

MATHEMATICS

Year 9 Curriculum road map

AUTUMN TERM

MEASURES OF LOCATION & SPREAD, INTERPRETING & REPRESENTING DATA

STUDENTS WILL USE THE MEAN, MEDIAN, MODE AND RANGE.
STUDENTS WILL CHOOSE THE MOST APPROPRIATE AVERAGE, IDENTIFY OUTLIERS AND COMPARE DISTRIBUTIONS
STUDENTS WILL DRAW AND INTERPRET PICTOGRAMS, BAR CHARTS, PIE CHARTS, LINE GRAPHS AND SCATTER GRAPHS, WORKING WITH CORRELATION AND LINES OF BEST FIT

CHALLENGE: FIND THE MEAN FROM UNGROUPED/GROUPED TABLES

HT1

AUTUMN TERM

EQUATIONS, INEQUALITIES & FORMULAE, STRAIGHT LINE GRAPHS

STUDENTS WILL UNDERSTAND AND SOLVE EQUATIONS AND INEQUALITIES, INCLUDING UNKNOWN ON BOTH SIDES.
STUDENTS WILL SUBSTITUTE INTO AND REARRANGE FORMULAE
STUDENTS WILL USE TABLES TO DRAW GRAPHS, WORKING WITH GRADIENTS, INTERCEPTS AND REAL LIFE GRAPHS
CHALLENGE: INEQUALITIES WITH NEGATIVE NUMBERS, REARRANGE COMPLEX FORMULAE, WRITE AN EQUATION IN THE FORM $y = mx + c$

HT2

SPRING TERM

TRANSFORMATIONS, USING PERCENTAGES

STUDENTS WILL USE LINE AND ROTATIONAL SYMMETRY
STUDENTS WILL BE ABLE TO PERFORM AND DESCRIBE TRANSFORMATIONS OF SHAPES: REFLECTIONS, ROTATIONS, TRANSLATIONS AND ENLARGEMENTS
CHALLENGE: FIND THE RESULT OF A SERIES OF TRANSFORMATIONS, ENLARGE A SHAPE BY A NEGATIVE SCALE FACTOR

HT3

SPRING TERM

MATHS & MONEY, THREE DIMENSIONAL SHAPES

STUDENTS WILL SOLVE PROBLEMS INVOLVING WAGES, TAXES, BILLS, BANK STATEMENTS EXTENDING INTO SIMPLE & COMPOUND INTEREST
STUDENTS WILL WORK WITH 3D SHAPES - WORKING WITH NETS, PLANS & ELEVATIONS, SURFACE AREA AND VOLUME
CHALLENGE: EXPLORE VOLUMES OF CONES, PYRAMIDS AND SPHERES, CONVERT METRIC UNITS OF VOLUME

HT4

SUMMER TERM

RATIO & PROPORTION, RATES

STUDENTS WILL SOLVE PROBLEMS INVOLVING DIRECT AND INVERSE PROPORTION, APPLYING THIS TO CONVERSION GRAPHS.
STUDENTS WILL WORK WITH COMPOUND MEASURES: SPEED, DENSITY & PRESSURE.
STUDENTS WILL SOLVE FLOW PROBLEMS USING THEIR GRAPHS.
CHALLENGE: INVERSE PROPORTION GRAPHS, SOLVE PROPORTION WITH RATIO AND ALGEBRA, CONVERT COMPOUND UNITS

HT5

SUMMER TERM

INDICES & ROOTS, PYTHAGORAS' THEOREM

STUDENTS WILL WORK WITH SQUARES, CUBES, HIGHER POWERS & ROOTS.
STUDENTS WILL LEARN THE INDEX LAWS, USE ZERO & NEGATIVE INDICES AND USE THEIR KNOWLEDGE OF POWERS OF TEN TO USE STANDARD FORM
STUDENTS WILL WORK WITH RIGHT-ANGLED TRIANGLES, LABELLING THE HYPOTENUSE AND CALCULATING MISSING SIDES USING PYTHAGORAS.
CHALLENGE: UNDERSTAND & USE FRACTIONAL INDICES, USE PYTHAGORAS' THEOREM IN 3D SHAPES

HT6