

Unit 6

Division, decimals, and problem solving

Five daily lessons

*National
Numeracy Strategy*

Year 6
Summer term

Unit Objectives Year 6

- **Derive quickly division facts corresponding to multiplication tables up to 10×10 .**
- **Order a mixed set of numbers with up to three decimal places.**
- **Solve a problem by extracting and interpreting information presented in tables, graphs and charts.**

Page 59

Page 29

Pages 115, 117

This Unit Plan is designed to guide your teaching.

You will need to adapt it to meet the needs of your class.

Resources needed to teach this unit:

- Resource sheet 6.1
- Resource sheet 6.2
- Resource sheet 6.3
- Resource sheet 6.4
- Resource sheet 6.5
- OHT 6.1
- OHT 6.2
- Self-assessment sheet 6.1
- Self-assessment sheet 6.2
- Whiteboards
- Calculators

Year 5

Link Objectives

Year 7

- **Know by heart all multiplication facts up to 10×10 .**
- Order a set of numbers with the same number of decimal places.
- Solve a problem by representing and interpreting data in tables, charts, graphs and diagrams.

(Key objectives in bold)

- Consolidate the rapid recall of number facts, including multiplication facts to 10×10 , and quickly derive associated division facts.
- Compare and order decimals in different contexts.
- Given a problem that can be addressed by statistical methods, suggest possible answers.
- Interpret diagrams and graphs.

Planning sheet	Day One	Unit 6 <i>Division, decimals and problem solving</i>	Term: Summer	Year Group: 6																																																
Oral and Mental		Main Teaching		Plenary																																																
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions																																																
Derive facts corresponding to multiplication facts.	<ul style="list-style-type: none">Write $7 \times 8 = 56$ on the board. Ask the children to state facts which can be derived from this fact. Record their suggestions, e.g. $56 \div 8 = 7$ $5.6 \div 8 = 0.7$ $56 \div 0.8 = 70$ $5.6 \div 0.8 = 7$ $70 \times 8 = 560$ $70 \times 80 = 5600$ $7 \times 16 = 112$ $14 \times 4 = 56$ $28 \times 2 = 56$ $0.7 \times 80 = 56$ $0.7 \times 8 = 5.6$ $0.7 \times 0.8 = 0.56$ Prompt the children to identify, extend and explain particular patterns of facts.Ask the children in pairs to use $6 \times 9 = 54$ and derive as many related facts as they can in two minutes. Collect examples to identify patterns.Repeat using another multiplication fact with the children recording only division facts.	<p>Solve a problem by extracting and interpreting information presented in tables.</p> <p>On the board, present the table below:</p> <table><tr><th>Input</th><th>Output</th></tr><tr><td>2 and 3</td><td>4</td></tr><tr><td>7 and 4</td><td>1</td></tr><tr><td>0 and 5</td><td>10</td></tr><tr><td>1 and 6</td><td>11</td></tr><tr><td>4 and 8</td><td>12</td></tr></table> <p>Explain that the output number can be made using the two input numbers. (Explain that the same operations have been used on each pair of numbers in the table).</p> <p>Q What operations have been carried out on the two input numbers to get the output?</p> <p>Collect answers and discuss strategies.</p> <p>Q Which pairs of input numbers gave you most help? Why?</p> <p>Encourage the children to explain which pairs they used to establish a rule and which they used to test it. Confirm rule is double second number and subtract first number.</p> <p>Write:</p> <table><tr><th>Input</th><th>Output</th></tr><tr><td>2 and 5</td><td>19</td></tr><tr><td>1 and 4</td><td>14</td></tr><tr><td>4 and 3</td><td>17</td></tr></table> <p>Q What operations are used to get the output?</p> <p>Allow the children a short time to work in pairs to find the rule.</p> <p>VOCABULARY input output operation</p>	Input	Output	2 and 3	4	7 and 4	1	0 and 5	10	1 and 6	11	4 and 8	12	Input	Output	2 and 5	19	1 and 4	14	4 and 3	17	<p>Discuss strategies.</p> <p>Q Is this a harder problem, why?</p> <p>Establish there are fewer pairs and no zeros.</p> <p>Q If I tell you that 0 and 7 give an output of 21 does this help?</p> <p>Encourage the children to use this piece of information to see that the second number is multiplied by 3.</p> <p>Q What other pair of numbers would help you?</p> <p>Agree that a pair with the second number zero would help.</p> <p>Q If 0 and 0 gives 0 does this help?</p> <p>Agree it does not and invite the children to select another pair with a zero, e.g. 1 and 0 gives 2. Confirm the rule is double the first number and add triple the second number. Highlight the strategies the children used and draw out the usefulness of the zeros.</p> <ul style="list-style-type: none">Set the children to work in pairs producing input/output tables of their own. Encourage them to have outputs that are negative numbers. Bring pairs together to solve one another's problems. Collect examples and share with the whole class.	<ul style="list-style-type: none">Write on the board: <table><tr><th>Input</th><th>Output</th></tr><tr><td>1, 2 and 3</td><td>1</td></tr><tr><td>2, 3 and 4</td><td>5</td></tr><tr><td>1, 0 and 2</td><td>2</td></tr></table> <p>Ask the children to solve the problem.</p> <p>Q What strategy did you use with a three-number input?</p> <p>Collect responses and compare strategies. Confirm the rule is multiply the first number by the third number then subtract the second number.</p> <p>HOMEWORK – Ask the children to solve the two tables below:</p> <table><tr><th>Input</th><th>Output</th></tr><tr><td>1, 3</td><td>6</td></tr><tr><td>4, -1</td><td>11</td></tr><tr><td>1, -2</td><td>1</td></tr><tr><td>2, -2</td><td>8</td></tr></table> <table><tr><th>Input</th><th>Output</th></tr><tr><td>2, 2, 2</td><td>6</td></tr><tr><td>1, 5, 0</td><td>5</td></tr><tr><td>2, 3, 1</td><td>5</td></tr><tr><td>2, 0, 5</td><td>10</td></tr></table> <p>(Answer: $(3 \times x) + (1 \times y) = 6$ and $(0 \times x) + (1 \times y) + (2 \times z) = 6$)</p> <p>Where x is the first number, y the second and z the third.</p> <p>ASSESSMENT –</p> <ul style="list-style-type: none">Explain to the children that during the week they will be completing 'My Mathematics' self-assessment sheets they will take to their secondary school.	Input	Output	1, 2 and 3	1	2, 3 and 4	5	1, 0 and 2	2	Input	Output	1, 3	6	4, -1	11	1, -2	1	2, -2	8	Input	Output	2, 2, 2	6	1, 5, 0	5	2, 3, 1	5	2, 0, 5	10
Input	Output																																																			
2 and 3	4																																																			
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2, 2, 2	6																																																			
1, 5, 0	5																																																			
2, 3, 1	5																																																			
2, 0, 5	10																																																			

Planning sheet	Day Two	Unit 6 <i>Division, decimals and problem solving</i>	Term: Summer	Year Group: 6
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions
Derive quickly division facts corresponding to multiplication facts. <				

Planning sheet	Day Three	Unit 6 <i>Division, decimals and problem solving</i>	Term: Summer	Year Group: 6	
Oral and Mental		Main Teaching			
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Plenary	
Derive division facts corresponding to multiplication facts.	<ul style="list-style-type: none">Get the class to recite the 8 and 9 times tables. Repeat.Recite the 8 times table again but this time stop at a particular multiplication fact.Ask a child to write a related division on the board. Ask another child to write another related division and so on. Continue until six division facts have been recorded. Get the rest of the class to confirm the facts are correct and, in pairs, to use each of the six facts to derive another fact. Collect some responses quickly and record these on the board.Repeat stopping at other facts within the 8 and 9 times tables until the board is full of division facts.	<p>Solve a problem by extracting and interpreting information presented in tables.</p> <p>Explain methods and reasoning.</p> <p>RESOURCES OHT 6.2 Resource sheet 6.2 Self-assessment sheet 6.1</p>	<ul style="list-style-type: none">Show the first table on OHT 6.2. Explain that it is the results of a school sports day.<div>Q How many events took place?</div><p>Establish that there are 26 first, second and third places. <div>Q How many points did each team collect?</div></p><p>Agree that it depends on the points awarded for first, second and third places. Say that there are 3 points for first place, 2 for second and 1 for third place.</p><p>Get the children to work out the points for each team and record these on the OHT.</p>Show the second table on OHT 6.2. Compare the total points in the two tables.<div>Q Why are the totals different?</div><p>Agree the awarding of points for places is different. Say third place is still awarded 1 point. <div>Q What is the new point-awarding system?</div></p><p>Ask the children to work in pairs to find the new point system. Collect answers and discuss the children’s strategies. Remind the children that they know third place was awarded one point. <div>Q What information did you use to find the points for second place?</div></p><p>Establish that the Blue team had no first places. On the board write down the statement; Blue team: $(10 \times S) + (10 \times 1) = 40$ <div>Q What does this statement mean?</div></p><p>Establish that S stands for the number of points for second place and the Blue team had 10 second places and 10 third places. With the class deduce that this means; $10 \times S = 30$ so $S = 3$ points.</p>	<div>Q How can we use this method to find the points for first place?</div> <ul style="list-style-type: none">Collect responses and using the Yellow team’s results work through; Yellow team: $(10 \times F) + (10 \times 1) = 60$ so $10 \times F = 50$ and $F = 5$.Give out Resource sheet 6.2. Discuss the three tables. Explain that the school was trying out new points systems. Tables 1 and 2 still result in the same overall order of the four teams. However, after some complaints, the Blue team was reinstated in two events as the winners, and another point system was used. This time the order of the teams has changed.<div>Q Can you find the different three point systems used?</div>Collect the answers to Table 1. Discuss the strategies the children used.<div>Q How do the positioned results of the Green and the Red teams differ?</div><p>Agree that they only differ in their number of second places. Ask the children to explain how they might use this information, and to continue working on Tables 1 and 2.</p>Discuss how the children used the Green and Red teams’ results to find the points for second place. Encourage the children to support their explanations and reasoning using the symbols introduced earlier, e.g. Green team – Red team: $2 \times S = 10$ so $S = 5$.Collect responses to Tables 2 and 3. Remind the children of the importance of reading carefully the information contained in the tables. Encourage them to invent and use their own symbolism. Compare the different methods the children used.	<ul style="list-style-type: none">Return to the homework set on day 1. Ask the children to explain their solutions to the two problems. Make links between the homework and this lesson. Emphasise that in each case they are finding in the operation used in this lesson the points to multiply the first, second and third places by. Emphasise that the number zero is particularly helpful as multiplying zero by anything still gives zero. <p>ASSESSMENT –</p> <ul style="list-style-type: none">Ask the children to complete the next ‘cloud’ question on the ‘My Mathematics’ Self-assessment sheet 6.1. Get each child to discuss it with a friend as before and tick the appropriate box. Help those children who need it. Give the children a few minutes to complete the task and put the sheet away carefully for the next lesson.

Planning sheet	Day Four	Unit 6 <i>Division, decimals and problem solving</i>	Term: <i>Summer</i>	Year Group: 6
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions
<p>Order a mixed set of numbers with up to three decimal places.</p> <p>Explain methods and reasoning.</p> <p>RESOURCES Whiteboards</p>	<ul style="list-style-type: none"> Write on the board: 2.407. <div>Q How do we decide whether 2.217 is bigger or smaller than 2.407?</div> <p>Collect reasons and discuss the values of the different digits. Write the two numbers on the board with a large gap between the numbers.</p> <div>Q Where should I write 2 and 2.5?</div> <p>Establish where these numbers should be recorded and write on the board as:</p> <p>2 A 2.217 B 2.407 C 2.5 D 2.8 E</p> <p>Where A B C D E are the intervals between the numbers. The children might find it helpful if all the numbers had three decimal places, e.g.</p> <p style="margin-left: 40px;">2 = 2.000 2.3 = 2.300</p> <div>Q Where should I record 2.3?</div> <p>The children show their answers using whiteboards. Discuss why 2.3 is in the interval B between 2.217 and 2.407. Repeat using numbers with one, two and three decimal places.</p> <ul style="list-style-type: none"> Write the digits 3, 7, 2, 5 on the board. <div>Q Using these four digits, what numbers can you make that fit in the interval B?</div> <p>Collect answers and establish that 2.375 and 2.357 fit in the intervals.</p> <div>Q Using these four digits, can you make numbers that fit in any other intervals?</div> <p>Discuss possibilities and establish numbers in interval D only are possible. Give the children another four digits, e.g. 9, 2, 1, 2 to use.</p> <ul style="list-style-type: none"> Repeat using another starting decimal number, e.g. 7.016. 	<p>To solve a problem by extracting and interpreting information presented in tables.</p> <p>RESOURCES: Resource sheet 6.3 Resource sheet 6.4 Self-assessment sheet 6.1</p>	<ul style="list-style-type: none"> Give out Resource sheet 6.3. Explain that the first half of the sheet sets out costs of holidays. Give the children time to read the sheet and discuss the information contained in the table. <div>Q What does it cost to fly to Villa Dream from the East Midlands?</div> <p>Confirm the children can read the information and interpret the supplements.</p> <div>Q What will it cost for a ten-year-old child to stay 7 nights in the Grand Hotel?</div> <p>Confirm the children understand the reductions that apply for children under 15. Continue to probe the children's use and understanding of the table.</p> <ul style="list-style-type: none"> Explain that the second table on the sheet identifies the local facilities. <div>Q Which accommodation has access to a swimming pool?</div> <p>Ensure the children can interpret the table correctly.</p> <ul style="list-style-type: none"> Give out Resource sheet 6.4. Explain that the sheet sets out the holiday requirements of four families. Give children time to read the set of four requirements. <div>Q Which families enjoy shopping?</div> <p>Ensure children can identify the different holiday requirements of each family.</p> <ul style="list-style-type: none"> Explain to the children that they are to use the information on Resource sheet 6.3 to select and cost appropriate holidays for the families. They are to present their findings as short portfolios for each family. <div>Q What should go in these portfolios?</div> <p>Discuss the children's ideas and record these on the board. Ensure the costings include travel and accommodation costs. Ensure that the facilities are also included. Remind children that two of the families have identified budgets and would not be likely to exceed these by much. Explain to the children that they are acting as travel agents who want to sell their holidays so they might want to emphasise key points. Discuss how the children might do this.</p> <p>Set the children to work in pairs constructing their holiday portfolios.</p>	<ul style="list-style-type: none"> Stop the class. <div>Q How are you recording your costings?</div> <p>Discuss alternatives and share strategies. Tell the children to put their work away carefully as they will continue with the task in the next lesson.</p> <p>ASSESSMENT –</p> <ul style="list-style-type: none"> Ask the children to complete the last two 'cloud' questions on the 'My Mathematics' Self-assessment sheet 6.1, discuss them with a friend and tick the appropriate box. Help any children who need it. Give the children a few minutes to complete the table. Discuss the work with the children then ask them to put their sheets away for next lesson.

Planning sheet	Day Five	Unit 6 <i>Division, decimals and problem solving</i>	Term: Summer	Year Group: 6							
Oral and Mental		Main Teaching		Plenary							
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions							
Consolidate mental skills.	<ul style="list-style-type: none">Write the following grid on the board:<table><tr><th>Number</th><th>First Operation</th><th>Second Operation</th><th>Result</th></tr><tr><td>4</td><td></td><td></td><td>60</td></tr></table>Explain that the children are to identify two operations that convert 4 into 60. Say that one operation must be \times or \div, the other $+$ or $-$. Write three examples on the board: $- 1, \times 20; \times 50, - 120; + 116, \div 2.$<div>Q Do these three examples work?</div><p>Collect answers and establish that $\times 50, - 120$ gives 80 not 60.</p>Ask the children for other examples for class to check. Change the rules about the operations and change the numbers. Use decimals, make the result negative, have a result smaller than the start number.	Number	First Operation	Second Operation	Result	4			60	<p>To solve a problem by extracting and interpreting information presented in tables and charts.</p> <ul style="list-style-type: none">Remind the children about the holiday requirements they were costing and the portfolios they were preparing in the previous lesson. Set the children to continue to work in pairs on their planning and costing portfolios.As the children complete their portfolios, organise them into groups of four to read one another's portfolios and to compare the costings etc. Ask them to decide whether the portfolios they are reading:<ul style="list-style-type: none">give detailed costings for travel and accommodation;identify the facilities that are available;are accurate;meet the budgets of the two families;sell the holidays to the families.After the children have read one another's portfolios, discuss with the class the different holidays that have been offered to the families and the costings involved. As a class, agree on which holidays they think meet the requirements of the different families and confirm the costs of the holidays. <p>RESOURCES Calculators Resource sheet 6.5 Self-assessment sheet 6.2</p>	<ul style="list-style-type: none">Collect in the calculators and give out Resource sheet 6.5. Say that this represents some of the items the families bought before they went on holiday.<div>Q The Ahmeds bought two pairs of sunglasses and a bottle of suntan lotion; how much did they spend?</div><p>Collect answers and pose a question about each family.</p>Ask the children to compare the way the information is set out on Resource sheet 6.5 with the tables on the other Resource sheets 6.3 and 6.4.<div>Q When does a table help you; when is a table unnecessary?</div><p>Collect responses and discuss the relative merits of the tables and the chart.</p><p>ASSESSMENT –</p><ul style="list-style-type: none">Give out 'My Mathematics' Self-assessment sheet 6.2.<p>Allow time for the children to read and complete the three input-output tables on the sheet and describe their strategies.</p><p>Discuss the solutions to the problems with the class.</p>Explain that the table on the bottom half of the sheet is for the children to summarise how well they have been able to answer each question.<p>Ask the children to look at the statements in the left-hand column. The questions alongside each statement are intended to remind the children what each statement means. Ask the children to look back on their work to help them fill in the table.</p><p>Encourage the children to complete each statement by putting a tick in one box.</p><p>Ask the children to complete the target statement by choosing one of the three areas of mathematics where they think they need to improve.</p><p>For those children who were able to answer all the questions without help, discuss the learning objectives for Year 7 shown on the front page of the unit.</p><p>Get the children to stick 'My Mathematics' Self-assessment sheets 1 and 2 in their books under their work.</p>
Number	First Operation	Second Operation	Result								
4			60								

Unit 6 Year 6 (Summer Term)

Summer Term Unit Plans Unit 6 to 11

Introduction

These six unit plans are designed to guide your teaching of mathematics during the period following the end of Key Stage 2 tests. These unit plans follow the same overall format as that of the other plans. However, there are no end-of-lesson expectations boxes in the plenary.

There are two main themes running throughout these six unit plans:

- devolving children's problem solving skills;
- engaging children in self-assessment.

After the tests, it is common practice to engage Year 6 children in activities that seek to enrich their experience. These might include visits to places of interest, themed activities or sustained cross-curricular tasks. All these can lead to changes to the timetable and disruption to the daily mathematics lesson. It is important that the children maintain the progress you and they have worked so hard to achieve, and they keep their mathematical knowledge and skills fresh ready for their move to the next stage of their education.

These six unit plans incorporate problem solving to allow you some flexibility; to provide the children with the opportunity to continue to develop, use and apply their mathematical knowledge and skills; and to sustain and enhance the children's interest in the subject.

The summer term of Year 6 is also a time for taking stock, a time to review and assess and to look forward. The inclusion of self-assessment materials within each unit plan is to engage the children in this process. Each unit plan focuses on three key objectives. The self-assessment sheets do too. During the week, the children are given short tasks that exemplify the objectives in the unit plan. The children indicate whether they needed help or not with the task and at the end of the week complete a short summary with reference to the key objectives. On the basis of this self-assessment, the children identify a target recording briefly the mathematics they want to get better at. Together these summary sheets provide a picture of the child's progress and an indication of what they still need to do to improve. The profile and targets of particular children could be useful to teachers preparing a programme for a local numeracy summer school. The children might also use the targets as a way of identifying their achievements during their attendance at the summer school.

Attaching the self-assessment sheets to the child's work, which is to be transferred to their secondary school, would provide Year 7 teachers with valuable information on the children's strengths and weaknesses in mathematics.

Unit 9 has been published as part of the Key Stage 3 National Strategies document: *Transition from Year 6 to Year 7, mathematics* (Ref: Dfes D118/ 2002). It forms the transition unit for Year 6. The Year 7 transition unit builds on the work the children undertake in the Year 6 unit in order to establish a consistency in teaching approach and to help the children to build on their early successes. Of course, your assessment of the children plays a key role in transition. To help you assess and record the children's achievements over these six unit plans, the objectives for each unit plan have been recorded on a single sheet of A4. Your assessments and records need to be manageable. The sheet has space for the children's names, and boxes to record their achievement. A simple recording system would involve recording nothing if the child's achievement is in line with the objectives. Recording 'W' would indicate 'working towards' the objectives, while 'P' would indicate, 'progressed beyond the objective'. Sending a copy of this sheet to a secondary school would provide Year 7 mathematics teachers with a detailed profile of the children's achievement that they can use to direct their teaching.

Unit 6 Year 6 (Summer Term)

[illegible]

25.9	24.7	39.9	29.4	33.0	25.5
18.3	17.1	32.3	21.8	25.4	17.9
58.1	56.9	72.1	61.6	65.2	57.7
20.9	19.7	34.9	24.4	28.0	20.5
35.7	34.5	49.7	39.2	42.8	35.3
18.1	16.9	32.1	21.6	25.2	17.7

Team	1st	2nd	3rd	Total Points
Green	8	9	3	
Blue	0	10	10	
Yellow	10	0	10	
Red	8	7	3	

Team	1st	2nd	3rd	Total Points
Green	8	9	3	70
Blue	0	10	10	40
Yellow	10	0	10	60
Red	8	7	3	64

Table 1

25.9	24.7	39.9	29.4	33.0	25.5
18.3	17.1	32.3	21.8	25.4	17.9
58.1	56.9	72.1	61.6	65.2	57.7
20.9	19.7	34.9	24.4	28.0	20.5
35.7	34.5	49.7	39.2	42.8	35.3
18.1	16.9	32.1	21.6	25.2	17.7

Table 2

25.9	24.7	39.9	29.4	33.0	25.5
18.3	17.1	32.3	21.8	25.4	17.9
58.1	56.9	72.1	61.6	65.2	57.7
20.9	19.7	34.9	24.4	28.0	20.5
35.7	34.5	49.7	39.2	42.8	35.3
18.1	16.9	32.1	21.6	25.2	17.7

Table 3

2.59	2.47	3.99	2.94	3.30	2.55
1.83	1.71	3.23	2.18	2.54	1.79
5.81	5.69	7.21	6.16	6.52	5.77
2.09	1.97	3.49	2.44	2.80	2.05
3.57	3.45	4.97	3.92	4.28	3.53
1.81	1.69	3.21	2.16	2.52	1.77

Table 4

2.59	2.47	3.99	2.94	3.30	2.55
1.83	1.71	3.23	2.18	2.54	1.79
5.81	5.69	7.21	6.16	6.52	5.77
2.09	1.97	3.49	2.44	2.80	2.05
3.57	3.45	4.97	3.92	4.28	3.53
1.81	1.69	3.21	2.16	2.52	1.77

Table 5

0.259	0.247	0.399	0.294	0.330	0.255
0.183	0.171	0.323	0.218	0.254	0.179
0.581	0.569	0.721	0.616	0.652	0.577
0.209	0.197	0.349	0.244	0.280	0.205
0.357	0.345	0.497	0.392	0.428	0.353
0.181	0.169	0.321	0.216	0.252	0.177

Table 6

259	247	399	294	330	255
183	171	323	218	254	179
581	569	721	616	652	577
209	197	349	244	280	205
357	345	497	392	428	353
181	169	321	216	252	177

Table 1

Team	1st	2nd	3rd	Total Points
Green	8	9	3	131
Blue	0	10	10	70
Yellow	10	0	10	120
Red	8	7	3	121

Table 2

Team	1st	2nd	3rd	Total Points
Green	8	9	3	107
Blue	0	10	10	70
Yellow	10	0	10	90
Red	8	7	3	97

Table 3

Team	1st	2nd	3rd	Total Points
Green	7	9	3	87
Blue	2	10	10	82
Yellow	10	0	10	90
Red	7	7	3	79

Price per person:

Accommodation	By air £	By train £	1 night £	7 nights £	14 nights £
Hotel Supreme	160***	90**	110*	620*	1100*
Hotel Magnifico	260***	180**	70*	420*	800*
Hotel Brilliant	180***	120**	80*	480*	900*
The Grand Hotel	250***	180**	100*	600*	1200*
Villa Dream	150***	110**	60	400	750*
Villa Aston	220***	140**	50	320	600*
Supplements:					
One person in a room (extras)	—	—	12	60	100
Third person sharing a room (reductions)	—	—	–10	–50	–90
Flights from outside London	20	—	—	—	—
*Children under 15 reduction of 30%					
** Children under 15 half price					
*** Babies sharing adult seat free, children under 12 reduction of 20%					

Local Facilities

Hotel Name	Beach	Kids Club	Disco	Swimming Pool	Access to Shops	Historical Sites	Live Music
Hotel Supreme	✓	✓	✗	✓	✗	✓	✓
Hotel Magnifico	✓	✗	✗	✗	✓	✓	✗
Hotel Brilliant	✗	✓	✓	✓	✓	✗	✗
The Grand Hotel	✗	✗	✓	✓	✓	✓	✓
Villa Dream	✗	✓	✗	✓	✗	✓	✗
Villa Aston	✓	✗	✓	✗	✓	✗	✗

Family Profiles

The Ahmed Family

Mr and Mrs Ahmed want to fly from Manchester Airport for a four-night holiday. They enjoy swimming and visiting historic sites. They would prefer a hotel which allows them to have a quiet, relaxing evening as they like to get up early and begin their busy day. They have £1,200 to spend.

The Smith Family

Mr and Mrs Smith have two children under the age of 11 and a baby of 6 months. They would like accommodation that provides entertainment in the evening. Mrs Smith does not like beaches but the children love swimming. They want to travel by train, because of the baby and will stay for ten nights. They have up to £2,500 to spend.

The Jones Family

Mr Jones would like to take his wife and three children, David aged 14, Joe aged 16 and Sarah aged 18 for a fortnight's holiday. They want to fly from Heathrow airport and need to stay somewhere that has a pool, a disco for the children, and plenty of shops. They would like you to propose two suitable holidays from which they can make their decision by comparing facilities and costs.

The Roach Family

Patrice Roach would like to take her six-year-old son Courtney away for a week's holiday. She wants somewhere lively with a pool but she is not too concerned about nightlife because she wants to spend time with Courtney. Access to a beach would be handy and a club for Courtney to play in so Patrice can do some shopping. Patrice wants the cheapest of the available holidays.

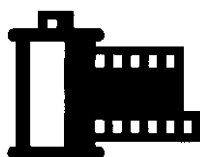
Holiday Items Shopping Chart

Camera



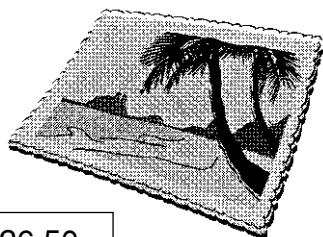
£29.99

Film



£4.75

Beach Towel



£6.50

Sun tops



£16.50



Toys/Games

£14.75



Swimwear

£4.50

£6.99

£39.95

£24.99

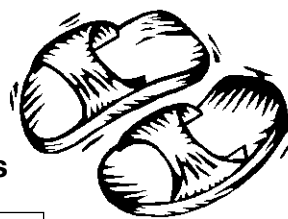


Sunglasses



£11.25

Sandals



£27.95

Suntan Lotion

£3.99



Ice-cream

£1.49



Medicine/Insect repellent



£12.80

My Mathematics by

List whole number
division facts
corresponding to:
 $3 \times 8 = 24$

My division facts

Show or discuss with
a friend

I wrote these facts:

on my own

with some help

List division facts
corresponding to:
 $7 \times 6 = 42$

My division facts

Show or discuss with
a friend

I wrote these facts:

on my own

with some help

Place these
decimals in order:
1.2, 2.14, 2.21,
1.395, 1.08, 1.19,
0.99, 2.028, 2.18.

My order, smallest first

Show or discuss with
a friend

I ordered these decimals:

on my own

with some help

Order these decimals
and between each pair
place a decimal of your
own: 6.814, 6.014,
6.184, 6.418, 6.018.

My ordered decimals

Show or discuss with
a friend

I ordered these decimals:

on my own

with some help

Input–output tables

Find the operations used on the input numbers to give the output

Input	Output
3 and 2	8
1 and 0	0
2 and 1	3
0 and 1	1

Input	Output
2 and 4	6
3 and 2	13
2 and 0	10
1 and 8	−3

Input	Output
1,2 and 3	9
2,3 and 1	7
1,0 and 2	5
2,2 and 0	4

The operations are: _____

The operations are: _____

The operations are: _____

My strategy for solving these problems is:

I explained my
strategy:

on my own

with some help

<input type="checkbox"/>
<input type="checkbox"/>

Name:	School:
What I can do	
I can derive division facts quickly from multiplication facts: on my own <input type="checkbox"/> with some help <input type="checkbox"/>	List whole number division facts corresponding to: $3 \times 8 = 24$
	List decimal division facts corresponding to: $7 \times 6 = 42$
I can order numbers with up to three decimal points: on my own <input type="checkbox"/> with some help <input type="checkbox"/>	Place these decimals in order: 1.2, 2.14, 2.21, 1.395, 1.08, 1.19, 0.99, 2.028, 2.18
	Order these decimals and between each pair place a decimal of your own: 6.814, 6.014, 6.184, 6.418, 6.018
I can solve problems by extracting and interpreting information in tables and charts: on my own <input type="checkbox"/> with some help <input type="checkbox"/>	Input–output tables

My next target:

I want to get better at _____
