

SUMMER 2

REVISION & LEVEL 2 EXAMINATION

SUMMER 1

L2 - HANDLING INFORMATION & DATA / SOLVING MATHEMATICAL PROBLEMS AND DECISION MAKING / REVISION

Use the mean, median, mode and range to compare two sets of data / Work out the probability of combined events including the use of diagrams and tables, including two-way tables / Express probabilities as fractions, decimals and percentages / Draw and interpret scatter diagrams and recognise positive and negative correlation / Application of skills to problem solving activities and past / practise papers.

L2 - USING COMMON MEASURES, SHAPE & SPACE / HANDLING INFORMATION & DATA

Use coordinates in 2-D, positive and negative, to specify the positions of points / Understand and use common 2-D representations of 3-D objects / Draw 3-D shapes to include plans and elevations / Calculate values of angles and/or coordinates with 2-D and 3-D shapes / Calculate the median and mode of a set of quantities / Estimate the mean of a grouped frequency distribution from discrete data.

SPRING 2

L1 - USING COMMON MEASURES, SHAPE AND SPACE

Recognise and make use of simple scales on maps and drawings / Calculate the area and perimeter of simple shapes including those that are made up of a combination of rectangles / Calculate the volumes of cubes and cuboids / Draw 2-D shapes and demonstrate an understanding of line symmetry and knowledge of the relative size of angles / Interpret plans, elevations and nets of simple 3-D shapes / Use angles when describing position and direction, and measure angles in

SUMMER 1

L1 – HANDLING INFORMATION & DATA

Represent discrete data in tables, diagrams and charts including pie charts, bar charts and line graphs / Group discrete data and represent grouped data graphically / Find the mean and range of a set of quantities / Understand probability on a scale from 0 (impossible) to 1 (certain) and use probabilities to compare the likelihood of events / Use equally likely outcomes to find the probabilities of simple events and express them as fractions / Solving mathematical problems and decision making (application of skills).

SUMMER 2

EXAMINATION

LEVEL 1 – SOLVING MATHEMATICAL PROBLEMS AND DECISION MAKING / REVISION &

KEY STAGE 5

Application of skills to problem solving activities and past / practise papers / revision / Level 1 examination.

AUTUMN 1

L2 - USING NUMBERS AND THE NUMBER SYSTEM

Read, write, order and compare positive and negative numbers of any size / Carry out calculations with numbers up to one million including strategies to check answers including estimation and approximation / Evaluate expressions and make substitutions in given formulae in words and symbols / Identify and know the equivalence between fractions, decimals and percentages / Work out percentages of amounts and express one amount as a percentage of another / Calculate percentage change (any size increase and decrease), and original value after percentage change (2 weeks).

AUTUMN 2

L2 - USING NUMBERS AND THE NUMBER SYSTEM

Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers (2 weeks) / Express one number as a fraction of another / Order, approximate and compare decimals / Add, subtract, multiply and divide decimals up to three decimal places / Understand and calculate using ratios, direct proportion and inverse proportion / Follow the order of precedence of operators, including indices.

L2 - USING COMMON MEASURES, SHAPE & SPACE

Calculate amounts of money, compound interest, percentage increases, decreases and discounts including tax and simple budgeting / Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph / Calculate using compound measures including speed, density and rates of pay Calculate perimeters and areas of 2-D shapes including triangles and circles and composite shapes including non-rectangular shapes (formulae given except for triangles and circles) / Use formulae to find volumes and surface areas of 3-D shapes including cylinders (formulae given for 3-D shapes other than cylinders) / Calculate actual dimensions from scale drawings and create a scale diagram given actual measurem

SPRING 1

L1 - USING NUMBERS AND THE NUMBER SYSTEM / USING COMMON MEASURES, SHAPE AND SPACE

Estimate answers to calculations using fractions and decimals / Recognise and calculate equivalences between common fractions, percentages and decimals / Work with simple ratio and direct proportions / Calculate simple interest in multiples of 5% on amounts of money / Calculate discounts in multiples of 5% on amounts of money / Convert between units of length, weight, capacity, money and time, in the same system.

AUTUMN 2

L1 - USING NUMBERS AND THE NUMBER SYSTEM Read write order and compare common fractions and mixed numbers a

Find fractions of whole number quantities or measurements / Read. write, order and compare decimals up to three decimal places / Add, subtract, multiply and divide decimals up to two decimal places / Approximate by rounding to a whole number or to one or two decimal places / Read, write, order and compare percentages in whole numbers / Calculate percentages of quantities, including simple percentage increases and decreases by 5% and multiples thereof.

AUTUMN 1

L1 - USING NUMBERS AND THE NUMBER SYSTEM

Read, write, order & compare numbers (up to 1 million) / Recognise and use positive and negative numbers / Multiply & divide whole numbers and decimals by 10, 100 and 1000 / Use multiplication facts and make connections with division facts / Use simple formulae expressed in words for one or two-step operations / Calculate the squares of one-digit and two-digit numbers / Follow the order of precedence of operators.

Y10

SUMMER 2

REPRESENTATIONS AND REVISION

Probability - relative frequency, expected number of outcomes & independent events / drawing & interpreting quadratic & other graphs / representing inequalities / revision.

SUMMER 1

REASONING WITH PROPORTION

Enlarge shapes by a +ive scale factor / calculate lengths of missing sides in similar shapes / solve ratio & proportion problems / Work with rate formulae for speed & density.

SUMMER 1

DEVELOPING GEOMETRY

Calculate angles in parallel lines and polygons / calculate the area of trapezia, circles & compound shapes / lines of symmetry & reflection.

SUMMER 2

REASONING WITH DATA

Collect data, understand primary & secondary data / interpret & construct multiple bar & pie charts / calculate the mode and modal class, compare distributions.



AUTUMN 1

REASONING WITH ALGEBRA

Interpret straight line graphs / reduce equations to the form y = mx + c / compare to linear sequences to find nth term rule / form & solve equations / change subject of a formula / test conjectures.

AUTUMN 2

CONSTRUCTING IN 2 AND 3 DIMENSIONS

Explore prisms & non-prisms / Calculate volume & surface area of cuboids & cylinders / construct 3D shapes from nets / construct perpendiculars & bisectors / explore congruency.

SPRING 1

REASONING WITH NUMBER

Types of number inc. rational & real / revisit fraction arithmetic, HCF, LCM, standard form / using % / financial maths inc. bills, interest & unit pricina.

SUMMER 2

SPRING 2

REASONING WITH GEOMETRY

Find angles using algebraic methods & chains of reasoning / find the result of rotating a shape / translate points & shapes by a given vector / understand & use Pythagoras' Theorem to problem

SPRING 2

DEVELOPING NUMBER

Develop understanding of FDP / evaluate % increases & decreases / Standard index form / convert between metric units of measure / estimating.

SPRING 1

ALGEBRAIC TECHNIQUES

Form & use expressions, formulae & inequalities including brackets / generate sequences using brackets & squared terms / form expressions using indices.

AUTUMN 2

REPRESENTATION

Plot & interpret straight line graphs / equations of straight lines / draw & interpret scatter diagrams inc lines of best fit / list outcomes & probabilities using Venn

AUTUMN 1

PROPORTIONAL REASONING

Solve ratio problems / use scale factors / convert between currencies / draw & interpret scale diagrams / x and ÷ fractions.

REASONING WITH NUMBER

Develop mental arithmetic strategies / draw & interpret Venn diagrams / calculate probability of single events / recognise prime, square & triangle numbers, make & test conjectures.

SUMMER 1

LINES AND ANGLES

Draw & measure lines and angles accurately / recognise types of triangles, quadrilaterals etc / calculate & use angles at a point, on a straight line & vertically opposite angles.

AUTUMN 1

ALGEBRAIC THINKING

Describe & continue sequences / understand & use algebraic notation / use function machines (1- and 2-step rules) / form & solve 1-step equations / collect like terms.

AUTUMN 2

PLACE VALUE & PROPORTION

Recognise and use integer and decimal place value / compare, order & round numbers / interchange between fractions, decimals and percentages.

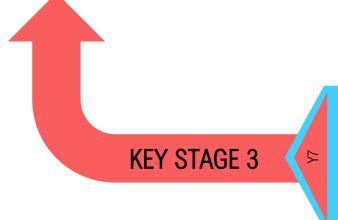
SPRING 1

APPLICATIONS OF NUMBER

Solving problems involving four operations / Multiply by 10, 100, 1000, 0.1, 0.01 / HCF & LCM / Fractions SPRING 2

DIRECTED NUMBER & FRACTIONAL THINKING

Order directed numbers / revisit 4 operations / solve 2-step equations / use order of operations / add & subtract fractions & decimals.



SUMMER 2

Themed projects, consolidation & problem solving,

SHMMFR 1

Shape: Measure with a protractor / calculate angles / identify vertically opposite angles / calculate angles in a triangle including special cases / calculate missing angles in a triangle / calculate angles in special quadrilaterals / calculate angles in regular polygons / draw shapes accurately / draw nets of 3D shapes.

Position & direction: Plot coordinates in the first quadrant / plot coordinates in all four quadrants / translate shapes in all four quadrants / reflect shapes in all four quadrants.

Fractions, decimals & percentages: Use division to solve problems / convert between decimals and fractions / convert fractions to percentages / order FDP / find percentages of an

Area, perimeter & volume: Calculate missing lengths when shapes have the same area / calculate the area of a triangle / calculate the area of a parallelogram / calculate the volume of a

Statistics: Read and interpret line graphs / draw line graphs / use line graphs to solve problems / read and interpret pie charts / draw pie charts / calculate the mean.

SPRING 2

Decimals and percentages: Understand thousandths / round decimals / order & compare decimals / understand percentages / write percentages as fractions & decimals / Know

and use equivalent FDP. Perimeter and area: Measure perimeter / calculate perimeter / calculate the area of rectangles / calculate the area of compound shapes & irregular

Statistics: Read and interpret line graphs / draw line graphs / use line graphs to solve problems / read and interpret tables / read and interpret twoway tables / read and interpret timetables.

SHMMER 1

Shape: Measure angles in degrees / measure angles with a protractor / draw lines and angles accurately / calculate angles on a straight line / calculate angles around a point / calculate lengths and angles in shapes / regular and irregular polygons / reasoning about 3D shapes.

Position & direction: Read and plot coordinates in the first quadrant / translate shapes / translate with coordinates / reflect shapes on a coordinate grid

Decimals: Adding & subtracting decimals within 1 / find complements to 1.

multiply 2-digits (area model) / multiply 2-digits by 2-digits multiply 3-digits by 2-digits / multiply 4-digits by 2-digits /

non-unit fractions by an integer / multiply mixed numbers by integers / calculate fractions of an amount / using fractions as operators / fraction problem solving. Decimals and percentages: Identify place value in decimals with 2 dp / Convert decimals to fractions.

Decimals: Add & subtract decimals with the same number of decimals places & different number of decimal places / add & subtract wholes and decimals / continue decimal sequences / multiply and divide decimals by 10, 100 and

Negative numbers: use negative numbers in context. Converting units: Convert between kg and g & km and m / convert between metric units / convert between metric and imperial units / convert units of time.

Volume: Compare volume / estimate volume and capacity.

AUTUMN 2

Multiplication & division: Identify square and cube numbers / multiply by 10, 100 and 1000, divide by 10, 100 and 1000 / Identify multiples of 10, 100 and 1000.

Fractions A: Identify equivalent fractions / Convert between improper fractions and mixed numbers / continue number sequences involving fractions / compare and order fractions less than 1 / compare and order fractions greater than 1 / add & subtract fractions / add fractions within 1 / add 3 or more fractions / add & subtract mixed numbers / subtraction breaking the whole / subtract 2 mixed numbers.

AHTHMN 1

Place Value: Understand place value for numbers up to 10 million / compare and order any numbers / round any number / understand and calculate with negative numbers

Addition, subtraction, multiplication & division: Recap and consolidate Y5 number work + Multiply up to a 4-digit number by a 2-digit number / use short division / divide using factors / use long division / identify common factors / identify common multiples / identify prime numbers to 100 / identify square and cube numbers

AHTHMN 2

Addition, subtraction, multiplication & division: Use order of operations / calculate mentally and use estimation / reason from known facts.

Fractions A: Simplify fractions / identify fractions on a number line / compare and order fractions (denominator) / compare and order

Fractions B: Add & subtract fractions (denominators are multiples of each other and then not) / multiply fractions by integers / mu fractions by fractions / divide fractions by integers / use four rules with fractions / find fractions of an amount – find the whole. Converting units: Convert metric measures / calculate with metric

measures / convert between miles and kilometres / calculate with

SPRING 1

Ratio: Use ratio language / use the ratio symbol / calculate ratio / use scale factors / calculate scale factors / solve ratio and proportion problems.

Algebra: Find a rule – one and two step / form expressions / substitute into expressions / substitute into formulae / form equations / solve one and two-step equations / find pairs of values to solve equations

Decimals: Compare and order decimals up to 3dp / multiply and divide by 10, 100 and 1000. Multiply & divide decimals by

SPRING 1

Multiplication and division: Multiply 4-digits by 1-digit / divide 4-digits by 1-digit / divide with remainders.

Fractions B: Multiply unit fractions by an integer / multiply

Place Value: Understand place value for numbers up to 10,000 / round to the nearest 10, 100 and 1000 / understand place value for numbers up to 100,000 / compare and order numbers to 100,000 / round bers within 100,000 / counting in 10s, 100s, 1000s, 10,000s and 100,000s / compare and order numbers to one million / round numbers

Addition & subtraction: Add & subtract numbers with more than 4 digits (column method) / round to estimate and approximate / use erse operations / solve multi-step + and – problems.

Multiplication & division: understand and identify multiples and factors / identify common factors / identify prime numbers.

SHMMER 2

Consolidation: 1 week.

Shape: Identify angles / compare and order angles / recognise and describe 2D shapes / identify properties of triangles / identify properties of quadrilaterals / identify lines of symmetry / complete a

Statistics: Interpret charts / answer comparison, sum & difference questions about data from graphs / introducing line graphs / nterpret data from line graphs.

Position & direction: Describe position / plot coordinates and draw shapes on a grid / move a shape on a grid / describe movement on a

Decimals: Make a whole / write, compare and order decimals round decimals / find equivalents of half, quarter and three

Money: Count money in pounds and pence / order money / stimate money /give change / use all four operations with

Time: Recap and consolidate Y3 time work – telling the time to 5 mins & to the minute, using am and pm / read and record time from a 24-hour clock etc / Recall facts about conversions between hours, minutes, seconds, etc / convert time on an halogue clock to digital (12- and 24-hour).

SHMMER 1

Fractions: Find fractions of a set of objects / find equivalent fractions / compare fractions / add fractions / subtract fractions.

Money: Count money in pence / count money in pounds / convert pounds and pence / add money / subtract money / give change.

Time: Tell the time to 5 minutes & to the minute / Use am and pm / Read and record time from a 24hour clock / find the duration / compare durations.

SHMMER 2

Time: Calculate start and end times / measure time in seconds / problem solving with time.

Shape: Identify turns and angles / Identify right angles in shapes / compare angles / draw lengths accurately / identify horizontal and vertical lines / identify parallel and perpendicular lines / recognise & describe 2D & 3D shapes / make 3D shapes.

Statistics: Recap and consolidate Y2 statistics work tallies / pictograms / read data from bar charts and

Place Value: Round to the nearest 10 and 100 / count in 1000s / understand and use place value of 1000s, 100s, 10s and 1s / partition 4-digit numbers / use a number line for numbers up to 10,000 / find 1000 more or less / compare 4-digit numbers / order numbers / round to the nearest 1000 / count in 25s / compare negative numbers understand & use Roman numerals for 3-digit numbers Addition & subtraction: Add & subtract 1s, 10s, 100s and 1000s / add and subtract two 4-digit numbers - no exchange, one exchange & more than 1 exchange.

Addition and subtraction: Use efficient subtraction strategies / estimate answers / check addition & subtraction strategies.

Area: Count squares to find the area of shapes / make shapes with a given area / compare areas. Multiplication & division: Multiply by 10 & 100 / divide

by 10 & 100 / multiply by 1 and 0 / divide by 1 and itself / multiply and divide by 6, 9 and 7 / Recall and use 6, 9 and 7-times table and division facts. Consolidation: 1 week.

73

Multiplication and Division: Recall and use 11 and 12 times-table and division facts / multiply 3 numbers / identify factor pairs / use efficient multiplication strategies / use written methods for multiplication nultiply and divide 2-digits and 3-digits by 1-digit /

Length & perimeter: Find the perimeter by counting quares on a grid / calculate the perimeter of a rectangle Fractions: Recap and consolidate Y3 fractions work

stand and use fractions greater than 1 / Count in ctions / Add two or more fractions / subtract two fract subtract from whole amounts / calculate fractions of a quantity /

Decimals: Recognise tenths & hundredths / write tenths as de on a place value grid and on a number line / divide 1 or 2-digits by 10 grid / divide 1 or 2-digits by 100.

SPRING 2

Fractions: Recap and consolidate Y2 fraction work – halves, quarters and thirds / calculate unit and non-unit fractions / investigate equivalence of a half and 2 quarters / count in fractions / making the whole / counting in tenths / convert between tenths and decimals / fractions on a number line.

Mass and capacity: Measure, compare, add & subtract mass / measure volume & compare, add & subtract capacity / problem solving with temperatures.

SPRING 1

Multiplication and division: Compare statements involving x and ÷ / identify related calculations / multiply 2-digits by 1-digit (with and without exchange) / divide 2-digits by 1-digit / divide 100 into 2, 4, 5 and 10 equal parts / divide with remainders / use multiplication knowledge for scaling / calculate the number of combinations.

Length & perimeter: Measure length in m / Find equivalent lengths using m and cm / Find equivalent lengths using cm and mm / compare lengths / add and subtract lengths / measure perimeter / calculate perimeter.

AUTUMN 2

Addition and subtraction: Add and subtract 3-digit and 2-digit numbers - not crossing and crossing. Add and subtract 100s / spot the pattern - making it explicit / solve mixed addition and subtraction problems / add two 3-digit numbers - not crossing and crossing 10 or 100 / estimate answers to calculations / check answers to calculations.

Multiplication and division: Use equal groups for multiplication / multiply and divide by 3, 4 and 8 / Recall facts from the 3, 4 and 8 times-table.

AUTUMN 1

Place Value: Represent numbers to 100 / understand the place value of numbers up to 1000 / use a number line up to 1000 / Find 1, 10, 100 more or less / compare objects / compare numbers / order numbers / count in 50s.

Addition and subtraction: Add and subtract multiples of 100 / add and subtract 3-digit and 1-digit numbers - not crossing and crossing 10 / add and subtract 3-digit and 2-digit numbers not-crossing and crossing 100 / add and subtract 100s / spot the pattern - making in explicit.

SHMMFR 2

Position & direction: Describe movement / describe turns / make patterns with shapes.

Problem solving: covering all maths topics covered so far in the

Time: telling the time to the hour / telling the time to the half hour / telling the time – quarter past and quarter to / telling the time to 5 minutes / writing time / calculate with hours and days / find durations of time / compare durations of time.

SUMMER 1

Statistics: Make tally charts / draw pictograms (1-1) / interpret pictograms (1-1) / draw pictograms (2, 5 and 10) / interpret pictograms (2, 5 and 10) / interpret data from block diagrams

Fractions: Working with parts & wholes / make equal parts / recognize a half / find a half / recognise a quarter / find a quarter / recognise a third / find a third / find unit fractions of a shape / find non-unit fractions of a shape / understand the equivalence of a half and 2 quarters / find three quarters / count in fractions / problem solving with fractions. Position & direction: describe position / problem solving with position / describe movement /

Place Value: count objects to 100 by making tens / recognise ens and ones / use a place value chart / partition numbers to 100 / compare objects & numbers / order objects and numbers count in 2s. 5s and 10s / count in 3s.

Addition and subtraction: use + & - to 10 and 20 to find related acts to 100 / add & subtract 1s / add by making 10 / add three 1-digit numbers / add to the next 10 / add across a 10 / ubtract across 10 / subtract from a 10 / subtract a 1-digit number from a 2-digit number (across a 10) / find 10 more and 10 less / add and subtract 10s.

AUTUMN 2

Addition and subtraction: Add two 2-digit numbers (not across a 10) / add two 2-digit numbers (across a 10) / subtract two 2digit numbers (not across a 10) / Subtract two 2-digit numbers (across a 10) / Mixed addition & subtraction / Compare number sentences / Missing number problems.

Shape: Recognise 2D and 3D shapes / count sides & vertices on 2D shapes / draw 2D shapes / identify lines of symmetry on shapes / use lines of symmetry to complete shapes / sort 2D shapes / count faces, edges and vertices on 3D shapes / sort 3D shapes / make patterns with 2D and 3D shapes.

Money: Recognise coins and notes / count money in pence / count money in pounds (notes and coins) / count money using notes and coins / select money / make the same amount / compare money / find the total / find the difference / find change solve two-step problems

Multiplication and division: make equal groups / redistribute from unequal to equal groups / add equal groups / make arrays / multiplication sentence using the x symbol / multiplication sentences from pictures / use arrays / make doubles / recall facts from the 2, 5 and 10 times-tables / make equal groups for sharing

Multiplication and division: divide by 2 / identify odd and even numbers / divide by 5 / divide by 10.

Length & height: compare lengths and heights / measure length in cm and m / compare lengths / order lengths / use the four operations with lengths / problem solving with

Mass, capacity & temperature: Compare mass / measure mass in grams and kilograms / compare volume / measure volume in millilitres and litres / use the four operations with volume / Read temperature from a scale / problem solving