and depreciation • convert between recurring and terminating decimals to fractions	Students can • expand double brackets • solve problems using algebraic direct and inverse proportion • solve and form simultaneous equations • draw graphs in the form ax + by = c • draw and interpret non-linear graphs	Students can • carry out enlargement with fractional and negative scale factors • Solve problems using loci • understand and solve problems involving congruence and similarity • solve problems involving similar triangles • use and solve problems involving right angled trigonometry	Students can • calculate averages from a grouped frequency table • represent grouped data in a table and in diagrams (including histograms, frequency polygons) • draw and interpret venn diagrams to calculate probability
- Mastering (Step 10 – 11) + *(Projected Grades 7 - 8 at GCSE)*	Students can • use prime factors to find the HCF and LCM • multiply and divide decimals • carry out ratio and proportion problems using decimals • understand the link between ratio and fractions • write ratio in the form 1:n • understand higher powers and roots • find and use percentage multipliers • Students can calculate percentage increase and decrease • answer direct and inverse proportion questions • identify the best buy	Students can • form and solve equations • use a formula • change the subject of a formula • use the order of operations with algebraic expressions • solve equations with fractions • use y=mx+c to draw a straight line and find the gradient and y-intercept • draw quadratic functions • continue non-linear sequences • represent inequalities on a number line and use correct notation	Students can • calculate volumes of prisms and cylinders • use Pythagoras' theorem in 2D • find missing angles using angles in parallel lines facts • solve geometric angle problems • draw perpendicular and angle bisectors • construct triangles and angles • find errors intervals and bounds following rounding • use compound measures including, Speed, Pressure and Density • convert imperial to metric measures	• Students can • understand types of data (discrete, continuous, qualitative and quantitative) • write an unbiased questionnaire • calculate averages from an ungrouped frequency table • represent ungrouped data in a table and diagrams • draw and interpret stem and leaf diagrams • calculate experimental and theoretical probability. • draw and use sample space diagrams for two mutually exclusive events

"Curriculum is all about power. Decisions about what knowledge to teach are an exercise of power and therefore a weighty ethical responsibility." Taking Curriculum Seriously' – Counsell, C (2018)

Key Stage 3 Descriptors

Descriptors of Key Knowledge Skills and Understanding for Key Stage 3
What do students know and what can they do?

	Number, Ratio, Proportion & Rates of Change	Algebra	Geometry	Probability and Statistics
Securing (Step 7 – 9) + *(Projected Grades 4 - 6 GCSE)*	Students can: • write a number as a product of it's prime factors • understand squares and their roots • calculate with decimals including place value calculations • multiply and divide by 10, 100 and 1000 • convert between fractions, decimals and percentages • convert between improper fractions and mixed numbers • carry out the four operations with fractions • use the order of operations with fractions, decimals, negatives	Students can • expand and factorise single brackets • solve 2 step equations • solve equations with unknowns on both sides • draw straight line graphs • find the midpoint of a line • write the equation of a line in the form y = mx + c • find the gradient of a line • find the nth term of an arithmetic sequence • work will real life graphs (including distance time)	Students can • find the area of a trapezium • use circle terminology and find the area and circumference of a circle • find the surface area of cubes and cuboids • accurately draw triangles using a protractor • find interior and exterior angles in polygons • translate, reflect and rotate a shape • enlarge a shape given a positive scale factor • use scales and number lines	Students can • compare data using the averages and the range • compare data using charts and averages • draw and interpret two way tables • draw and interpret scatter graphs • construct and interpret pie charts • recall that probabilities add up to 1 and calculate the probability of an even NOT happening
Developing (Step 4 – 6) + *(Projected Grades 2 – 3 at GCSE)*	Students can • recognise prime, square and cube numbers • find common factors and multiples • order and round decimal numbers. • calculate with negative numbers, money and time • simplify and compare fractions • add and subtract fractions • calculate simple percentages and fractions of amounts • compare values as a ratio • understand simple direct proportion	Students can • use a function machine for 2 step problems • understand algebraic notation • simplify by collecting like terms • multiply and divide terms • write simple expressions and formulae • substitute positive integers into a simple expression • term to term rule for arithmetic sequences • plot co-ordinates in all four quadrants	Students can • convert metric units of measure • calculate the area of rectangles and parallelograms • calculate the volume of cubes and cuboids • 2D representations of 3D solids (accurate nets) • accurately measure and draw angles • Recall and use angle facts including angle sum of a triangle and quadrilateral	Students can • calculate the median and mean • construct frequency tables for grouped data • draw and interpret line graphs and multiple bar charts. • interpret simple pie charts • use the language of probability • understand the probability scale and place an event on it. • calculate simple probabilities
Emerging (Step 1 - 3) + *(Below GCSE Grading to 1)*	Students can • use place value up to 10,000,000 • round to the nearest 10, 100, 1000 • use negative numbers in context • recall multiplication facts to 12x12 and associated division facts • recall multiples and factors • multiply by 4 digits by 1 or 2 digits • divide up to 4 digits by 2 digit • solve problems using the four operations • write equivalent fractions	Students can • use simple formula written in words • continue an arithmetic sequence • continue a pattern sequence • plot co-ordinates in the first quadrant	Students can • identify 3D and 2D shapes • recall the difference between regular and irregular polygons • find the perimeter of rectangles and shapes made up of rectangles • find the area and volume by counting squares and cubes • use metric units of measure and time • reflect and translate a shape	Students can • read and interpret information from tables • read and draw pictograms • read and draw a bar chart • find the mode and range from a set of data

m is all about power. Decisions about what knowledge to teach are an exercise of power and therefore a weighty ethical responsibility." 'Taking Curriculum Seriously' – Counsell, C (2018)