Unit Title: Using Calculations
Unit Level: Level 2
Unit Credit Value: 3
GLH: 24
LASER Unit Code: WJD540
Ofqual Unit Code: M/504/8208

This unit has 9 learning outcomes.

LEARNING OUTCOMES		ASSESSMENT CRITERIA	
The learner will:		**The learner can:**	
1.	Be able to read, write, order and compare positive whole numbers of any size and numbers with up to three decimal places and understand negative whole numbers of any size in practical contexts.	1.1	Read and write whole numbers of any size and numbers with up to three decimal places in digit form.
		1.2	Read and write names of whole numbers of any size and numbers with up to three decimal places.
		1.3	Identify place value of whole numbers of any size and numbers with up to three decimal places, including the use of zero as a placeholder.
2.	Be able to add, subtract, multiply and divide whole numbers of any size and numbers with up to three decimal places.	2.1	Add, subtract, multiply and divide whole numbers and numbers with up to three decimal places using efficient written methods.
		2.2	Add, subtract, multiply and divide whole numbers and numbers with up to three decimal places using a calculator.
		2.3	Add, subtract, multiply and divide whole numbers using mental calculation methods.
		2.4	Identify multiples and factors in relation to whole number multiplication and division.
		2.5	Identify prime numbers as whole numbers which only have two factors, 1 and themselves.
		2.6	Recall prime numbers up to 20.
3.	Understand and use fractions.	3.1	Order a set of fractions by changing to equivalent fractions with a common denominator.
		3.2	Express one quantity as a fraction of another, giving the answer as a fraction in its simplest form and recognising that quantities must be in the same units, for example, express minutes as fractions of an hour so as to fill in time-sheet.
		3.3	Add and subtract fractions.
		3.4	Know and recall some common addition and subtraction facts, for example, 1/2 + 1/4 = 3/4, 3/4 - 1/2 = 1/4.

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4.	Be able to use percentages.	4.1	Express one number as a percentage of another by changing a fraction to a percentage.
		4.2	Express percentages as fractions out of 100, for example, 7% = 7/100.
		4.3	Find percentage parts of quantities and measurements using efficient methods.
		4.4	Find percentage parts of quantities and measurements using a calculator.
		4.5	Find percentage parts of quantities and measurements using quick methods, for example, 17 1/2 % = 10% + 5% + 2 1/2 %.
		4.6	Increase and decrease quantities by given percentages in practical contexts, for example, total price including VAT, new price after a percentage change and depreciation.
5.	Be able to identify equivalence's between common fractions, decimals and percentages.	5.1	Identify place value in decimal fractions expressed in tenths, hundredths and thousandths.
		5.2	Change a fraction to a decimal.
		5.3	Match common fractions, decimals and percentages, for example, by sorting a set of cards into sets of equivalent common fractions, decimal fractions and percentages, 1/4, 0.25, 25%, recognising that fractions, decimals and percentages are different ways of expressing the same thing.
		5.4	Order a mix of fractions, decimals and percentages.
6.	Calculate ratio and direct proportion.	6.1	Write ratios in the form 3:2.
		6.2	Work out the number of parts in a given ratio and the value of one part.
		6.3	Calculate quantities involved in mixtures using ratio as number of parts, for example, diluting liquids and mixing ingredients.
		6.4	Use direct proportion in everyday situations such as scaling recipes.
7.	Be able to evaluate expressions and make whole number substitutions in given formulae to produce results.	7.1	Carry out calculations in the correct order (BODMAS).
		7.2	Match expressions in words and symbols, for example, V = lwh and Volume = length x width x height.

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		7.3	Identify the operation of multiplication when there is no operator between a number and one or more variables, for example, 2a = 2 x a, ab = a x b, 2ab = 2 x a x b.
		7.4	Identify the operation of multiplication when there is no operator between a number and a bracket.
		7.5	Evaluate simple formulae involving a single variable, for example, perimeter of square = 4 x l.
		7.6	Evaluate simple expressions involving more than one variable (up to and including three variables) for example, v = l x w x h.
		7.7	Evaluate simple expressions involving brackets, for example, perimeter of rectangle = 2 (l + w).
8.	Be able to use a calculator to calculate efficiently with fractions, decimals and percentages.	8.1	Use the add, subtract, multiply, divide, fraction and percentage (also square and square root) functions on a calculator appropriately and correctly.
		8.2	Use memory for simple two-stage calculations, for example, (23.5 – 2.25)/(5.1-0.43).
		8.3	Use the constant function for repetitive calculations.
		8.4	Round the answer to an appropriate degree of accuracy.
9.	Be able to check answers using appropriate strategies.	9.1	Estimate to check that answers are reasonable using approximate number calculations.
		9.2	Check that answers are reasonable using knowledge of content.

Assessment Guidance:
Portfolio of Evidence.

Additional Information:
NA