

Scheme of Work

Course Code:

Course Title:

Functional Skills Level 2



Academic Year: 2009-10

Curriculum Area: Construction

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Week/ Session	Content	Learning Objectives: students will be able to	Assessment of Learning	Teaching and Learning Activities	Resources	Key Skills Basic Skills Every Child Matters
1	Induction Initial assessment	1. tell the KS/BS/FS requirements 2. answer questions on the Profiler assessment	1. Q&A 2. Profiler Assessment	<ul style="list-style-type: none"> Introduce the Key / Basic / Functional Skills – discuss assessment and portfolio requirements etc. Paper or computer-based diagnostic assessments 	Handouts Whiteboard Assessments <i>Computers</i>	
2	Initial assessment 1:1 feedback	1. Complete the Profiler assessment 2. Complete autumn term progress sheets	1. Profiler Assessment	<ul style="list-style-type: none"> Continue paper/computer-based diagnostic assessments 	Assessments <i>Computers</i>	
3	Language of Maths Place value	1. Read, write order and compare large numbers 2. Discuss negative numbers in practical contexts 3. Read temperatures on a thermometer 4. Use negative numbers in a practical context, e.g. temperature below zero, loss in trading	1. Observation of ordering activity 2. Q&A 3. Peer checking: Correctly read and record temperature – feedback to learners 4. Discussion on government spending figures on public services	<ul style="list-style-type: none"> Activity - Order a set of monthly trading figures for a year, including losses. Worksheet – write the value of a digit in a number Cards activity - Order a set of +ve and -ve numbers (<i>smartboard</i>) Paired activity - Describe a set of numbers (more than, less than, equal to) (<i>smartboard</i>) Paired activity – measure and record body temperatures 	Matching cards Thermometers Worksheets <i>Computer Smartboard</i>	N1/L2.1 N1/L2.2 MSS1/L2.4
4	Multiples, factors and prime numbers	1 Use mental and written methods of calculation to generate results when solving problems using whole numbers of any size 2. Complete calculations using the words <i>multiple</i> , prime number and <i>factor</i> and relate them to multiplication and division facts	1. Successful completion of problem solving worksheet & mental maths game 2. Observation of activity	<ul style="list-style-type: none"> Discuss different methods that can be used for mental and written calculations and share short cuts and 'tricks', with explanations, factors. Use a number square and cross off multiples of numbers in turn to find prime numbers. Practise breaking down numbers into prime factors. 	Activity cards Worksheets Follow on game cards Dominoes <i>Smartboard Computer Number square</i>	N1/L2.2

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5	Ratio and Proportion	1. Solve problems involving the number of parts in a given ratio, and the value of one part	1. Checking/Marking of progress/completion of problem solving worksheet 2. Peer checking: Scale quantities up (or down), using direct proportion, e.g. in cooking recipes, cement mixes, etc. – Feedback to learners 3. Observation of calculating actual measurements from a scale drawing.	<ul style="list-style-type: none"> • Discussion – ratio in everyday situation (<i>smartboard</i>) • Worksheets – problem solving • Group activity – actual measurement from a scale drawing 	Activity cards Worksheets Scale drawing <i>Smartboard</i> <i>Computer</i>	N1/L2.3
6	Simple Algebra	1. make distinction that words and symbols in expressions and formulae rule represent variable quantities (numbers), not things 3. evaluate expressions and make substitutions in given formulae in words and symbols to produce results.	1. Observation of Smartboard activity -Matching expressions 2. Peer checking – Worksheet on how to calculate area and volume from a given formula	<ul style="list-style-type: none"> • Discussion – examples of practical applications of algebra. • Board work - match expressions in words and symbols. • Convert expressions from words to symbols, and vice versa. (<i>smartboard</i>). • Worksheets - Evaluate simple formulae using brackets, e.g. perimeter = 2 (l + w). • Paired activity - changing temperature from Fahrenheit to Celsius, changing between metric and imperial units. 	Whiteboard Worksheets Calculators <i>Smartboard</i> <i>Computer</i>	N1/L2.4 MSS1/L2.6 MSS1/L2.7
7	Recap of first half term topics and completion of mini project. Formative Assessment	1. Complete mini project. 2. Q & A session	1. Direct questioning 2. Mark the assignment and give feedback	<ul style="list-style-type: none"> • Learners to complete mini project and answer verbal questions (e.g. House hold or small business budgeting) • Set homework 	Mini project	N1/L2.1-L2.4 MSS1/L2.4, L2.6 ECM5

HALF TERM

Week/ Session	Content	Learning Objectives: students will be able to	Assessment of Learning	Teaching and Learning Activities	Resources	Key Skills Basic Skills Every Child Matters
8	Evaluation of a number as fraction of another	1. identify and recognise equivalent fractions know how to reduce a fraction to its simplest form	1. Checking/marking of progress/completion of worksheet	<ul style="list-style-type: none"> • Starter activity – equivalent fractions • Board work – Represent the outcome of observations as a fraction • Discuss - strategies for estimating one number as a fraction of another, • Worksheet - Evaluate quantities as fractions, 	Whiteboard <i>Smartboard</i> <i>Computer worksheet</i>	N2/L2.3 HD1/L2.1
9	Equivalent fractions	1. match equivalent fractions	1. Observation of matching cards game	<ul style="list-style-type: none"> • Discussion – examples of fractions and its equivalencies in everyday life (use leaflets, adverts and headlines). Understand that fractions add up to one whole • Activity – Write fractions of an hour as decimals on a time sheet (<i>smartboard</i>) • Card activity – matching equivalent fractions, decimal and percentages 	Leaflets Whiteboard Matching cards Worksheets Drag and drop exercise.	N2/L2.1 N2/L2.2
10	Decimals	1. write down the value of figures in numbers of up to three decimal places 3. add, subtract, multiply and divide decimals up to three places	1. Successful completion of task 3. Checking/marking of progress/completion of worksheet	<ul style="list-style-type: none"> • Discussion - rounding answers on a calculator and the degree of accuracy that might be appropriate, e.g. calculations with money, precise measurements) • Activity – Compare times from sprint races that are recorded in seconds to three decimal places.) • Search for goods on European online shopping sites and convert the prices from € to £ sterling 	Whiteboard Ordering cards <i>Smartboard</i> <i>computers</i>	N2/L2.5 N2/L2.6 MSS1/L2.1

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11	Percentage of quantities	1. Order and compare percentages and demonstrate understanding of percentage increase and decrease. 2. Calculate VAT of given amounts.	1. checking/marking the progress/completed task 2. Peer-checking	<ul style="list-style-type: none"> Discuss quick ways of finding VAT Use interest rates to compare the cost of a loan with credit facilities. Paired Activity - Practise examples in context, e.g. percentage pay rises, increased or decreased mortgage payments when there is a change in interest rates, the effect of a percentage increase in the cost of fuel, etc. (household bills), adding VAT to a car service or mail order item (e.g. computer), adding 30% to prices as a profit margin in a shop. Use any methods. 	Worksheets Interest rates from banks. Internet	N2/L2.7 N2/L2.8
12	Evaluation of one number as a percentage of another	1. Calculate one number as percentage of another. 2. know and use strategies to check answers obtained with a calculator	1. Direct questioning 2. Peer checking – feedback to learners	<ul style="list-style-type: none"> Discussion – percentages using the attributes of the group, e.g. what percentage of the group is male, Activity – match calculations to answers <i>Smartboard / skillswise</i>) Activity – Use a calculator to check the answers to calculations done by other methods (manual or by another person). 	Whiteboard Matching cards <i>Smartboard</i> <i>Computers</i> <i>Calculators</i>	N2/L2.9 N2.L2.10
13	Equivalent fractions, decimals and percentages	1. Complete a table of equivalent fractions, decimals and percentages	1. Observation of activity. Q&A	<ul style="list-style-type: none"> Boardwork – show learners how to convert between fractions, decimals and percentages. Paired activity – complete a table of equivalencies Matching game (<i>Skillswise</i>) 	Whiteboard Matching cards Worksheets <i>Computers</i>	
14	Completion of project involving Fraction, decimal and percentages - Formative assessment	1. Complete problem solving paper / mini project covering work completed during second half term	Formative assessment of student's work Directed questioning	<ul style="list-style-type: none"> Learners to complete mini project (e.g. finding the most competitive prices to re-decorate a spare room into an office) Set homework according to test results 	mini project	N2/L2.1 N2/L2.2 N2/L2.4 - 10 <u>ECM5</u>

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XMAS BREAK						
15	Recap of Fractions, decimals and percentages Feedback of first term's topics	1. Apply fraction, decimal and percentage in problem solving situations 2. Review autumn term progress sheet and complete targets for spring term	Checking/marking of worksheet Directed questioning	<ul style="list-style-type: none"> 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 Progress Record Form	N2/L2.1-11 <u>ECM3</u>
16	Metric and Imperial measurement	1. categorise metric and imperial units of length, distance, weight, capacity 2. read scales to different levels of accuracy, including reading between marked divisions	1. Observation of activity 2. Observation of measuring tasks to varying degree of accuracy with the appropriate instrument.	<ul style="list-style-type: none"> Discuss the appropriate units of measure for length, distance, weight, capacity, and the use of metric and imperial units Activity – estimate, measure and record length and weights and capacities of items Paired activity – read both metric and imperial amounts for lengths weights and capacities. 	Whiteboard Quiz questions Worksheets Measuring tape Bathroom and kitchen scales Flip charts <i>Smartboard</i>	MSS1/L2.3
17	Conversion of metric and imperial units	1. calculate with units of measure within the same system 2. use a measuring instrument accurately 3. convert metric units to imperial units and vice versa	1 Observation of activity. Q&A. 2. Observation of measuring activity 3. Checking/marking the progress/completed worksheet	<ul style="list-style-type: none"> Discussion – metric and imperial units Work out the best value of products of different weights or capacities. Board work – How to convert between different units (review \times & \div by 10, 100 and 1000) Worksheets - Converting between different units Activity –match metric and imperial amounts with different units (<i>smartboard</i>) 	Whiteboard Worksheets Liquids and containers <i>Smartboard</i>	N1/L1.4 MSS1/L2.4 MSS1/L2.5 MSS1/L2.6

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18	Area and perimeter of composite shapes	1. Use given formulae to find areas of composite shapes (e.g. non-rectangular rooms or plots of land) 2. break down a composite shape into regular shapes	1. Observation of activity. Q&A. 2. Checking/marking the progress/completed worksheet	<ul style="list-style-type: none"> Discussion – finding the perimeter of composite shapes, such as rooms, which are not drawn to scale and do not have all the measurements included, and devise ways of finding the lengths of all the edges Activity – Calculate the wall area for painting, excluding doors and windows. Use plans drawn on plain paper to find the areas of composite shapes. Calculate any missing dimensions, and use a formula to find the area of each component 	Whiteboard Worksheets Matching cards Measuring instruments <i>Smartboard</i>	MSS1/L2.8 MSS1/L2.7
19	Scale Drawing	1. Draw an accurate scale plan of a room using a scale expressed as a ratio 2. Accurately work out distances from the scale on a map.	1. Observation of activity 2. Successful completion of task. Q&A	<ul style="list-style-type: none"> Discuss scales and how they are used. Work from several examples such as <i>If the scale is 1:100 on a plan, what would a centimetre represent? What would 10 cm represent?</i> Activity - Produce simple plans and scale drawings, with different scales, and work out actual measurements, e.g. house plans, room plans, templates for making something, etc. Use different scales, e.g. 1:20, 1:10, and 1:50. 	Tracing paper Whiteboard Internet <i>Smartboard</i>	MSS1/L2.10
20	Formative assessment – measurements and scale drawings	1. Measure a room and present the dimensions in form of scale drawing. Calculate the area and perimeter of the room.	1. Observation of set task. Check marked work.	<ul style="list-style-type: none"> Learners to the mini project on scale drawing. Set homework 	Measuring tape Rulers Whiteboard	MSS1/L2.10 MSS1/L2.8 MSS1/L2.7 MSS1/L2.4 MSS1/L2.5 MSS1/L2.6

HALF TERM

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21	Conversion using formulae and conversion tables	1. Read a thermometer accurately. 2. Use a conversion chart to convert between convert amounts to different units	1 Observation of activity. Q&A 2. Peer checking – feedback to learners	<ul style="list-style-type: none"> • Discussion – uses of tables and formulae • Match rough equivalences between metric and imperial units. • Paired Activity - Convert litres to gallons to check the petrol consumption on an old vehicle, or to compare it with a new vehicle • Activity - Construct a conversion chart or line graph to convert miles to kilometres, and use it to convert between the two, using distances between towns, etc 	Whiteboard Worksheets Matching cards Measuring instruments Conversion tables Smartboard	MSS1/L2.4 MSS1/L2.5 MSS1/L2.6
22	2D and 3D shapes	1. Use common 2D representations of 3-D objects 2. solve problems involving 2-D shapes and parallel lines	1. Feedback to learner 2. Observation of activity 3. Checking/marking the progress/completed worksheet	<ul style="list-style-type: none"> • Investigate and describe different representations of 3-D objects in 2-D, e.g. nets of solids, plans, elevations. • Discuss practical examples of using parallel lines, e.g. hanging wallpaper, laying tiles or paving stones. • Activity - Use the properties of parallel lines to solve everyday problems, e.g. finding the amount of coving needed to go round a ceiling by using the corresponding floor measurements. 	2-D and 3-D objects Drawing papers Internet Whiteboard	MSS2/L.2.1 MSS2/L.2.2
23	Extracting Data	1.Extract and interpret information from lists, tables, charts and graphs	1. Observation of activity. Q&A	<ul style="list-style-type: none"> • Discuss the difference between continuous and discrete data. A useful example is that the size of shoe someone wears is discrete, but the length of their foot is continuous. • Board work – Look at the use of different scales and their effect on 	Whiteboard Holiday brochure Graph paper Smartboard Internet	HD1/L2.1

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				<p>the graph. Comment on trends from the slope of the graph.</p> <ul style="list-style-type: none"> Activity – Online game, Extract information from tables in catalogues, brochures, web sites. 		
24	Organising and representing data.	<p>1. Measure the height of everyone in the class and present information as a chart / graph.</p> <p>2. Collect and record data from exchange rates or a particular share issue over a period of time. Display the data on a chart or graph</p>	<p>1. Check correct information included on chart</p> <p>2. Observation of activity and correct completion of chart or graph</p>	<ul style="list-style-type: none"> Discussion - Use given sets of data and discuss the most suitable form of representation. Activity – Measure and record classmates' height; present the data in a suitable form. Worksheets – Plot a graph showing exchange rates over a period. 	<p>Whiteboard Internet Tape rule</p>	<p>MSS1/L2.3 HD1/L2.2</p>
25	Probability	1. Accurately record the range of possible outcomes of combined events in tree diagrams or in tables.	1. Checking/marking the progress/completed worksheet	<ul style="list-style-type: none"> Discuss the possible outcomes of an event using simple examples such as tossing a coin, picking a single playing card from a pack, throwing a die, the possible gender of a baby, the outcome of a football match for one team Activity – Identify the possible outcomes of the gender of twins) 	<p>Quiz questions Worksheets Square Paper Smartboard</p>	<p>HD2/L2.1</p>
26	Formative assessment – Collecting and presenting data	1. Carry out an investigation and present the outcome in a suitable form	1. Check answers on assessment paper. Directed questioning	<ul style="list-style-type: none"> Activity – collecting and presenting data – e.g. Investigate the most popular music genre in the college to prepare for the end of year performance. 	<p>Graph papers Whiteboard Computers – Excel to produce charts and graphs</p>	<p>HD1/L2.3 HD1/L2.4 ECM3</p>

EASTER BREAK

Week/ Session	Content	Learning Objectives: students will be able to	Assessment of Learning	Teaching and Learning Activities	Resources	Key Skills Basic Skills Every Child Matters
27	Recap of data handling Feedback to students	1. Complete the revision questions on last term's topics 2. Review spring term progress sheet and complete targets for summer term	1. Checking/marking of worksheet	<ul style="list-style-type: none"> Worksheets – Problem solving with data handling Feedback with tutor – evaluate students progress with regard to their learning and their personal development 	Worksheets Calculator Progress Record Form	N2/L2.1-11 <u>ECM3</u>
28	Averages & range	1. Calculate mean, median and mode. 2. Discuss the distinctions that each average is useful for different purposes. 3. find the range and use it to describe the spread within sets of data	1. Observation of activity 2. Listen to discussion points 3. Peer checking – feedback to learners	<ul style="list-style-type: none"> Discuss the use of mean, median and mode. Discussion - the use of range in everyday language, e.g. price range, age range Q&A – extracting information from different sources Activity – Compare the distribution of pay scales in two organisations. Paired Activity – Collect data of interest and compare the range, e.g. local house prices with those in another area, local 	Whiteboard Worksheets Charts, tables and graphs Quiz questions Squared paper <i>Smartboard</i>	HD1/L2.3 HD1/L2.4 HD1/L2.4
29	Practice test	Complete practice FS and BS assessments Start on Application of Number portfolio	Check answers on practice test.	<ul style="list-style-type: none"> Completing the questions and activities on FS assessment and AoN assignment brief 	Assignments Calculators Protractors Pen / Paper Graph paper	<u>ECM 3</u>
30	Summative assessment	Start functional skills assessments Start on Application of Number portfolio	Mark work completed	<ul style="list-style-type: none"> Completing the questions and activities on FS assessment and AoN assignment brief 	Assignments Calculators Protractors Pen / Paper Graph paper	<u>ECM 3</u>
31	Summative assessment	Continue / complete functional skills assessment Continue on Application of Number portfolio	Mark work completed	Completing the questions and activities on FS assessment and AoN assignment brief	Assignments Calculators Protractors Pen / Paper Graph paper	<u>ECM 3</u>

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32	Summative assessment	Continue / complete functional skills assignment Continue on Application of Number portfolio	Mark work completed	Completing the questions and activities on FS assessment and AoN assignment brief	Assignments Calculators Protractors Pen / Paper Graph paper	<u>ECM 3</u>
33	Introduce Project 1-Planning a Holiday	1. Discuss 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.	<ul style="list-style-type: none"> Gather as much information as possible from internet, brochures and flyers 	project Calculators Protractors Pen Ruler Graph Paper	<u>ECM 3 & 5</u>
34	Presentation of Research findings and group feedback	1. Present findings of their research using appropriate charts and diagrams	1. Q&A. Observation of task	<ul style="list-style-type: none"> 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 <i>Computers</i>	<u>ECM 3 & 5</u>
35	Introduce Project 2-Financial management	1. Present personal monthly budget plan to the group	Observation of presentation Q&A	<ul style="list-style-type: none"> 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 <i>Computers</i>	<u>ECM 3 & 5</u>
36	Whole Class Evaluation and Review Progress	1. Review individual student's progress sheets	1. Q&A	<ul style="list-style-type: none"> Whole class evaluation of tasks Discuss progression for 09/10 	Progress sheets Questionnaire	<u>ECM 3 & 5</u>

To obtain an editable version of the original Word document please send teaching ideas or any adult basic skills / functional skills resource that you would like to share to maggie@skillsworkshop.org

THANK YOU