Name_____ Date_____

World Cup Maths

REPLICA KITS

The table shows the prices of replica kits (all countries).

	Children		Adults		
	small	large	small	medium	large
shirts	£24.99	£26.99	£32.99	£34.99	£36.99
shorts	£10.99	£12.99	£15.99	£16.99	£17.99
socks	£5.99	£6.99	£7.99	£7.99	£7.99

1. Barry wants a large (adult) French shirt.
   - How much will this cost him, to the nearest pound?
   - How much change will he get from £40?

2. Thomas wants a complete German kit. He is age 10.
   - What size would you buy for him?
   - How much will it cost to the nearest pound?
   - He got £50 birthday money. Will he have enough for his kit?

3. Helen is buying shirts for her sons. She wants a small adult's Slovenian shirt and a medium adult's Italian shirt.
   - How much will she pay, to the nearest pound?
   - How much change will she have from £75?

4. How much will it cost Susan to buy complete kits for her 5 year old twins?
   - How much extra will she need to add to the £60 she has saved?

MSS1/E3.1 Add and subtract sums of money using decimal notation. HD1/E3.1 Extract numerical information from lists, tables, diagrams and tally charts.

Page 1   Kindly contributed by Maudine Morris, maudine.morris@boltoncc.ac.uk Bolton College
Covers many E3, L1 and L2 number, measure and data elements. Also suitable for underpinning Functional Mathematics.

Name_____ Date_____

World Cup Maths

I have decided I would like to watch the following matches.
Write them in the correct order in the table.

11/06/10	South Africa v Mexico	15.00
17/06/10	Argentina v North Korea	12.30
18/06/10	England v Algeria	17.30
23/06/10	Ghana v Australia	15.00
14/06/10	Japan v Cameroon	15.00
14/06/10	Italy v Paraguay	19.30
15/06/10	New Zealand v Slovakia	12.30
20/06/10	Brazil v Ivory Coast	17.30
20/06/10	Italy v New Zealand	15.00
21/06/10	Spain v Switzerland	15.00

Date	Match	Time

Information from www.TheFA.com

MSS1/E3.3 Read, measure, record time. HD1/E3.4 Organise & represent information in different ways so it makes sense to others. MSS1/E2.3 Read, record time in common date formats.

Page 2   Kindly contributed by Maudine Morris, maudine.morris@boltoncc.ac.uk Bolton College
Covers many E3, L1 and L2 number, measure and data elements. Also suitable for underpinning Functional Mathematics.

Name_____ Date_____

World Cup Maths

Use your completed table (page 2) to answer these questions:

1. How many England matches will I watch?

……………………………………………………………………………………………

2. How many times will I watch Italy play?

……………………………………………………………………………………………

3. How many matches kick off at 3p.m.?

……………………………………………………………………………………………

4. Which match kicks off at 7.30 p.m.?

……………………………………………………………………………………………

5. What time does the New Zealand v Slovakia match kick off?

……………………………………………………………………………………………

Now record the matches and times on the calendar (page 4).

Name_____ Date_____

World Cup Maths

World Cup June 2010

Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

MSS1/E3.3 Read, measure and record time. HD1/E3.4 Organise and represent information in different ways so that it makes sense to others.

Kindly contributed by Maudine Morris, maudine.morris@boltoncc.ac.uk Bolton College
Covers many E3, L1 and L2 number, measure and data elements. Also suitable for underpinning Functional Mathematics.

Name_____ Date_____

World Cup Maths

Here are some things I can buy in my local supermarket to celebrate England playing in the World Cup in 2010.

Item	Colour	Price
"It's coming home" T - shirt	Navy	£8
Women's T - shirt	Red	£10
Flip flops		£4
Polo Shirt	striped	£12
St. George's Cross tankard		£2
Mug & coaster set		£4
T - shirt	Red	£8
England Lion 1966 T- shirt	White	£8

1. What colour is the Women's T – shirt?

2. What colour is the England Lion 1966 T – shirt?

3. How much is a pair of flip flops?

4. How much is a polo shirt?

5. How many items cost £8?

Products advertised in Tesco magazine.

HD1/E2.1 Extract numerical information from lists, tables. MSS1/E2.2 Calculate the cost of more than one item & the change from a transaction, in pence or in whole pounds.

Kindly contributed by Maudine Morris, maudine.morris@boltoncc.ac.uk Bolton College
Covers many E3, L1 and L2 number, measure and data elements. Also suitable for underpinning Functional Mathematics.

Name_____ Date_____

BOLTON COLLEGE

World Cup Maths

Here is a list of the all-time, top ten goal scorers in the World Cup Finals.

Player	Country	World Cups played	Goals scored
Batistuta	Argentina	1994 1998 2002	10
Cubillas	Peru	1970 1978 1982	10
Fontaine	France	1958	13
Klinsmann	Germany	1990 1994 1998	11
Kocsis	Hungary	1954	11
Lineker	England	1986 1990	10
Muller	West Germany	1970 1974	14
Pele	Brazil	1958,1962,1966 1970	12
Rahn	West Germany	1954 1958	10
Ronaldo	Brazil	1994 1998 2002 2006	15

Use the table to answer these questions.

1. Which country did Rahn play for?

2. How many world cups did Klinsmann play in?

3. How many goals did Fontaine score?

4. When did Kocsis play in the World Cup?

5. Which Argentinian player played in 3 World Cups?

6. How many goals did Muller score?

7. How many World Cups did Pele play in?

8. Who has scored the most goals?

9. Which country did Cubillas play for?

10. How many goals did Lineker score?

Information from www.goal.com, images from www.google.co.uk/images.

HD1/E3.1 Extract numerical information from lists, tables, diagrams and tally charts

Kindly contributed by Maudine Morris, maudine.morris@boltoncc.ac.uk Bolton College
Covers many E3, L1 and L2 number, measure and data elements. Also suitable for underpinning Functional Mathematics.

Name_____ Date_____

World Cup Maths

A supermarket chain has launched its own Match Attax cards for the World Cup. Each pack contains 7 cards.

1. How many cards will there be in 10 packs?

2. How many cards will there be in 5 packs?

3. How many cards will there be in 3 packs?

4. I bought 3 packs last week and 2 packs this week. How many cards have I got?

5. Cards cost 50p per pack. How much will 3 packs cost?

6. If I spend £6 on cards, how much change will I get from £10?

7. David saves £5. How many packs of cards can he buy?

8. Suhel buys 3 packs each week for 4 weeks. How many packs has he altogether?

9. If I spend £12 on cards, how much change will I get from £20?

10. How many packs would Sarah get if she spent £4?

Cards advertised in Tesco Magazine.

N1/E2.5 Multiply using single digit whole numbers. MSS1/E2.2 Calculate the cost of more than one item and the change from a transaction, in pence or in whole pounds

Page 7   Kindly contributed by Maudine Morris, maudine.morris@boltoncc.ac.uk Bolton College
Covers many E3, L1 and L2 number, measure and data elements. Also suitable for underpinning Functional Mathematics.

Name_____ Date_____

BOLTON COLLEGE

World Cup Maths

SOUTH AFRICA 2010
FIFA WORLD CUP

The table shows the location and capacity of the stadia being used for the World Cup 2010.

Stadium	Location	Capacity
Ellis Park	Johannesburg	61,639
Soccer City	Johannesburg	85,460
Green Point	Capetown	66,005
Durban	Durban	69,957
Free State	Bloemfontein	45,058
Port Elizabeth	Port Elizabeth	46,082
Mbambela	Nelspruit	43,589
Peter Mokaba	Polokwane	45,264
Royal Bafokeng	Rustenburg	44,530
Loftus Versfeld	Pretoria	49,365

1. Which stadium has the greatest seating capacity?

2. Which stadium has the lowest seating capacity?

3. What is the capacity of the Mbambela Stadium to the nearest ten?

4. What is the capacity of the Port Elizabeth stadium to the nearest hundred?

5. What is the capacity of the Durban Stadium to the nearest thousand?

6. Three stadia capacities can be rounded to 45,000. Which are they?

7. Wembley Stadium has a capacity of 90,000. What is the difference in capacity between Wembley and
   a. Soccer City
   b. Durban

Information from http://en.wikipedia.org/wiki/2010_FIFA_World_Cup

N1/L1.1 Read, write, order and compare numbers including large numbers. N1/L1.3 Add, subtract, multiply, divide using efficient written methods. N1/L1.8 Approximate by rounding.

Page 8   Kindly contributed by Maudine Morris, maudine.morris@boltoncc.ac.uk Bolton College
Covers many E3, L1 and L2 number, measure and data elements. Also suitable for underpinning Functional Mathematics.

Name_____ Date_____

World Cup Maths

Additional work using the stadia data

1. Arrange that Stadia in order of capacity, starting with the greatest.

2. Round the capacity of each stadium to the nearest 10.

3. Round the capacity of each stadium to the nearest hundred.

4. The capacity of the Reebok Stadium is 28,723. Find how much greater the capacity of the following is:

    a. Peter Mokaba Stadium

    b. Loftus Versfeld Stadium

    c. Royal Bafekeng Stadium

5. What is the total capacity of the two stadia in Johannesburg?

6. What is the actual total capacity of the three stadia whose capacity can be rounded to 45,000?

7. What is the average capacity of the three smallest stadia?

8. What is the average capacity of the four largest stadia?

9. The capacity of two of the stadia will divide exactly by 3. Which stadia are they?

10. Round the total capacity of each stadium to the nearest thousand.

N1/L1.1 Read, write, order and compare numbers, in words and in figures, including large numbers. N1/L1.3 Add, subtract, multiply and divide using efficient written methods. N1/L1.8 Approximate by rounding. HD1/L1.3 Find the arithmetical average (mean) for a set of data

Page 9   Kindly contributed by Maudine Morris, maudine.morris@boltoncc.ac.uk Bolton College
Covers many E3, L1 and L2 number, measure and data elements. Also suitable for underpinning Functional Mathematics.

Name_____ Date_____

World Cup Maths

Here is the final Group 6 table. It shows how England qualified for the 2010 World Cup.
P = games played. W = won. D = drawn. L = lost. F = goals for.
A = goals against. +/- = goal difference. Pts = points.

	Team	P	W	D	L	F	A	+/-	Pts
1	England	10	9	0	1	34	6	28	27
2	Ukraine	10	6	3	1	21	6	15	21
3	Croatia	10	6	2	2	19	13	6	20
4	Belarus	10	4	1	5	19	14	5	13
5	Kazakhstan	10	2	0	9	11	29	-18	6
6	Andorra	10	0	0	10	3	39	-36	0

1. What percentage of their games did England win?

2. Which two teams won 60% of their games?

3. What was the total number of points gained in the group?

4. Express Ukraine's points as a fraction of the total number of points.

5. Wayne Rooney scored 9 goals in this group.
    a. What fraction of the England goals did he score?
    b. What fraction of the total goals did he score?

6. Joe Cole scored 2 goals.
    a. What fraction of the England goals did he score?
    b. What percentage of the England goals did he score?

Information available on Wikipedia.

N2/L1.8 Read, write, order, compare simple %s, and understand simple % increase and decrease. N2/L1.1 Read, write, order, compare common fractions and mixed numbers.

Kindly contributed by Maudine Morris, maudine.morris@boltoncc.ac.uk Bolton College
Covers many E3, L1 and L2 number, measure and data elements. Also suitable for underpinning Functional Mathematics.

World Cup Maths

Answers | Teaching notes | Functional Maths mapping

Replica Kits (p1)

1. £37   £3
2. Large child   £47   Yes
3. £68   £7.02
4. £83.94   £23.94

Watching matches (p2)

See table below

Watching matches - extra (p3)

1. once
2. twice
3. 5
4. Italy v Paraguay
5. 12.30

Calendar (p4)

Check with your tutor.

Simple Data Handling (p5)

1. Red
2. White
3. £4
4. £12
5. 3

Top Ten Scorers (p6)

1. West Germany
2. 3
3. 13
4. 1954
5. Batistuta
6. 14
7. 4
8. Ronaldo
9. Peru
10. 10

Match Attax cards (p7)

1. 70
2. 35
3. 21
4. 35
5. £1.50
6. £4
7. 10
8. 12
9. £8
10. 8

Large Numbers – stadia (p8)

1. Soccer City
2. Mbambela
3. 43,590
4. 46,100
5. 70,000
6. Free state, Peter Mokaba, Royal Bafokeng
7. a) 4540   b) 20,043

Additional work – stadia (p9)

1. Soccer City, Durban, Green Point, Ellis Park, Loftus Versfeld, Port Elizabeth, Peter Mokaba, Free State, Royal Bafokeng, Mbambela
2. See table below
3. See table below
4. a. 16,541 b. 0,642 c. 15,807
5. 147,099
6. 134,852
7. 44,951 (44950.66 rounded)
8. 70,765 (70765.25 rounded)
9. Durban   Peter Mokaba
10. See table below

Group Table (p10)

1. 90%
2. Ukraine   Croatia
3. 87
4. 7/29
5. 9/34   9/107
6. 1/17 5.88%

Date	Match	Time
11/06/10	South Africa v Mexico	15.00
14/06/10	Japan v Cameroon	15.00
14/06/10	Italy v Paraguay	19.30
15/06/10	New Zealand v Slovakia	12.30
17/06/10	Argentina v North Korea	12.30
18/06/10	England v Algeria	17.30
20/06/10	Italy v New Zealand	15.00
20/06/10	Brazil v Ivory Coast	17.30
21/06/10	Spain v Switzerland	15.00
23/06/10	Ghana v Australia	15.00

Stadium	Capacity	Nearest 10 Q2	Nearest 100 Q3	Nearest 1000 Q10
Ellis Park	61,639	61,640	61,600	62,000
Soccer City	85,460	85,460	85,500	85,000
Green Point	66,005	66010	66000	66,000
Durban	69,957	69960	70000	70,000
Free State	45,058	45060	45000	45,000
Port Elizabeth	46,082	46080	46100	46,000
Mbambela	43,589	43590	43600	44,000
Peter Mokaba	45,264	45260	45300	45,000
Royal Bafokeng	44,530	44530	44500	45,000
Loftus Versfeld	49,365	49370	49400	49,000

World Cup Maths

Answers | Teaching notes | Functional Maths mapping

Entry 2, Entry 3 and Level 1 Adult Numeracy

This resource covers many aspects of adult numeracy (whole numbers; decimals, fractions and percentages; common measures and data handling); the main curriculum elements are shown at the bottom of each page.

Functional Mathematics

This resource is also ideal for underpinning many Functional Maths coverage and range statements at Entry 2 - Level 1 (see highlighted areas of the table below). However, in Functional Mathematics exams it is the process skills that are assessed; these are key to successful Functional Maths teaching and learning and must always be developed and stressed during teaching. (See next page)

Coverage and Range statements (indicative only)
Coverage and range statements provide an indication of the type of mathematical content candidates are expected to apply in functional contexts. Relevant content can also be drawn from equivalent National Curriculum levels & Adult Numeracy standards. *Highlighting indicates the main coverage and range skills covered in this resource, although these will vary with the student group and how the resource is used by the teacher.*

Level 1

• understand and use whole numbers and understand negative numbers in practical contexts • add, subtract, multiply and divide whole numbers using a range of strategies • understand and use equivalences between common fractions, decimals and percentages • add and subtract decimals up to two decimal places • solve simple problems involving ratio, where one number is a multiple of the other • use simple formulae expressed in words for one- or two-step operations	• use data to assess the likelihood of an outcome • solve problems requiring calculation, with common measures, including money, time, length, weight, capacity & temperature • convert units of measure in the same system • work out areas and perimeters in practical situations • construct geometric diagrams, models and shapes • extract and interpret information from tables, diagrams, charts and graphs • collect and record discrete data and organise and represent information in different ways • find mean and range

Entry 3

• add and subtract using three-digit numbers • solve practical problems involving multiplication and division by 2, 3, 4, 5 and 10 • round to the nearest 10 or 100 • understand and use simple fractions • understand, estimate, measure and compare length, capacity, weight and temperature • understand decimals to two decimal places in practical contexts	• recognise and describe number patterns • complete simple calculations involving money and measures • recognise and name simple 2D and 3D shapes and their properties • use metric units in everyday situations • extract, use and compare information from lists, tables, simple charts and simple graphs

Entry 2

• understand and use whole numbers with up to two significant figures • understand and use addition/subtraction in practical situations • use doubling and halving in practical situations • recognise and use familiar measures, including time and money	• recognise sequences of numbers, including odd and even numbers • use simple scales and measure to the nearest labelled division • know properties of simple 2D and 3D shapes • extract information from simple lists

References: Ofqual (2009), *Functional Skills criteria for Mathematics: Entry 1, Entry 2, Entry 3, level 1 and level 2.* http://www.ofqual.gov.uk/files/2009-11-functional-skills-criteria-for-mathematics.pdf *Further functional skills documents available at http://www.ofqual.gov.uk/*

World Cup Maths
Answers | Teaching notes | Functional Maths mapping

Process Skills (all levels)		
Representing – selecting the mathematics and information to model a situation • recognise that a situation has aspects that can be represented using mathematics • make an initial model of a situation using suitable forms of representation • decide on the methods, operations and tools, including ICT, to use in a situation • select the mathematical information to use	**Analysing** – processing and using mathematics • use appropriate mathematical procedures • examine patterns and relationships • change values and assumptions or adjust relationships to see the effects on answers in models • find results and solutions	**Interpreting** – interpreting and communicating the results of the analysis • interpret results and solutions • draw conclusions in light of situations • consider the appropriateness and accuracy of results and conclusions • choose appropriate language and forms of presentation to communicate results and solutions
Skill Standards (Level 1)		
• understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine • identify and obtain necessary information to tackle the problem • select mathematics in an organised way to find solutions	• apply mathematics in an organised way to find solutions to straightforward practical problems for different purposes • use appropriate checking procedures at each stage	• interpret and communicate solutions to practical problems, drawing simple conclusions and giving explanations
Skill Standards (Entry 3)		
• understand practical problems in familiar contexts and situations • begin to develop own strategies for solving simple problems • select mathematics to obtain answers to simple given practical problems that are clear and routine	• apply mathematics to obtain answers to simple given practical problems that are clear and routine • use simple checking procedures	• interpret and communicate solutions to practical problems in familiar contexts and situations
Skill Standards (Entry 2)		
• understand simple practical problems in familiar contexts and situations • select basic mathematics to obtain answers	• use basic mathematics to obtain answers to simple given practical problems that are clear and routine • generate results to a given level of accuracy • use given checking procedures	• describe solutions to simple given practical problems in familiar contexts and situations

Ideas for developing process skills

Encourage students to:
- highlight information they need, cross out unneeded information
- show all their working out (note that calculators are permitted at all levels of FM assessment but learners should get into the habit of recording their calculations)
- check all their calculations or procedures and show proof that they have done so
- draw conclusions
- discuss and justify their choice of method and their answers
- explain their answers and conclusions to others – verbally and in writing
- investigate other options / situations (e.g. some pages include web links which could be used for further investigations)
- create new questions about given information (e.g. the tables on pages 5, 6, 8, etc.) and try them out on other students
- mark each others work