Scheme of Work – Functional Skills Level 1 (Construction)

Course delivery information: Functional Skills Level 1 (Construction)
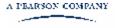
Duration: 36 weeks

Aims:

Performance - Learners can:

- Understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine

- Identify, obtain and utilise necessary information to tackle problems

- Select and apply mathematics in an organised way to find solutions to practical problems for different purposes

- Use appropriate checking procedures at each stage

Interpret results, consider the appropriateness of conclusions, and communicate solutions to practical problems, providing explanations

Regular resources/textbooks:

Smartboard, WB & Pens, Power Point, paper & pens for group work, textbook, internet and LRC resources.

Week/ Session	Content	Learning Objectives: students will be able to	Assessment of Learning	Teaching and Learning Activities	Resources	Functional Skills Standards (including ECM theme)
1	Induction Initial assessment	Explain the different achievement quals (Key/Basic and Functional Skills) Answer questions on the Profiler assessment	Q&A Answers on the Profiler assessment	• Introduce the Key/Basic/Functional Skills– discuss assessment and portfolio requirements etc. • Paper or computer-based diagnostic assessments	Handouts Whiteboard Assessments *Computers*	
2	Initial assessment 1:1 feedback	Complete the Profiler assessment Complete autumn term target on progress sheets	Answers on Profiler assessment Q&A	• Give 1:1 feedback and complete an ILP with learners	Assessments *Computers*	
3	Language of Maths Place value	Read, write order and compare numbers Discuss negative numbers in practical contexts Read temperatures on a thermometer	Observation of ordering activity Q&A Observation of reading and recording temperature	• Activity - Match figures to words *(smartboard)* • Worksheet – write the value of a digit in a number • Cards activity - Order a set of +ve and –ve numbers *(smartboard)* • Paired activity - Describe a set of numbers (more than, less than, equal to) *(smartboard)* • Paired activity - measure and record body temperatures	Matching cards Thermometers Worksheets *Computer* *Smartboard*	Read, write, order and compare numbers, including large numbers. Know what each digit represents in a number of up to seven digits, including the use of zero as a place holder Recognise negative numbers in the context of temperature.

4	4 rules of whole numbers	Add and subtract using efficient written and mental methods	Checking/marking of the problem solving worksheet & observing the mental maths game	• Discussion – different methods for addition and subtraction *(smartboard)* • Worksheets – 4 rules • Group activity – follow on game using cards • Group activity - dominoes games • Inverse checking	Activity cards Worksheets Follow on game cards Dominoes *Smartboard* *Computer*	Recognise and use numerical relationships, for example multiples and squares. Use a range of calculation strategies, including use of a calculator.
5	4 rules of whole numbers	Multiply and divide using efficient written and mental methods	Successful completion of problem solving worksheet & mental maths game	• Discussion – different methods for multiplication and division *(smartboard)* • Worksheets – 4 rules • Group activity – follow on game using cards • Group activity - dominoes games • Inverse checking	Activity cards Worksheets Follow on game cards Dominoes *Smartboard* *Computer*	Add, subtract, multiply and divide whole numbers using a range of mental methods Multiply and divide whole numbers by 10 and 100 using mental arithmetic
6	Rounding and estimating	Round numbers to nearest 10, 100, 1000 to make approximate calculations Estimate to check that answers are reasonable	Checking/marking of worksheet & Observing the paired activity – Peer assessment Directed questioning	• Discussion – examples of rounding in everyday life. • Board work – how to round to nearest 10, 100 & 1000 *(smartboard)* • Worksheets - Round values to the nearest £1, £10 & £100 (e.g. budgeting) • Paired activity - Estimate then use calculator to find total of items bought	Whiteboard Worksheets Calculators *Smartboard* *Computer*	Estimate using rounding. Understand that knowledge of a context enables judgement of whether answers are sensible.

| 7 | Recap / Mini project – applying 4 rules of numbers (Formative assessment) | Complete project.

Answer four rules questions using mental maths | Formative assessment of student's work

Directed questioning | • Learners to complete mini project and answer verbal questions on the budget for a small business
• Set homework | Mini project
Mental maths questions | Understand and use whole numbers and recognise negative numbers in practical contexts
ECM5 |

HALF TERM

Week/ Session	Content	Learning Objectives: students will be able to	Assessment of Learning	Teaching and Learning Activities	Resources	Functional Skills Standards (including ECM theme)
8	Intro Fractions Equivalent fractions	Read, write, order and compare common fractions Correctly match equivalent fractions to each other	Checking/marking of worksheet Observing the activity Directed questioning	• Discussion – examples of fractions in everyday life (use leaflets). Understand that fractions add up to one whole • Activity – matching shaded shapes to fractions *(smartboard)* • Card activity – matching equivalent fractions	Leaflets Whiteboard Matching cards Worksheets Drag and drop exercise.	Read, write, order and compare common fractions, including mixed numbers, decimals with up to three decimal places and percentages.
9	Find fraction parts of a whole number	Calculate fraction parts of whole number quantities and measurement	Observing the activity Checking/marking of worksheet Directed questioning	• Starter activity – equivalent fractions • Board work – Finding fraction parts • Worksheets – Calculating fraction parts • Fraction of shopping cost	Whiteboard *Smartboard* *Computer* *Shopping list*	Read, write, order and compare common fractions, including mixed numbers, decimals with up to three decimal places and percentages.
10	Decimals	Read, write order and compare decimals up to three decimal places Add and subtract decimals up to two decimal places Approx decimals by rounding	Observing the activity Checking/marking of worksheet Directed questioning	• Discussion – introduce decimal place value *(smartboard)* • Activity – order decimal numbers *(skillswise)* • Worksheet – add and subtract money, rounding money *(smartboard)*	Whiteboard Ordering cards *Smartboard* *computers*	In the context of money and measure; add and subtract decimals up to two decimal places ECM 5
11	X / ÷ by 10 & 100 Equivalencies between decimals and fractions	Multiply and divide whole numbers by 10, 100 Match equivalent fractions and decimals	Observing the activity Self assessment Directed questioning	• Discussion – how to x/÷ by 10 and 100 • Activity – match calculations to answers *Smartboard / skillswise)* • Activity – match equivalent	Whiteboard Matching cards *Smartboard* *computers*	Read, write, order and compare common fractions, including mixed numbers, decimals with up to three decimal places and percentages.

				decimals and fractions *(smartboard)* – 1/10, 1/5,1/4, ½, ¾		
12	Percentages	Read, write, order and compare simple percentages Calculate simple percentage parts of whole numbers	Observing the activity Directed questioning Checking/marking of worksheet	• Discussion – examples of percentages in everyday life (use leaflets) • Card activity – order percentages • Mental and written strategies for calculating percentages • Worksheet – finding simple percentages	Leaflets Cards Whiteboard *Smartboard*	Read, write, order and compare common fractions, including mixed numbers, decimals with up to three decimal places and percentages.
13	Fraction, decimal, percentage equivalencies	Match common fractions, decimals and percentages	Observing the activities Peer assessment Directed questioning	• Board work – calculating equivalencies • Small group quiz – calculating fractions, decimals and percentages. • Card activity – match %, decimals & fractions *(smartboard)*	Whiteboard Quiz questions Worksheets Matching cards *Smartboard*	Understand and use equivalencies between common fractions, decimals and percentages
14	Recap - mini project involving Fraction, decimal and percentages	Complete problem solving paper / mini project covering work completed during second half term	Formative assessment of student's work Directed questioning	• Learners to complete mini project - finding the most competitive prices to re-decorate a spare room into an office • Set homework according to test results	mini project	Understand and use equivalencies between common fractions, decimals and percentages ECM5

XMAS BREAK

Week/ Session	Content	Learning Objectives: students will be able to	Assessment of Learning	Teaching and Learning Activities	Resources	Functional Skills Standards (including ECM theme)
15	Feedback of first term's topics	Apply fraction, decimal and percentage in problem solving situations Review autumn term progress sheet and complete targets for spring term	Checking/marking of worksheet Directed questioning	• Worksheets – Problem solving with fractions, decimals and percentages. • Feedback with tutor – evaluate students progress with regard to their learning and their personal development	Worksheets Calculator	Work to the given level of accuracy, for example nearest ten. Solve problems requiring calculation, with common measures including money
16	Ratio and direct proportion	Dilute liquids to a given ratio Change quantities in a given recipe Draw an accurate scale plan of a room using a given scale	Directed questioning Checking/marking of worksheet Observing the activity	• Discussion – ratio and proportion in everyday life. Discuss scale plans and how they are used. • Board work – How to calculate ratio and proportion (smartboard) • Worksheets – calculating ratio and proportion • Activity – diluting liquids • Activity – Produce simple plans and scale drawings using given scales	Whiteboard Worksheets Recipes Liquids and containers Smartboard	Understand simple ratio as the number of parts Know how to use a simple scale to estimate distance on a road map
17	Length	Write down at least 2 units of measure for length Estimate and accurately measure lengths of objects Convert between metric measurements for length	Observation of activity Q&A. Observation of measuring activity Checking/marking of	• Discussion – metric and imperial units • Activity – estimate, measure and record length of items • Board work – How to convert between different units (review x & ÷ by 10, 100 and 1000). • Worksheets - Converting	Whiteboard Worksheets Matching cards Measuring instruments Smartboard	Read, estimate, measure, compare and calculate length, distance, weight, capacity, and temperature. Convert units of measure in the same system

		worksheet		• between different units • Activity –match metric amounts with different units *(smartboard)*		
18	Weights and capacities	Write down at least 2 units of measure for weights & capacity Estimate and accurately measure weight and capacity of objects Convert between metric measurements for weights and capacity	Observation of activity Observation of measuring activity Checking/marking of worksheet Directed questioning	• Discussion – recap metric and imperial units • Activity – estimate, measure and record weights and capacities of items • Board work – How to convert between different units (review x & ÷ by 10, 100 and 1000). • Worksheets - Converting between different units • Activity –match metric amounts with different units *(smartboard)*	Whiteboard Worksheets Matching cards Measuring instruments *Smartboard*	Read, estimate, measure, compare and calculate length, distance, weight, capacity, and temperature. Convert units of measure in the same system
19	Time management	Write dates in common formats Write the time in the 12-hour and 24-hour clock	Observation of activity Directed questioning	• Learners plan an building job • Access rail timetables online • Match dates and times	Matching cards Rail timetable Online game	Read, measure and record time in common date formats and in the 12-hour and 24-hour clock;
20	Problem Solving – Measure, shape and space	Complete practical exercise and receive feedback	Measure the length of the classroom and convert to other units of measurement. Produce a simple scale plan of the classroom.	• Conversion between metric unit • Calculate the number of pipes that is required for the room.	Whiteboard Mini project Tape rule	Solve simple problems involving ratio, Solve problems requiring calculation, with common measures including money, time, length, weight, capacity and temperature ECM1

Week/ Session	Content	Learning Objectives: students will be able to	Assessment of Learning	Teaching and Learning Activities	Resources	Functional Skills Standards (including ECM theme)
21	Recap Feedback and target setting	Q & A on previous topics and any misconception addressed.\n\nUpdate on progress and new targets agreed.	Observation of activity\n\nDirected questioning	• Learners to complete problem solving test paper and answer verbal questions\n• Set homework according to test results	Test paper Mental maths questions	

| | | | | HALF TERM | | |

Week/ Session	Content	Learning Objectives: students will be able to	Assessment of Learning	Teaching and Learning Activities	Resources	Functional Skills Standards (including ECM theme)
22	Area and perimeter	Accurately calculate perimeter and area of simple shapes	Observe learners calculating area and perimeter of items in the classroom\n\nDirected questioning\n\nChecking/marking of worksheet	• Discussion on area, perimeter & volume in real life\n• Board work - calculate area, perimeter *(smartboard)*\n• Estimate then calculate the area and perimeter of the objects in room (table, computer screen etc.)	Whiteboard Worksheets Squared paper *Smartboard*	Know that the perimeter is the boundary of a shape and is measured in units of length.\n\nKnow that area is a measure of 2D space, measured in square units and that the area of a rectangle = length × width.
23	Volume	Accurately calculate the volume of cubes & cuboids.	Observation of activity\n\nSuccessful completion of task. Q&A	• Discussion on volume in real life situations\n• Worksheets - calculate volume\n• Activity – measure and calculate volume of cuboids	Graph/squared paper Whiteboard Internet *Smartborad*	Know that volume is a measure of 3D space, measured in cubic units and the volume of a cuboid = length × width × height.

24	Graphs, charts, tables and diagrams	Correctly extract and interpret information from lists, tables, charts and graphs	Checking/marking of worksheet Observation of activity – Peer assessment Directed questioning	• Discussion – different ways of presenting data • Q&A – extracting information from different sources • Activity – collect and record discrete data	Charts, tables and graphs Quiz questions Worksheets Graph Paper *Smartboard*	Understand that title, labels, and key provide information. Collect (including by making accurate observations) and record discrete data in a tally chart.
25	Graphs, charts, tables and diagrams	Collect , organise and represent discrete data	Observation of activity – Peer assessment Directed questioning	• Discussion – different ways of presenting data • Activity – collect discrete data and present it in different ways • Paired quiz – spot the missing information from graph *(smartboard)* • Worksheet – extracting and interpreting data	Charts, tables and graphs Quiz questions Worksheets Graph Paper *Smartboard*	Represent discrete data in pictograms, bar charts and line graphs. Know how to choose a sensible scale and to label charts, graphs and diagrams
26	Mini Project	Calculate how many small boxes can fit into a bigger box. Collect and present data in an appropriate graph, chart, table or diagram	Successful completion of activity Directed questioning	Problem solving - volume Activity – collecting and presenting data – e.g. Investigate the costs involved in carrying out a decorating job. Find an appropriate way to present findings.	Graph sheets Whiteboard	Construct models, draw shapes, for example net of a cuboid. Know how to obtain information, from tables such as a timetable or pricelist, charts such as a pictogram, simple pie chart or bar chart, single line graphs, diagrams such as a map, workshop drawing or plan. ECM3

Week/ Session	Content	Learning Objectives: students will be able to	Assessment of Learning	Teaching and Learning Activities	Resources	Functional Skills Standards (including ECM theme)
27	Recap of previous topics Feedback to students	Complete the revision questions on last term's topics Review spring term progress sheet and complete targets for summer term	Checking/marking of worksheet	• Worksheets – Problem solving with data handling • Feedback with tutor – evaluate students progress with regard to their learning and their personal development	Worksheets Calculator	Represent the results of calculations to show the purpose of the task, ECM3

	EASTER BREAK					

Week/ Session	Content	Learning Objectives: students will be able to	Assessment of Learning	Teaching and Learning Activities	Resources	Functional Skills Standards (including ECM theme)
28	Mean (average) and range	Calculate mean for the a set of up to 10 numbers Calculate the range for a set of up to 10 numbers	Check for correct answers on group quiz Observation of activity	• Discussion – Averages in everyday life. • Worksheet – calculating averages and range • Activity – investigate averages from different data sources	Whiteboard Worksheets Quiz questions	Know that the mean is a single value that represents the data. Calculate the mean by summing all the values then dividing by the number of items, for example temperature, prices, time
29	Probability	Express the likelihood of an event occurring Express probability / likelihood as a fraction percentage or decimal	Checking/marking of worksheet Observation of activity – Peer assessment Directed questioning	• Discussion – types of events • Paired activity – investigations using dice etc. • Worksheet – finding probability • Computer – Probability game on BBC Skillswise	Dice etc. Worksheets Computers	Understand that some events are impossible, some events are certain, some events are likely to occur. Expressing a probability as a fraction, decimal or percentage

30	Practice test	Complete practice FS assessments	Check answers on practice test.	Completing the questions and activities on FS assessment	Practice Papers Calculators Pen Paper Graph paper	Know that the mean is one sort of average that can give a distorted view if one or two values are much higher or lower than the other values, Understand that some events can happen in more than one way, for example getting an odd number on the throw of a dice. ECM 3
31	Summative assessment	Start functional skills assessment	Mark work completed	Completing the questions and activities on FS assessment	Practice Papers Calculators Pen Paper Graph paper	ECM 3
32	Summative assessment	Complete functional skills assignment	Mark work completed	Completing the questions and activities on FS assessment	Practice Papers Calculators Pen Paper Graph paper	ECM 3
33	Introduce Project 1- Planning a Holiday	Discus the appropriate research method and resources required to complete the task.	1. Work as a group to determine the things that should be considered when going on holiday.	Gather as much information as possible from internet, brochures and flyers	Project Calculators Pen Ruler Graph Paper	ECM 3 & 5

34	Presentation of Research findings and group feedback	Present findings of their research using appropriate charts and diagrams	1. Q&A. Observation of task	Present their research findings to the whole class Explain the rationale behind their choice of holiday destination Discuss issues encountered and receive feedback from peers	Project Feedback sheets *Computers*	ECM 3 & 5
35	Introduce Project 2- Financial management	Present personal monthly budget plan to the group	Observation of presentation Q&A	Discuss ways of managing spending Calculate monthly budget Present their research findings to the whole class Explain the rationale behind their spending Discuss problem encountered and receive feedback from peers	Project Feedback sheets *Computers*	ECM 3 & 5
36	Whole Class Evaluation and Review Progress	1. Review individual student's progress sheets	1. Q&A	Whole class evaluation of tasks Discuss progression for next academic year	Progress sheets Questionnaire	ECM 3 & 5