Goldwyn Plus - Functional Skills Mathematics

Subject Statement and Long Term Plan

Functional Skills Mathematics – Statement of Intent

"If you are not willing to learn, no one can help you! If you are determined to learn, no one can stop you!"

Functional Skills are practical skills in English and Maths that enable you to deal with practical problems and challenges. They allow individuals to work confidently, effectively and independently in everyday life. For example, they help us recognise good-value deals when making purchases, write an effective application letter, or use the Internet. Functional Skills are a key to success. They open doors to learning, to life and to work.

Functional Skills Maths lessons at Goldwyn Plus will aim to give students the opportunity to:

- Develop your confidence in maths
- Learn to function independently in the workplace
- Become more employable
- Produce accurate estimates, invoices and reports
- Develop problem solving skills requiring calculation
- Practice essential skills for use in construction and many other industries where basic calculations and measurements are required
- Save costs by being able to accurately calculate quantities
- Become familiar with common measures, including money, time, length, weight, capacity and temperature
- Develop transferrable skills that can be used for personal finance and business skills, especially if you are self-employed
- Achieve a qualification that is recognised and highly valued by employers

Examinations:

- NCFE Level 1 Functional Skills qualification in Maths
- NCFE Level 2 Functional Skills qualification in Maths

Functional Skills Mathematics: Long Term Plan

Functional Skills are practical skills in English that enable you to deal with practical problems and challenges. They allow individuals to work confidently, effectively and independently in everyday life. For example, they help us recognise good-value deals when making purchases, write an effective application letter, or use the Internet. Functional Skills are a key to success. They open doors to learning, to life and to work.

Term	1	2	3	4	5	6
Entry Level 1	**Number Skills** • Read, write, order and compare numbers up to 20 • Use whole numbers to count up to 20 items, including zero • Add numbers which total up to 20, and subtract numbers from numbers up to 20 • Recognise and interpret the symbols +, - and = appropriately	**Time and money** • Recognise coins and notes and write them in numbers with the correct symbols (£ and p), where these involve numbers up to 20 • Read 12-hour digital and analogue clocks in hours Know the number of days in a week, months and seasons in a year. Be able to name and sequence.	**Number Skills** • Read, write, order and compare numbers up to 20 • Use whole numbers to count up to 20 items, including zero • Add numbers which total up to 20, and subtract numbers from numbers up to 20 • Recognise and interpret the symbols +, - and = appropriately	**Understanding shape and space** • Describe and make comparisons in words between measures of items including size, length, width, height, weight and capacity. • Identify and recognise common 2-D and 3-D shapes, including circle, cube, rectangle (including square) and triangle. Use every day positional vocabulary to describe position and direction, including left, right, in front, behind, under and above.	**Time and money** • Recognise coins and notes and write them in numbers with the correct symbols (£ and p), where these involve numbers up to 20 • Read 12-hour digital and analogue clocks in hours Know the number of days in a week, months and seasons in a year. Be able to name and sequence.	**Collecting and Representing Data** • Read numerical information from lists. • Sort and classify objects using a single criterion. Read and draw simple charts and diagrams, including a tally chart, block diagram/graph.
Entry Level 2	**Number Skills and Rounding** • Count reliably up to 100 items	**Number Skills and Rounding** • Count reliably up to 100 items	**Measures** • Read and record time in common date formats, and read time displayed on analogue clocks in hours, half hours	**Properties of Shapes** • Recognise and name 2D and 3D shapes, including pentagons, hexagons,	**Decimals** • Read, write and use decimals up to one decimal places. **Fractions**	**Collecting and Representing Data** • Extract information from lists, tables, diagrams and bar charts.

	• Read, write, order and compare numbers up to 200 • Recognise and sequence odd and even numbers up to 100 • Add and subtract using two-digit numbers. • Multiply whole numbers in the range 0x0 to 12x12 (times tables) • Divide two-digit whole numbers by single digit whole numbers and express remainders • Approximate by rounding to the nearest 10, and use this rounded answer to check results. • Calculate money with pence up to one pound and in whole pounds of multiple items and write with the correct symbols (£ or p)	• Read, write, order and compare numbers up to 200 • Recognise and sequence odd and even numbers up to 100 • Add and subtract using two-digit numbers. • Multiply whole numbers in the range 0x0 to 12x12 (times tables) • Divide two-digit whole numbers by single digit whole numbers and express remainders • Approximate by rounding to the nearest 10, and use this rounded answer to check results. • Calculate money with pence up to one pound and in whole pounds of multiple items and write with the correct symbols (£ or p)	and quarter hours, and understand hours from a 24-hour digital clock. • Know the number of hours in a day and weeks in a year, be able to name and sequence. • Read and compare positive temperatures. • Read and use simple scales to the nearest labelled division. • Use metric measures of length including millimetres, centimetres, metres and kilometres. • Use measures of weight including grams and kilograms. • Compare measures of capacity including millimetres and litres.	cylinders, cuboids, pyramids and spheres. • Describe the properties of common 2D and 3D shapes, including numbers of sides, corners, edges, faces, angles and base. • Use appropriate positional vocabulary to describe position and direction, including between, inside, outside, middle, below, on top, forwards and backwards.	• Recognise simple fractions (halves, quarters and tenths) of whole numbers and shapes.	• Make numerical comparisons from bar charts. • Take information from one format and represent the information in another format, including use of bar charts. • Take information from one format and represent the information in another format, including use of bar charts. Sort and classify objects using two criteria
Entry Level 3	**Number Skills and Rounding** • Count, read, write, order and	**Number Skills and Rounding** • Count, read, write, order and	**Measures** • Read, measure and record time using am and pm.	**Properties of Shapes** • Sort 2-D and 3-D shapes using properties including	**Decimals** • Read, write and use decimals up to two decimal places.	**Collecting and Representing Data** • Extract information from lists,

	compare numbers up to 1000. • Add and subtract using three-digit whole numbers. • Divide three-digit whole numbers by single- and double-digit whole numbers and express remainders. • Multiply two-digit whole numbers by single and double digit whole numbers. • Approximate by rounding numbers less than 1000 to the nearest 10 or 100 and use this rounded answer to check results. • Recognise and continue linear sequences of numbers up to 100	compare numbers up to 1000. • Add and subtract using three-digit whole numbers. • Divide three-digit whole numbers by single- and double-digit whole numbers and express remainders. • Multiply two-digit whole numbers by single and double digit whole numbers. • Approximate by rounding numbers less than 1000 to the nearest 10 or 100 and use this rounded answer to check results. Recognise and continue linear sequences of numbers up to 100	• Read time from analogue and 24-hour digital clocks in hours and minutes. • Use and compare measures of length, capacity, weight and temperature using metric or imperial units to the nearest labelled or unlabelled division. • Use a suitable instrument to measure mass and length. • Use and compare measures of length, capacity, weight and temperature using metric or imperial units to the nearest labelled or unlabelled division. • Compare metric measures of length including millimetres, centimetres, metres and kilometres. • Compare measures of weight including grams and kilograms. • Compare measures of capacity including millimetres and litres.	lines of symmetry, length, right angles, angles including in rectangles and triangles. Use appropriate positional vocabulary to describe position and direction including eight compass points and including full/half/quarter turns.	• Recognise and continue sequences that involve decimals. • Calculate with money using decimal notation and express money correctly in writing in pounds and pence. • Round amounts of money to the nearest £1 or 10p **Fractions** • Read, write and understand thirds, quarters, fifths and tenths, including equivalent forms..	tables, diagrams and charts and create frequency tables. • Organise and represent information in appropriate ways including tables, diagrams, simple line graphs and bar charts. Interpret information, to make comparisons and record changes, from different formats including bar charts and simple line graphs.
Year 10 Level 1	**Number Skills and Rounding**	**Decimals**	**Properties of Angles and Shapes**	**Perimeter and Area including circles**	**Measures**	**Collecting and Representing Data**

	• Read, write, order and compare large numbers (up to one million). • Recognise and use positive and negative numbers. • Multiply and divide numbers and decimals by 10, 100, 1000. • Calculate the squares of one-digit and two-digit numbers. • Follow the order of precedence of operators. • Approximate by rounding to a whole number or to one or two decimal places. **Probability** • 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.	• Read, write, order and compare decimals up to three decimal places. • Add, subtract, multiply and divide decimals up to three decimal places. **Fractions** • Read, write, order and compare common fractions and mixed numbers. • Find fractions of whole number quantities or measurements. • Estimate answers to calculations using fractions and decimals. **Percentages and Calculations** • Read, write, order and compare percentages in whole numbers • Calculate percentages of quantities, including simple percentage increases and	• Draw 2D shapes and demonstrate an understanding of line symmetry and knowledge of the relative size of angles. • Use angles when describing position and direction, and measure angles in degrees. • Interpret plans, elevations and nets of simple 3D shapes. **Scale Diagrams** • Measure a line accurately to the nearest millimetre. • Use simple scale drawings to identify the actual dimensions, such as a scale drawing of a garden. • Recall and use the 8 points of a compass.	• 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.	• Convert between units of length, weight, capacity, money and time, in the same system. **Algebra** • Use simple formulae expressed in words for one and two-step operations	• Represent discrete data in tables, diagrams and charts including pie charts, bar charts and line graphs. • Group discrete data and represent grouped data graphically shapes (formulae given except for triangles and circles). **Statistical Measures** Find the mean and range of a set of quantities

		decreases by 5% and multiples thereof. • Calculate simple interest in multiples of 5% on amounts of money. • Calculate discounts in multiples of 5% on amounts of money. • Read, write, order and compare percentages in whole numbers • Recognise and calculate equivalencies between common fractions, decimals and percentages. **Ratio and Proportion** • Use multiplication facts and make connections with division facts. • Work with simple ratio and direct proportions				
Year 11 Level 1	**Number Skills and Rounding** • Read, write, order and compare large numbers (up to one million).	**Decimals** • Read, write, order and compare decimals up to three decimal places.	**Properties of Angles and Shapes** • Draw 2D shapes and demonstrate an understanding of line symmetry and knowledge	**Perimeter and Area including circles** • Calculate the area and perimeter of simple shapes including those that	**Collecting and Representing Data** • Represent discrete data in tables, diagrams and charts including pie	**Exams**

	• Recognise and use positive and negative numbers. • Multiply and divide numbers and decimals by 10, 100, 1000. • Calculate the squares of one-digit and two-digit numbers. • Follow the order of precedence of operators. • Approximate by rounding to a whole number or to one or two decimal places. **Probability** • 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.	• Add, subtract, multiply and divide decimals up to three decimal places. **Fractions** • Read, write, order and compare common fractions and mixed numbers. • Find fractions of whole number quantities or measurements. • Estimate answers to calculations using fractions and decimals. **Percentages and Calculations** • Read, write, order and compare percentages in whole numbers • Calculate percentages of quantities, including simple percentage increases and decreases by 5% and multiples thereof. • Calculate simple interest in	of the relative size of angles. • Use angles when describing position and direction, and measure angles in degrees. • Interpret plans, elevations and nets of simple 3D shapes. **Scale Diagrams** • Measure a line accurately to the nearest millimetre. • Use simple scale drawings to identify the actual dimensions, such as a scale drawing of a garden. • Recall and use the 8 points of a compass.	are made up of a combination of rectangles. • Calculate the volumes of cubes and cuboids. **Measures** • Convert between units of length, weight, capacity, money and time, in the same system. **Algebra** • Use simple formulae expressed in words for one and two-step operations	charts, bar charts and line graphs. • Group discrete data and represent grouped data graphically shapes (formulae given except for triangles and circles). **Statistical Measures** Find the mean and range of a set of quantities	

		multiples of 5% on amounts of money. • Calculate discounts in multiples of 5% on amounts of money. • Read, write, order and compare percentages in whole numbers • Recognise and calculate equivalencies between common fractions, decimals and percentages. **Ratio and Proportion** • Use multiplication facts and make connections with division facts. • Work with simple ratio and direct proportions				
Year 11 Level 2	**Number Skills and Rounding** • Read, write, order and compare positive and negative numbers of any size. • Carry out calculations with numbers up to one million including	**Decimals** • Order, approximate and compare decimals • Add, subtract, multiply and divide decimals up to three decimal places. **Fractions**	**Properties of Angles and Shapes** • Calculate values of angles and/or coordinates with 2D and 3D shapes. • Understand and use common 2D representations of 3D objects.	**Perimeter and Area including circles** • Calculate the perimeters and areas of 2D shapes including triangles and circles and composite shapes including non-rectangular shapes (formulae given except	**Collecting and Representing Data** • Draw and interpret scatter diagrams and recognise positive and negative correlation. (Prior Knowledge at Level 1)	**Exams**

	strategies to check answers including estimation and approximation. • Follow the order of precedence of operators, including indices. **Probability** • Express probabilities as fractions, decimals and percentages. • Work out the probability of combined events including the use of diagrams and tables, including two-way tables.	• Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers. • Express one number as fraction of another. **Percentages and Calculations** • 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. • Calculate amounts of money, compound interest, percentage increase, decreases and discounts including tax and simple budgeting.	• Draw 3D shapes to include plans and elevations. **Scale Diagrams** • Calculate the actual dimensions from scale drawings and create a scale diagram given actual measurements.	for triangles and circles) Use formulae to find the volumes and surface areas of 3D shapes including cylinders (formulae to be given for 3D shapes other than circles) **Measures** • Convert between metric and imperial units of length, weight and capacity using a) conversion factor and b) conversion graph. • Calculate using compound measures including speed, density and rates of pay. **Algebra** Evaluate expressions and make substitutions in given formulae in words and symbols.	• Use coordinates in 2D, positive and negative, to specify the positions of points. **Statistical Measures** • Calculate the median and mode of a set of quantities. • Use the mean, median, mode and range to compare two sets of data. Estimate the mean of a grouped frequency distribution from discrete data.	

		Ratio and Proportion Understand and calculate using ratios, direct proportion and inverse proportion.				