Goldwyn 6th Form – Functional Skills Maths Subject Statement and Long Term Plan

Functional Skills Maths - Statement of Intent

Functional Skills are an alternative to GCSE, offering an engaging and vocational route towards achieving Maths qualifications that are nationally recognised and often a vital requirement for accessing training courses, apprenticeships and employment. With a focus on the fundamentals of using and applying number, problem solving and decision making skills within the contexts of time, money, measure, shape, space and handling information and data, students are able to develop core numeracy skills that are relevant and essential in everyday life.

Implementation

Post-16 students do not need to formally study Maths if they have already achieved Level 2 Functional Skills Maths or GCSE Maths at Grade 4 or above. However, numeracy skills will continue to be reinforced throughout the teaching of other qualifications, with particular emphasis on their use in the work place and real life situations.

Through a thorough analysis of each student's previous attainment and, where appropriate, baseline assessments using BKSB completed in the first few weeks at Goldwyn 6th Form, their strengths and areas for development in numeracy will be identified.

Students will then be taught core numeracy skills, working towards NCFE Functional Skills Maths qualifications at Entry Level 3, Level 1 or Level 2. The flexibility of the formal assessments, available online or paper-based, means that students can sit, resit and progress onto the next level at any point throughout the school year.

Impact

Students formally studying Maths will:

- have increased their confidence and motivation in learning Maths.
- recognise the importance of numeracy skills and place greater value on them for improving their employability and independence.
- have developed their numeracy skills and improved their attainment in Maths.
- be more able to use their numeracy skills confidently, effectively and independently in everyday life.

NCFE Functional Skills Maths: Long Term Plan

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<tr>
<td rowspan="2">Entry Level 3</td>
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Number

Count, read, write, order and 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, write and use decimals up to two decimal places.

Recognise and continue sequences that involve decimals.

Read, write and understand thirds, quarters, fifths and tenths, including equivalent forms.
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Time

Read, measure and record time using am and pm.

Read time from analogue and 24-hour digital clocks in hours and minutes.
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Money

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.
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Measures

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.

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.
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Property of Shapes

Sort 2-D and 3-D shapes, using properties such as lines of symmetry, length and right angles, including in rectangles and triangles.

Use appropriate positional vocabulary to describe position and direction, including eight compass points and full / half / quarter turns.
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Collecting & Representing Data

Extract information from lists, 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.
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Problem Solving, Decision Making & Exam Technique

Interpret simple problems and obtain a solution.

Recognise, understand and use simple mathematical terms.

Produce, check and present results that make sense, to an appropriate level of accuracy.

Present results with appropriate and reasoned explanations.
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Level 1	**Number**					
	Read, write, order and compare large numbers (up to one million).					
	Recognise and use positive and negative numbers.					
	Multiply and divide whole numbers and decimals by 10, 100, 1000.					
	Use multiplication facts and make connections with division facts.					
	Use simple formulae expressed in words for one or 2-step operations.					
	Calculate the squares of one-digit and 2-digit numbers.					
	Follow the order of precedence of operators.					
	Read, write, order and compare common fractions and mixed numbers.					
	Find fractions of whole number quantities or measurements.					
	Read, write, order and compare decimals up to 3 decimal places.					
	Add, subtract, multiply and divide decimals up to 2 decimal places.					
	Approximate by rounding to a whole number or to one or 2 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.					
	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.					
	Time	**Money**	**Measures**	**Property of Shapes**	**Collecting & Representing Data**	**Problem Solving, Decision Making & Exam Technique**
	Convert between units of time in the same system.	Convert between units of money in the same system.	Convert between units of length, weight and capacity in the same system.	Draw 2-D shapes, demonstrating an understanding of line symmetry and knowledge of the relative size of angles.	Represent discrete data in tables, diagrams and charts, including pie charts, bar charts and line graphs.	Use the knowledge and skills acquired to recognise and obtain a solution(s) to a straightforward, one step problem and / or process.
		Calculate simple interest in multiples of 5% on amounts of money.	Recognise and make use of simple scales on maps and drawings.	Interpret plans, elevations and nets of simple 3-D shapes.	Group discrete data and represent grouped data graphically.	Make connections between the mathematical content areas.
		Calculate discounts in multiples of 5% on amounts of money.	Calculate the area and perimeter of simple shapes, including those that are made up of a combination of rectangles.		Find the mean and range of a set of quantities.	

| | | | Calculate the volume of cubes and cuboids.

Use angles when describing position or direction and measure angles in degrees. | | 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, understand and apply mathematical terms and information to solve problems.

Analyse and interpret answers in the context of the original problem.

Check that answers are reasonable and make sense.

Use appropriate explanation and interpretation when presenting results and show simple reasoning to support the process. |

Level 2	**Number**
	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 such as 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.
	Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers.
	Express one number as a fraction of another.
	Order, approximate and compare decimals.
	Add, subtract, multiply and divide decimals up to 3 decimal places.
	Understand and calculate using ratios, direct proportion and inverse proportion.
	Follow the order of precedence of operators, including indices.

Time	**Money**	**Measures**	**Properties of Shapes**	**Collecting & Representing Data**	**Problem Solving, Decision Making & Exam Technique**
Use understanding of units of time to solve problems, such as when calculating speed.	Calculate amounts of money, compound interest and percentage increases, decreases and discounts, including tax and simple budgeting. Calculate rates of pay.	Convert between metric and imperial units of length, weight and capacity using: a) a conversion factor. b) a conversion graph. Calculate using compound measures, including speed and density. Calculate perimeters and areas of 2-D shapes, including triangles and circles, and composite shapes, such as non-rectangular shapes (formulae given except for triangles and circles).	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, including plans and elevations. Calculate values of angles and / or coordinates with 2-D and 3-D shape.	Calculate the median and mode of a set of quantities. Estimate the mean of a grouped frequency distribution from discrete data. Use the mean, median, mode and range to compare 2 sets of data Work out the probability of combined events, including the use of diagrams and tables and 2-way tables. Express probabilities as fractions, decimals and percentages.	Use the knowledge and skills acquired to recognise and obtain a solution(s) to a complex, two or more step problem and / or process. Make connections between the knowledge and / or skills to address individual problems, combining and connecting the mathematical content areas.

| | | | 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 measurements. | | Draw and interpret scatter diagrams and recognise positive and negative correlations. | Read, understand and apply mathematical terms and information to solve two or more step problems.

Carry out deeper analysis and interpret answers in the context of the original problem.

Check that answers are reasonable and make sense.

Use appropriate explanation and interpretation when presenting results and show simple reasoning to support the two or more step process. |