

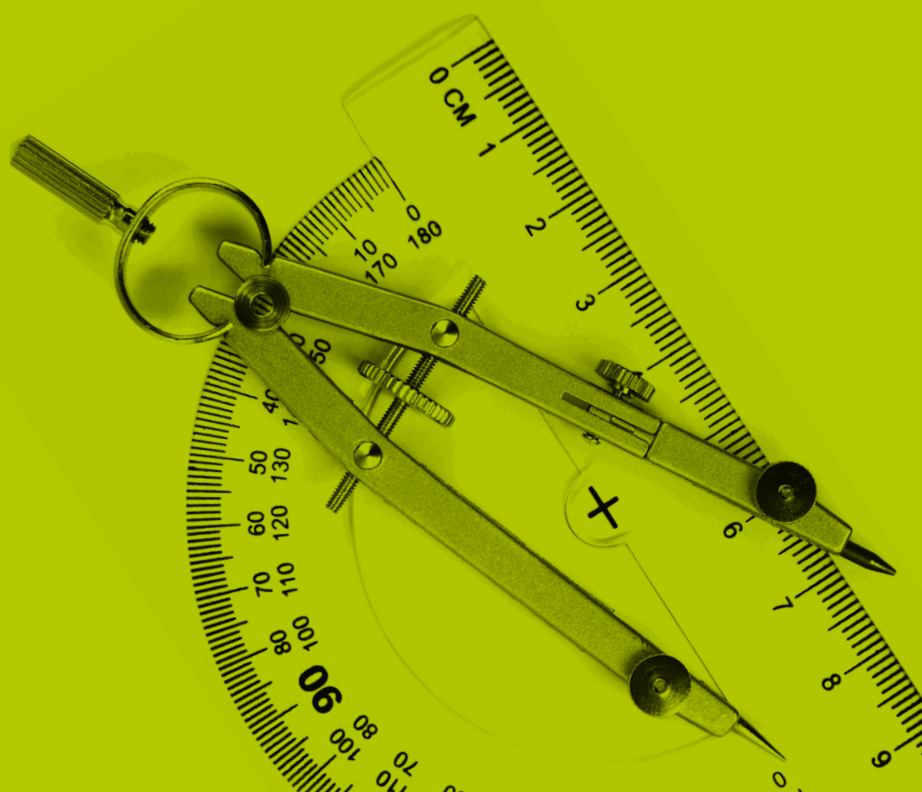
ENTRY LEVEL



WJEC ENTRY LEVEL Certificate in MATHEMATICS - NUMERACY

GUIDANCE FOR TEACHING

Teaching from 2016



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INTRODUCTION

The **WJEC Entry Level Certificate in Mathematics - Numeracy** is available for teaching from 2016. It will be awarded for the first time in summer 2018. This qualification is designed for learners for whom GCSE and equivalent vocational qualifications are not deemed appropriate. This specification has been written to include, where appropriate, the GCSE subject criteria for Mathematics-Numeracy. It is intended that it can be taught alongside GCSE Mathematics-Numeracy Foundation Tier.

The content is split into four stages, with stage one being the easiest and stage four being the most difficult. Knowledge from previous stages will be assumed. Centres are given the freedom as to how much time is spent on each of the four stages.

There are three units of assessment:

- Unit 1:** Final written exam covering the content from all four stages
Externally assessed
Length: 1 hour
Calculator permitted
25% of qualification
- Unit 2:** Four end of stage tests
Internally assessed
Length: 30 minutes each
The stage 1 and stage 2 tests are non-calculator
The stage 3 and stage 4 tests a calculator is permitted
60% of qualification
- Unit 3:** Four practical tasks, one to accompany each stage
Internally assessed
Length: approximately one hour each
15% of qualification

There will be external moderation of the internally assessed units.

SUBJECT CONTENT AND FORTHER GUIDANCE

CONTENT - Stage 1

Calculator not permitted

Ref:	Content	Amplification	Learners should be able to
1a	Reading and writing numbers expressed in figures or words.	Up to 1000.	<ul style="list-style-type: none"> Convert numbers in digits to words Convert numbers in words to digits Match numbers in words and digits, where numbers have similar digits e.g. 270 and 207
1b	Understanding place value.	10, 100, 1000 only.	<ul style="list-style-type: none"> Identify place value e.g. 742; 4 is worth 4 tens or forty, (written in words or digits)
1c	Ordering numbers.	Up to 1000.	<ul style="list-style-type: none"> Order numbers from smallest to largest and largest to smallest, to include where numbers have similar digits e.g. 270, 207, 720, 27, 702

1h	Identifying and calculating halves.	May be asked: If half price was £5, what was the full price?	<ul style="list-style-type: none"> Identify a half of a shape (shape given may not be split or be split into quarters, sixths etc.) Select half of the objects in a diagram Calculate half of an even number up to 100 Calculate the whole number given its half value
1i	The use of a symbol to stand for an unknown number e.g. $\diamond + 3 = 8$.	Unknown will appear only once. Operation to be + and – only.	<ul style="list-style-type: none"> Find the missing number
1j	Inputs to and outputs from a single function machine.		<ul style="list-style-type: none"> Use +, -, x or \div to calculate output (multiplication and division will be by 2, 5 or 10 only) Identify the reverse operation to calculate input
1k	Names of common 2-D and 3-D shapes.	Square, rectangle, triangle, circle, pentagon, hexagon, cube, cuboid, cylinder, cone, sphere.	<ul style="list-style-type: none"> Name given shapes Match shapes and names Draw or complete 2-D shapes Select 'squares' from a set of shapes (they may be drawn in different orientations)
1l	Everyday language to describe position.	Above, under, next to, left, right.	<ul style="list-style-type: none"> Compare the position of objects
1m	Identify right angles.		<ul style="list-style-type: none"> Recognise a right angle within a diagram Recognise a right angle within an everyday object e.g. a window

1n	Angles as a measurement of turn.	Clockwise / anticlockwise turn, right / left turn.	<ul style="list-style-type: none"> • Explain a turn using clockwise/anticlockwise, right/left turn • Follow instructions for a given route • Plan a route on diagram
1o	Use the 4 points of the compass to show direction.		<ul style="list-style-type: none"> • Compare the position of two objects using N, S, E and W
1p	Collecting and recording results in a tally chart.	No more than 20 pieces of data.	<ul style="list-style-type: none"> • Collect data in a practical situation. • Correctly record using tallies • Calculate totals from tallies
1q	Extracting data from tables and lists.	List could be a shopping receipt. Table could be a temperature table.	<ul style="list-style-type: none"> • Make observations from tables and lists • Compare information from tables and lists
1r	Drawing and interpreting bar charts.		<ul style="list-style-type: none"> • Draw a correct bar chart, using labels, correct axes and a title • Make observations from a bar chart • Compare information from a bar chart

CONTENT – Stage 2

Calculator not permitted

Ref:	Content	Amplification	Learners should be able to
2a	Rounding whole numbers to the nearest 10, 100, 1000.	Whole numbers may be up to 100 000, e.g. 74 382.	<ul style="list-style-type: none"> Round numbers to the nearest 10 e.g. 74 382 is 74 380 to the nearest 10 Round numbers to the nearest 100 e.g. 74 382 is 74 400 to the nearest 100 Round numbers to the nearest 1000 e.g. 74 382 is 74 000 to the nearest 1000
2b	Identify and make different amounts of money, using a combination of coins.	Amount will always be less than £5. Questions may require the same amount to be made using different coins.	<ul style="list-style-type: none"> Count money in coins Use coins to make a specified amount Identify and use different combinations of coins to make the same amount
2c	Calculating change from £1.	One item bought for any amount less than £1.	<ul style="list-style-type: none"> Use a valid method (addition or subtraction) to calculate change
2d	Calculating change from £10.	One item bought costing a multiple of 10p, e.g. £7.20.	<ul style="list-style-type: none"> Use a valid method (addition or subtraction) to calculate change

2e	Rounding prices to the nearest £, to estimate the total cost.	Prices will always be over '75p' or less than '25p', e.g. £9.85, £6.10.	<ul style="list-style-type: none"> • Round prices to the nearest £ • Estimate the total cost of a list of items
2f	Use the common properties of numbers, including odd, even, multiples, factors.	2, 3, 4, 5 and 10 times tables only.	<ul style="list-style-type: none"> • Select odd or even numbers from a list • State multiples of numbers • State factors of numbers, factors will not be limited to 2, 3, 4, 5 and 10, e.g. 24 has factors 1, 2, 3, 4, 6, 8, 12 and 24 • Identify factor pairs, e.g. a factor pair of 24 is 3 and 8
2g	Addition and subtraction of two numbers with up to 3 digits.	Questions will be set such that the answer will always be less than 1000.	<ul style="list-style-type: none"> • Add two numbers up to 3 digits each • Subtract two numbers up to 3 digits each
2h	Solve whole number problems involving addition, subtraction, multiplication and division.	2, 3, 4, 5 and 10 times tables. Questions may require the use of more than one operation: e.g. the cost of 3 books costing £5 each and 4 pens costing £2 each. Division questions will not involve remainders.	<ul style="list-style-type: none"> • Select the correct operation in order to solve a problem • Use the words; add, total, takeaway, how many more/less, multiply, times, lots of, shared equally between

2i	Identifying and calculating simple fractions.	Numerator of 1, denominator of 2, 3, 4, 5 or 10.	<ul style="list-style-type: none"> Identify or shade fractions of a shape. Shapes given may be split or may not be split into the correct fraction. Select fractions of objects in a diagram Calculate a fraction of a number, where the answer is a whole number Identify fractions of a given number e.g. 3 is a $\frac{1}{4}$ of 12
2j	The use of a symbol to stand for an unknown number e.g. $\square + \square = 12$.	Unknown may appear twice. Where the unknown will appear only once, the operation could be +, -, x or \div . (Multiplication and division will be by 2, 3, 4, 5 or 10 only).	<ul style="list-style-type: none"> Find the missing numbers Find alternative pairings for missing numbers
2k	Inputs to and outputs from double function machines.		<ul style="list-style-type: none"> Use +, -, x or \div to calculate output (multiplication and division will be by 2, 3, 4, 5 or 10 only) Identify reverse operations to calculate input
2l	Recognise equilateral, isosceles and scalene triangles.	Words will always be given.	<ul style="list-style-type: none"> Name a triangle given in a diagram Match triangles with the terms equilateral, isosceles, scalene Recognise standard notation of marking sides to identify triangles

2m	Describing the properties of common 2-D and 3-D shapes.	<p>Number of sides, corners, faces, edges.</p> <p>Shapes used: square, rectangle, triangle, circle, pentagon, hexagon, cube, cuboid, triangular prism, square based pyramid.</p>	<ul style="list-style-type: none"> • Match shapes with their names • Identify the number of sides and corners on a 2-D shape • Identify the number of faces, edges and corners on a 3-D shape • Name the 2-D shapes of the faces of 3-D shapes
2n	Identify acute, obtuse and right angles.		<ul style="list-style-type: none"> • Recognise acute, obtuse and right angles within a diagram • Recognise acute, obtuse and right angles within an everyday object e.g. a window
2o	Turning through a given number of right angles.		<ul style="list-style-type: none"> • Know the result of repeated right angle turns
2p	Use the 8 points of the compass to show direction.		<ul style="list-style-type: none"> • Compare the position of two objects using N, S, E, W, NE, NW, SE and SW

2q	Standard metric units of length and mass; mm, cm, m, km; g, kg.	Questions may require learners to state an appropriate unit or choose the most appropriate unit from a list. Learners will not be required to convert between units.	<ul style="list-style-type: none"> Choose the appropriate unit
2r	Reading of an analogue clock.	Only o'clock, half past, quarter past, quarter to. Will accept: 4 o'clock or 4:00, half past two or 2:30, etc.	<ul style="list-style-type: none"> Read the time off an analogue clock Draw clock hands to identify a given time
2s	Interpreting simple line graphs in everyday situations.		<ul style="list-style-type: none"> Make observations from a line graph Compare information from line graph
2t	Understand and use the terms; 'will happen', 'could happen', 'will not happen' to describe the likelihood of events.		<ul style="list-style-type: none"> Use the terms to describe outcomes

CONTENT – Stage 3

Calculator permitted

Ref:	Content	Amplification	Learners should be able to
3a	Understand and use directed numbers in practical situations, including ordering directed numbers.		<ul style="list-style-type: none"> • Use directed numbers in practical situations • Order directed numbers • Compare directed numbers e.g. temperature
3b	Use the common properties of numbers, including odd, even, multiples, factors.	All times tables up to 10.	<ul style="list-style-type: none"> • Select odd or even numbers from a list • State multiples of numbers • State factors of numbers • Identify factor pairs
3c	Understand decimal place value.	<p>Tenths and hundredths only.</p> <p>To include: knowing that $0.3 = 0.30$, writing how a number is read; 2.71 is two point seven one not two point seventy one, finding what decimal is shaded.</p>	<ul style="list-style-type: none"> • Identify place value e.g. 0.42; 4 is worth 4 tenths or $\frac{4}{10}$ • Write how a decimal is expressed in words • Identify the decimal equivalent of fraction (a half, tenths and hundredths) in shaded shapes

3d	Solve whole number problems involving addition, subtraction, multiplication and division.	All times tables up to 10, and beyond – learners have the use of a calculator. Division questions will not involve remainders.	<ul style="list-style-type: none"> Select the correct operation in order to solve a problem Use the words; add, total, takeaway, how many more/less, multiply, times, lots of, shared equally between
3e	Solving money problems; including multiplying pounds and/or pence by a whole number; dividing pounds and/or pence by a whole number.	Answer will not be a multiple of 10p. e.g. $£4.35 \times 7 = £30.45$	<ul style="list-style-type: none"> Select the correct operation in order to solve a problem Change between pounds and pence e.g. 256p is £2.56 Recognise how money can be represented on the calculator, e.g. 0.35 represents 35p Find the total cost of items e.g. find the total cost of items costing 78p, £1.56 and £3.25
3f	Identifying and calculating simple fractions.	Numerator of more than 1, denominator from 2 to 10.	<ul style="list-style-type: none"> Identify or shade fractions of a shape (shapes may not be split) Select fractions of the objects in a diagram Calculate a fraction of a number, where the answer is a whole number
3g	The use of a letter to stand for an unknown number e.g. $x + 4 = 10$.	Operation will only be + or –. The word equation will be used.	<ul style="list-style-type: none"> Find the missing value of a simple equation

3h	Continuation of a simple number sequence and describing the rule to find the next term.		<ul style="list-style-type: none"> Count forwards and backwards to continue a sequence Describe the rule for finding the next term Generate a sequence given a description, e.g. start at 3, count on in steps of 5 Complete missing terms of a sequence
3i	Plotting points and finding co-ordinates in the first quadrant.		<ul style="list-style-type: none"> Plot points where both values are zero or greater Write co-ordinates of points
3j	Recognise nets of common 3-D shapes.	Shapes used: cube, cuboid, square based pyramid, triangular prism, hexagonal prism. Learners will not be required to draw nets.	<ul style="list-style-type: none"> Match nets with the names of shapes Write the name of the shape made by a given net
3k	Identify parallel and perpendicular lines.	Notation AB will be used.	<ul style="list-style-type: none"> Name lines using AB notation Recognise parallel lines Recognise perpendicular lines
3l	Standard metric units of capacity and time; cm^3 , ml, litre; seconds, minutes, hours, days.	Questions may require candidates to state an appropriate unit or choose the most appropriate from a list. Learners will not be required to convert between units.	<ul style="list-style-type: none"> Choose the appropriate unit

3m	Reading scales including tape measures and weighing scales.	Scales may be non-unit divisions.	<ul style="list-style-type: none"> • Read scales accurately • Denote a given value on a scale
3n	Reading of an analogue clock.	Times will be a multiple of 5 minutes: e.g. 2:35, 9:10.	<ul style="list-style-type: none"> • Read the time off an analogue clock • Draw clock hands to identify a given time
3o	Find the perimeters of shapes drawn on squared paper.		<ul style="list-style-type: none"> • Count squares to find the perimeter of shapes
3p	Find by counting squares the areas of simple rectangular and composite rectangular shapes.	Whole squares will be used.	<ul style="list-style-type: none"> • Count squares to find the area of shapes
3q	Drawing and interpreting pictograms and vertical line graphs.	In the pictogram, one symbol will represent more than one unit.	<ul style="list-style-type: none"> • Make observations from a pictogram and a vertical line graph • Compare information from a pictogram and a vertical line graph • Complete a pictogram using the key • Identify the value of the symbol in the key
3r	Understand and use the terms; 'likely', 'unlikely', 'even chance', 'impossible', 'certain' to describe the likelihood of events.		<ul style="list-style-type: none"> • Use the terms to describe outcomes

CONTENT - Stage 4

Calculator permitted

Ref:	Content	Amplification	Learners should be able to
4a	Use of the words; sum, difference and product.		<ul style="list-style-type: none"> Use the appropriate operation to evaluate sum, difference and product
4b	Solve whole number problems involving addition, subtraction and multiplication and division.	All times tables up to 10, and beyond – learners have the use of a calculator.	<ul style="list-style-type: none"> Select the correct operation in order to solve a problem
4c	Understanding of remainders in the context of the calculation, knowing whether to round up or down.	DVDs cost £9 each. I have £33. How many DVDs can I buy?	<ul style="list-style-type: none"> Round up correctly Round down correctly Use appropriate rounding to deal with remainder
4d	Solving money problems; including multiplying pounds and/or pence by a whole number; dividing pounds and/or pence by a whole number.	Answer may be a multiple of 10p, e.g. £3.40.	<ul style="list-style-type: none"> Select the correct operation in order to solve a problem Recognise how money can be represented on the calculator, e.g. 0.7 represents 70p Find the total cost of items e.g. find the total cost of items costing 46p, £3.95 and £7.49

4e	Ordering decimals with up to 2 decimal places.		<ul style="list-style-type: none"> Order decimals from smallest to largest and largest to smallest, where given decimals can be to 1 d.p and 2 d.p e.g. 7·3, 7·28, 7·56, 7·04
4f	Use and identify the equivalence between fractions, decimals and percentages.	Percentages will be limited to 50%, 25%, 75%, and 10%. Decimal and fraction equivalents to be limited to the above and all the tenths.	<ul style="list-style-type: none"> Convert between fractions, decimals and percentages Identify shaded parts of a shape Shade parts of a shape Match equivalences. Compare values expressed as fractions, decimals and percentages
4g	Calculating percentages of quantities.	Percentages will be limited to 50%, 25%, 75%, and 10%.	<ul style="list-style-type: none"> Calculate a percentage of a number, to include practical situations e.g. 10% of £17
4h	Continuation of a simple number pattern given as pictures and describing the rule to find the next term.		<ul style="list-style-type: none"> Draw the next pattern in a sequence Identify the rule for continuing the sequence Note the following terms in the number sequence
4i	The use of a letter to stand for an unknown number e.g. $2y = 10$.	Operation will be multiplication only. The word equation will be used.	<ul style="list-style-type: none"> Find the missing value of a simple equation
4j	Substitution of a positive number into a simple one step formula.	The formula will be expressed in words.	<ul style="list-style-type: none"> Substitute a number into an expression, to include practical situations e.g. Time to cook = $4 \times$ the weight in kg

4k	Plotting points and finding co-ordinates in all four quadrants.		<ul style="list-style-type: none"> Plot points where one or both values could be negative Write co-ordinates of points
4l	Measuring and drawing lines to the nearest mm.	Notation AB will be used. Either 5.8 cm or 58 mm will be used (and accepted).	<ul style="list-style-type: none"> Use an appropriate tool to measure precisely Draw lines precisely Use correct notation to name lines
4m	Conversion between 12 and 24 hour times.	Use of a.m. and p.m. Notation used will be: 1:30 p.m. and 13:30.	<ul style="list-style-type: none"> Write time in 12 and 24 hour clock format correctly e.g. 1:30 p.m. and 13:30, not 13:30 p.m. Change between 12 and 24 hour clock formats Express midday and midnight correctly
4n	Interpreting simple timetables.	Train, bus timetables and T.V. guides.	<ul style="list-style-type: none"> Make observations from a timetable Compare information from a timetable
4o	Find the perimeter of a rectangle.	Rectangle will not be drawn to scale.	<ul style="list-style-type: none"> Add the sides to find the perimeter, to include practical situations e.g. Andy measures two sides of a tennis court. The longer side is 24 m and the shorter side is 11 m. How far is it all around the tennis court?
4p	Find the area of an irregular shape drawn on a square grid.	Shape to be from whole squares and at most 8 half squares. Squares will be split diagonally.	<ul style="list-style-type: none"> Count whole squares and half squares to find the area of shapes

4q	Draw 2-D representations of 3-D shapes.	Identify top view, side view and front view. 3-D shapes will be made from cubes.	<ul style="list-style-type: none"> • Draw the top view of a shape made from cubes • Draw the side view of a shape made from cubes • Draw the front view of a shape made from cubes
4r	Completing a two way table.	Only a 2 x 2 table will be used.	<ul style="list-style-type: none"> • Complete a two way table
4s	Calculate the median, mode and range for discrete data.	There will always be an odd number of terms.	<ul style="list-style-type: none"> • Calculate the median, by ordering numbers first • State the mode • Calculate the range

PRACTICAL TASKS

15% of qualification

Total marks available: 40

There are four practical assessments, one to go with each stage.

Each is internally assessed and awarded a mark out of 10.

Stage 1 - Data Handling

Pupils are required to carry out a survey, record the results, display the results with a bar chart and make two statements about their results.

Possible surveys: What is your favourite snack?

 What is your favourite flavour of crisp?

Stage 2 - Using money

Pupils are required to work with money: Identify and make amounts of money using coins and notes;
 Calculate change from £1;
 Calculate change from £10.

Stage 3 - Working with measures

Pupils are required to be familiar with units for measuring length, weight and capacity.

They need to be able to:

- Measure the lengths, weigh and find the capacity of everyday objects;
- Give reasonable estimates of lengths, weights and capacities;
- Read different scales.

Stage 4 - Drawing 2-D representations of 3-D shapes

Pupils are required to draw the top view (or plan), side view and front view of shapes made from multi-link cubes.

STAGE 1 – PRACTICAL TASK

DATA HANDLING

Carrying out a survey		3
Suitable question (and answers)		1 mark
At least 20 responses collected		1 mark
Table of results: tallies correctly recorded and totals given		1 mark
Data display		5
Uniform scale on vertical axis		1 mark
Frequency label on vertical axis		1 mark
Labelling of horizontal axis (will accept labels on bars)		1 mark
Bars of correct height drawn		1 mark
Title given to graph		1 mark
Interpretation		2
Two correct statements about their data		1 mark each
Total marks: 10		

STAGE 2 – PRACTICAL TASK

USING MONEY

Identifying different sums of money		2
Identify four different amounts of money up to £10.00, using a combination of coins and notes	Any 2 correct: 1 mark All 4 correct: 2 marks	
Making different sums of money 1		2
Make four different amounts of money up to £10.00, using a combination of coins and notes	Any 2 correct: 1 mark All 4 correct: 2 marks	
Making different sums of money 2		2
Give an example of making the same amount of money in two different ways. Amount to be less than £1	1 mark	
Give an example of making the same amount of money in two different ways. Amount to be between £1 and £2	1 mark	

Change from £1		2
Give two examples of calculating the change due from £1 after paying for an item that is a multiple of 10p e.g. 40p, 70p		1 mark
Give two examples of calculating the change due from £1 after paying for an item that is not a multiple of 10p e.g. 28p, 91p		1 mark
Change from £10		2
Give two examples of calculating the change due from £10 after paying for an item that is a multiple of £1 e.g. £6, £2		1 mark
Give two examples of calculating the change due from £10 after paying for an item that is not a multiple of £1 e.g. £5.40, £8.20		1 mark
Total marks: 10		

STAGE 3 – PRACTICAL TASK

WORKING WITH MEASURES

Identifying appropriate units for measurements		2
Identify different standard units to measure: Two lengths/heights, two masses and two capacities.	Any 3 correct: 1 mark All 6 correct: 2 marks	
Estimating		3
Estimate using standard metric units of measure: Two lengths/heights, two masses and two capacities.	Any 2 correct: 1 mark Any 4 correct: 2 marks All 6 correct: 3 marks	
Measuring		3
Use an appropriate measuring instrument to measure: Two lengths/heights, two masses and two capacities.	Any 2 correct: 1 mark Any 4 correct: 2 marks All 6 correct: 3 marks	
Reading scales		2
Reading scales to the nearest labelled division: Two scales read to one decimal place. Two scales that do not increase by 1 or 10 each time.	Any 2 correct: 1 mark All 4 correct: 2 marks	
Total marks: 10		

STAGE 4 – PRACTICAL TASK

DRAWING 2-D REPRESENTATIONS OF 3-D SHAPES

Shapes to be made from multi-link cubes

Cuboids		4
Draw the top view (or plan), side view and front view of two cuboids Cuboid one to be made from at least two different colours Cuboid two to be made from at least three different colours		Only 1 view correct: 1 mark All three views correct: 2 marks Only 1 view correct: 1 mark All three views correct: 2 marks
L-shaped prism		3
Draw the top view (or plan), side view and front view of an L-shaped prism made from at least three different colours		1 mark each correct view
T-shaped prism		3
Draw the top view (or plan), side view and front view of a T-shaped prism made from at least three different colours		1 mark each correct view
Total marks: 10		