

What I can do in mathematics – level 4

Name:

My mental mathematics		
My I can statements	Examples of questions I can answer	My working and answers
<p><i>I can use mental calculation strategies for addition, subtraction, multiplication and division</i></p>	<p>What number is 199 more than 428?</p> <p>What is the difference between 1999 and 4003?</p> <p>One orange costs 15p. How much would five oranges cost?</p> <p>Y4 optional test 1998 Mental test level 4. © QCA</p> <p>Four pineapples cost £3.40. Calculate the cost of one pineapple.</p> <p>Y4 optional test 2003 Paper A level 4. © QCA</p>	
<p><i>I can use mental methods for calculations that involve decimals</i></p>	<p>Multiply nought point seven by nine.</p> <p>Subtract one point nine from two point seven.</p> <p>KS2 2003 Mental test level 4. © QCA</p> <p>Find the total of 0.2, 0.4 and 0.6.</p> <p>What is half of three point six?</p> <p>KS2 1998 Mental test level 4. © QCA</p>	
<p><i>I can record my working for mental methods that involve several steps</i></p>	<p>A bottle holds 1 litre of lemonade. Rachel fills 5 glasses with lemonade. She puts 150 millilitres in each glass.</p> <p>How much lemonade is left in the bottle?</p> <p>KS2 2003 Paper A level 4. © QCA</p>	
<p><i>I can choose when to use mental methods, when to use written methods and when to use a calculator</i></p>	<p>Would you use a mental, written or calculator method to solve each of these? Explain your choice.</p> <p>$23.5 \times \square = 176.25$</p> <p>How many cartons of juice costing 30p each can I buy with £2?</p> <p>What is the total cost if I buy food costing £3.86 and £8.57?</p>	

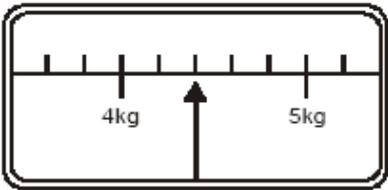
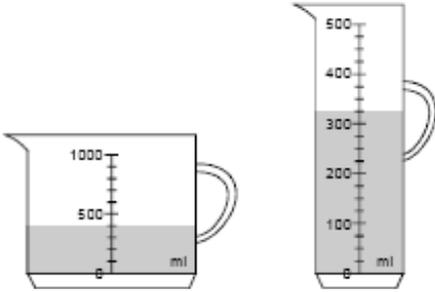
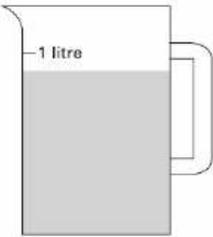
Name:

My understanding of numbers		
My I can statements	Examples of questions I can answer	My working and answers
<i>I understand what each digit in a large/decimal number is worth and can explain how I know</i>	What is the value of the 3 in the number 235 107? Suggest a number between 3.4 and 3.5. How many tenths could be made altogether from 8.4?	
<i>I can find a missing number in a decimal sequence</i>	Find the missing number on this number line: 	
<i>I can explain how I order a set of decimal numbers</i>	Put the correct symbol, < or >, in each box: 3.03 <input type="checkbox"/> 3.3 0.37 <input type="checkbox"/> 0.327 Order these numbers: 0.27 0.207 0.027 2.07 2.7	
<i>I can round the numbers in a calculation to find an approximate answer</i>	What is 3 528 rounded to the nearest ten/hundred/thousand? I buy 6 books that cost £4.99 each. How much will I pay to the nearest pound? How do you know?	
<i>I can describe each step I do to complete a decimal calculation or problem</i>	Explain how you know which two numbers total 0.12: 0.1 0.5 0.05 0.7 0.07 0.2 Explain how you find the missing number: 11.07 + <input type="checkbox"/> = 18.45	
<i>I can multiply/divide a number by 10/100/1000 and explain how I know the answer</i>	How many hundreds are there in two thousand four hundred? Y5 optional test 2003 Mental test level 4. © QCA Write what the missing digits could be: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> ÷ 10 = 3 <input type="checkbox"/> KS2 1997 Paper A level 4. © QCA	
<i>I can use number facts to give some linked decimal facts</i>	7 x 8 = 56. What is 0.07 x 8? Give some other decimal facts that are linked to this multiplication fact. What number multiplied by 8 gives 4.8?	

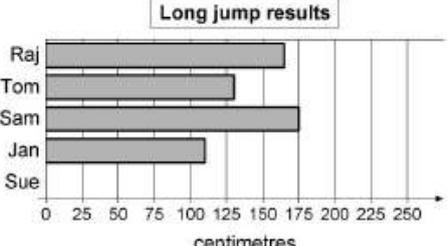
Name:

My calculating using money and time																																																			
My I can statements	Examples of questions I can answer	My working and answers																																																	
<i>I can solve problems that involve time, recording my calculation methods clearly</i>	<p>These are the start and finish times on a video recorder.</p> <p>START 14:45 FINISH 17:25</p> <p>For how long was the video recording? KS2 1999 Paper B level 4. © QCA</p>																																																		
<i>I can read a timetable/calendar in order to solve a problem</i>	<p>Simon's birthday is on 26 August. He always has a party on the last Saturday in August. What was the date of the party in 1998? In what year will the party next fall on his actual birthday?</p> <p>Tina's birthday is on 9 September.</p> <p>On what day of the week was her birthday in 2008? KS2 1999 Paper B level 4. © QCA</p>	<p style="text-align: center;">August 1998</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Sun</th> <th>Mon</th> <th>Tues</th> <th>Wed</th> <th>Thur</th> <th>Fri</th> <th>Sat</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> </tr> <tr> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> </tr> <tr> <td>9</td> <td>10</td> <td>11</td> <td>12</td> <td>13</td> <td>14</td> <td>15</td> </tr> <tr> <td>16</td> <td>17</td> <td>18</td> <td>19</td> <td>20</td> <td>21</td> <td>22</td> </tr> <tr> <td>23</td> <td>24</td> <td>25</td> <td>26</td> <td>27</td> <td>28</td> <td>29</td> </tr> <tr> <td>30</td> <td>31</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Sun	Mon	Tues	Wed	Thur	Fri	Sat							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	31					
Sun	Mon	Tues	Wed	Thur	Fri	Sat																																													
						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	31																																																		
<i>I can solve problems that involve money, recording my working for each step</i>	<p>A packet of crisps costs 32p. Josh buys three packets.</p> <p>How much change does he get from £1? KS2 2005 Mental test level 4. © QCA</p> <div style="text-align: center;">  </div> <p>Ryan buys sunglasses for £4.69 and a sun hat. How much change does he get from £10? KS2 2004 Paper A level 4. © QCA</p>																																																		
<i>I can use a calculator effectively to solve money problems</i>	<p>How much change will I get from £10 if I buy groceries costing £2.29, £1.42, 76p and £3.83?</p> <p>A pencil costs 48p. Jake works out the cost of five pencils by entering 48 x 5 into a calculator.</p> <p>If the calculator display says 240 what answer should Jake give?</p>																																																		

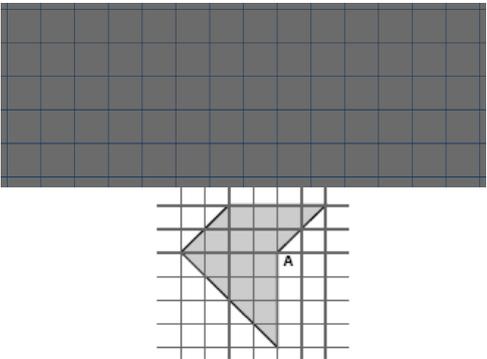
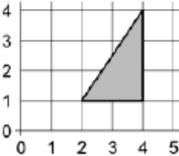
Name:

My skills in reading scales		
My I can statements	Examples of questions I can answer	My working and answers
<p><i>I can work out the size of each interval on a scale and check, using counting</i></p>	<p>What is one interval worth on this scale? How do you know?</p>  <p>This scale shows the weight of Fred's cat. How much does Fred's cat weigh?</p> <p>KS2 2004 Paper B level 4. © QCA</p>	
<p><i>I can work out the value of any marked point on a scale</i></p>	<p>Which jug contains more water, A or B? How much more does it contain? Explain how you worked it out.</p>  <p style="text-align: center;">Jug A Jug B</p> <p>2003 Y7 progress test Paper B level 4. © QCA</p>	
<p><i>I can estimate the value of a point that falls between two marks on a scale</i></p>	<p>Sophie poured some water out of a litre jug. Look how much is left in the jug. Estimate how many millilitres of water are left.</p>  <p>Y5 optional test 2003 Paper A level 4. © QCA</p>	
<p><i>I can read a scale to solve problems involving length, weight and capacity</i></p>	<p>Use one apple to work out approximately how many apples you would get in a 1 kg bag.</p>	

Name:

My problem solving using tables and graphs																									
My I can statements	Examples of questions I can answer	My working and answers																							
<p><i>I can find the information in a table or graph to answer a question</i></p>	<table border="1" data-bbox="422 568 927 786"> <thead> <tr> <th colspan="2"></th> <th>Hull</th> <th>York</th> <th>Leeds</th> </tr> </thead> <tbody> <tr> <th rowspan="2">Adult</th> <th>single</th> <td>£12.50</td> <td>£15.60</td> <td>£10.25</td> </tr> <tr> <th>return</th> <td>£23.75</td> <td>£28.50</td> <td>£19.30</td> </tr> <tr> <th rowspan="2">Child</th> <th>single</th> <td>£8.50</td> <td>£10.80</td> <td>£8.25</td> </tr> <tr> <th>return</th> <td>£14.90</td> <td>£17.90</td> <td>£14.75</td> </tr> </tbody> </table> <p>The table shows the cost of coach tickets to different cities.</p> <p>What is the total cost for a return journey to York for one adult and two children?</p> <p>KS2 2002 Paper B level 4. © QCA</p>			Hull	York	Leeds	Adult	single	£12.50	£15.60	£10.25	return	£23.75	£28.50	£19.30	Child	single	£8.50	£10.80	£8.25	return	£14.90	£17.90	£14.75	
		Hull	York	Leeds																					
Adult	single	£12.50	£15.60	£10.25																					
	return	£23.75	£28.50	£19.30																					
Child	single	£8.50	£10.80	£8.25																					
	return	£14.90	£17.90	£14.75																					
<p><i>I can read data accurately from a graph</i></p>	<p>Here are some children's long jump results. Sue jumped 212 cm.</p> <p>Draw Sue's long jump result on the graph.</p> <p>Use the graph above to estimate how much further Sam jumped than Jan.</p> <p>KS2 1996 Paper A level 3. © QCA</p>	 <table border="1" data-bbox="965 1064 1412 1310"> <caption>Long jump results</caption> <thead> <tr> <th>Name</th> <th>Length (cm)</th> </tr> </thead> <tbody> <tr> <td>Raj</td> <td>165</td> </tr> <tr> <td>Tom</td> <td>135</td> </tr> <tr> <td>Sam</td> <td>175</td> </tr> <tr> <td>Jan</td> <td>110</td> </tr> <tr> <td>Sue</td> <td>212</td> </tr> </tbody> </table>	Name	Length (cm)	Raj	165	Tom	135	Sam	175	Jan	110	Sue	212											
Name	Length (cm)																								
Raj	165																								
Tom	135																								
Sam	175																								
Jan	110																								
Sue	212																								
<p><i>I can work out what calculations I need to do to answer questions using data</i></p>																									

Name:

My understanding of shapes		
My I can statements	Examples of questions I can answer	My working and answers
<i>I can name shapes and describe their properties, using mathematical language</i>	Imagine a triangular prism. How many faces does it have? KS2 1999 Mental test level 4. © QCA This diagram shows the diagonals of a quadrilateral. What is its name? KS2 2003 Paper A level 4. © QCA	
<i>I can draw or make shapes accurately</i>	On squared paper, draw a pentagon that has three right angles. Draw two straight lines from point A to divide the shape into a square and two triangles. KS2 2003 Paper B level 4. © QCA	
<i>I can explain how I have sorted a set of shapes</i>	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; background-color: #e0ffff; padding: 5px; width: 150px;"> My shape has exactly two equal sides. </div> <div style="border: 1px solid black; background-color: #ffffe0; padding: 5px; width: 150px;"> My shape has exactly two parallel sides. </div> </div> Can you show or draw me a polygon that fits both of these criteria? What do you look for?	
<i>I can reflect a shape accurately in a given mirror line</i>	This grid is made of hexagons. Draw the reflection of the shaded shape on the grid. KS2 2005 Paper B level 3. © QCA	
<i>I can rotate a shape about a vertex or its centre</i>	This pattern is made by turning a shape clockwise through 90° each time. Draw the two missing triangles on the last shape. KS2 2005 Paper B level 4. © QCA	
<i>I can describe where a shape will be after translation</i>	This triangle is translated two squares to the left and one square down. Give the coordinates of its vertices in the new position.	

Acknowledgments

Questions from various QCA papers 1996–2005. © Qualifications and Curriculum Authority. Used with kind permission.

QCA test questions and mark schemes can be found at www.testbase.co.uk