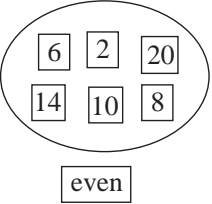
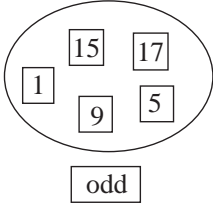
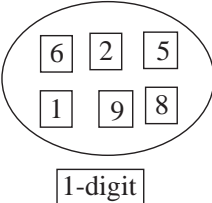
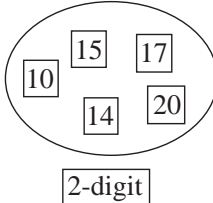
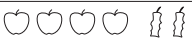
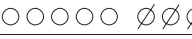

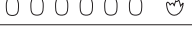
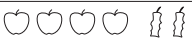
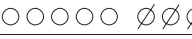

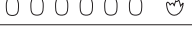
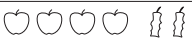
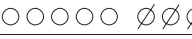

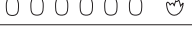









Y2	<p>R: Mental work with numbers to 20</p> <p>C: Revision: numbers to 20</p> <p>E: <i>Cardinal and ordinal numbers. Odd, even</i></p>	<i>Lesson Plan</i> 1
Activity		Notes
1	<p>Mental counting to 10</p> <p>T asks 10 Ps (by name) to come and stand in a line, all facing in the same direction but sideways on to the rest of the class.</p> <p>T gives various items to certain Ps in the line (e.g. a flower, a toy animal, a funny hat to wear, a bag to hold, etc.) Rest of Ps answer questions such as those below by showing number cards.</p> <ul style="list-style-type: none"> • How many children are in the line? Show me . . . now! (10) • How many boys (girls) are there? • In which position from the front is the person holding the flower (toy animal, etc)? • How many Ps are between the person holding the toy animal and the person wearing the funny hat? • A, come and point to the 2nd girl from the back. Is A correct? In what position is she from the front? • B, come and point to the 3rd boy from the front? Is B correct? In what position is he from the back? <p style="text-align: right;">5 min</p>	<p>Whole class activity</p> <p>Involve several Ps by a turn-over of Ps in the line</p> <p>Note Ps who have difficulty in counting.</p> <p>In unison</p> <p>Ask Ps with wrong answer to come out and check.</p> <p>All done at a good pace</p> <p>Ps can ask the questions too</p>
2	<p>Counting and writing numbers to 20</p> <ul style="list-style-type: none"> • Let's count from 0 to 20. Let's do it again in a relay. • Let's count from 20 back to 0. Let's do it again in a relay. <p><i>PbY2a, page 1</i></p> <p>Q.1 Read: <i>a) Write the numbers from 0 to 20 in increasing order.</i> <i>b) Write the numbers from 20 to 0 in decreasing order.</i> Make sure Ps know what 'increasing' and 'decreasing' mean.</p> <p style="text-align: right;">15 min</p>	<p>Whole class in unison first Then Ps in relay (or ask a few individual Ps)</p> <p>At speed</p> <p>Individual work, monitored T (or Ps) also writes the numbers on the BB so that Ps can check theirs.</p>
3	<p><i>PbY2a, page 1</i></p> <p>Q.2 Read: <i>Draw as many objects along each line as the number at the beginning.</i></p> <p>You can draw what you like but keep your drawings simple.</p> <p>C, tell us what you drew for the number '4'. Is C correct? Who drew 4 of the same object? Who drew 4 different objects? Which is correct? (both correct) Similarly for other numbers.</p> <p style="text-align: right;">23 min</p>	<p>Individual work, closely monitored</p> <p>Only rough drawings needed</p> <p>Discussion, checking at BB</p> <p>Praising</p>
4	<p><i>PbY2a, page 1</i></p> <p>Listen carefully and tell me the odd one out:</p> <p>a) T: 'pear, strawberry, grape, shell, banana' D, what do you think? Why? (e.g. shell – others are fruit) Who agrees?</p> <p>b) T: 'dog, giraffe, hen, cow, pig' E, what do you think? (e.g. hen – it is the only bird) Who thinks something else? (e.g. giraffe – only wild animal)</p> <p>Q.3 Talk about the pictures first. What are they? (all but one are fruit; the mushroom is the odd one out) How many are there? (10) Which do you like best (dislike most)? T (or P) reads questions. Deal with one part at a time. Review at BB with whole class.</p> <p style="text-align: right;">30 min</p>	<p>Whole class activity. T repeats each list slowly Ask several Ps</p> <p>Discuss whether choice is correct and reason valid</p> <p>Discussion using enlarged copy master/OHP (or real fruit)</p> <p>Individual work, monitored Discussion, agreement</p>

<h1>Y2</h1>	<p>R: Mental counting to 20 C: Numbers to 20 E: Sets, relations</p>	<h2>Lesson Plan</h2> <h1>2</h1>								
<p>Activity</p> <p>1</p>	<p>Numbers and sets</p> <p>T holds up a number and chooses a P to read out the number and stick it on the BB. e.g.</p> <p style="text-align: center;"> 6 10 2 1 15 17 8 14 9 20 1 </p> <p>Let's put these number into 2 groups. How could we group them? (e.g. even and odd)</p> <p>BB:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>even</p> </div> <div style="text-align: center;">  <p>odd</p> </div> </div> <p>What other numbers could go in this set? (T points to each set in turn.)</p> <p>How else could we group the numbers? (e.g. 1-digit and 2-digit)</p> <p>BB:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>1-digit</p> </div> <div style="text-align: center;">  <p>2-digit</p> </div> </div> <p>What other numbers could go in this set? (T points to each set in turn.)</p> <p style="text-align: right;"><i>10 min</i></p>	<p>Notes</p> <p>Whole class activity</p> <p>T has cards already prepared. (Use copy master enlarged and cut out.)</p> <p>T puts word-cards on BB and Ps come out to put numbers in correct set.</p> <p>Class agrees/disagrees</p> <p>Ask several Ps</p> <p>T puts word-cards on BB and Ps come out to put numbers in correct set.</p> <p>Class agrees/disagrees</p> <p>Ask several Ps</p>								
<p>2</p>	<p>PbY2a, page 2</p> <p>Q.1 Read: <i>Draw leaves on the plants according to the signs. Write in the numbers.</i></p> <p>T explains task and revises meaning of inequality signs.</p> <p>How many leaves are on the first plant? (3) Will the 2nd plant have more or less leaves? (more) How many more? (4) So how many leaves will you draw on the 2nd plant? ($3 + 4 = 7$)</p> <p>Ps draw leaves and write '7' in plantpot.</p> <p>Continue in a similar way for the other plants.</p> <p style="text-align: right;"><i>15 min</i></p>	<p>Individual work, but class kept together</p> <p>Discussion, demonstration</p> <p>'Leaves' need only be lines.</p> <p>BB: 3, 7, 10, 5</p> <p>(Or done as whole class activity with Ps coming out to stick leaves (real or cut-out) on drawing on BB or enlarged copy master or OHP)</p>								
<p>3</p>	<p>PbY2a, page 2, Q.2</p> <p>What do the pictures in the first row tell us? (There were 6 apples but 2 have been eaten) A, come and write an equation about it. Who agrees? Who can write another equation about it? Is he/she correct?</p> <p>Continue in a similar way for the other rows:</p> <p>BB:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">  </td> <td style="text-align: center;"> $4 + 2 = 6,$ $6 - 2 = 4$ </td> </tr> <tr> <td style="text-align: center;">  </td> <td style="text-align: center;"> $5 + 3 = 8,$ $8 - 3 = 5$ </td> </tr> <tr> <td style="text-align: center;">  </td> <td style="text-align: center;"> $7 + 3 = 10,$ $10 - 3 = 7$ </td> </tr> <tr> <td style="text-align: center;">  </td> <td style="text-align: center;"> $6 + 3 = 9.$ $9 - 3 = 6$ </td> </tr> </table> <p style="text-align: right;"><i>20 min</i></p>		$4 + 2 = 6,$ $6 - 2 = 4$		$5 + 3 = 8,$ $8 - 3 = 5$		$7 + 3 = 10,$ $10 - 3 = 7$		$6 + 3 = 9.$ $9 - 3 = 6$	<p>Whole class activity</p> <p>Drawn on BB or use enlarged copy master or OHP</p> <p>Reasoning, agreement</p> <p>Praising</p> <p>(Or done as individual work, monitored, helped and reviewed at BB with whole class)</p>
	$4 + 2 = 6,$ $6 - 2 = 4$									
	$5 + 3 = 8,$ $8 - 3 = 5$									
	$7 + 3 = 10,$ $10 - 3 = 7$									
	$6 + 3 = 9.$ $9 - 3 = 6$									

Y2		<i>Lesson Plan 2</i>
Activity		Notes
4	<p>Interlude</p> <p>Physical exercises (to music)</p> <p style="text-align: right;"><i>22 min</i></p>	Whole class in unison
5	<p>PbY2a, page 4</p> <p>Q.3 Read: <i>Join up the equal amounts</i></p> <p>Do the numbers 20 and 14 first at BB with the whole class.</p> <p>Who can come and point to the picture on the LHS which shows 20 of something? Is he/she correct? Join it up to the number '20'.</p> <p>Who can come and point to the picture on the RHS which shows 20 altogether? Is he/she correct? Join it up to the number '20'. Who can come and join up this picture to the correct point on the number line? Is he/she correct?</p> <p>Repeat for the number '14' in similar way.</p> <p>Ps do remaining numbers as individual work, reviewed at BB with the whole class (or continue as a whole class activity if you think Ps do not understand).</p> <p style="text-align: right;"><i>30 min</i></p>	<p>Whole class activity first</p> <p>Drawn on BB or use enlarged copy master or OHP</p> <p>Encourage the drawing of short, neat joining lines.</p> <p>Discussion, agreement</p> <p>Praising</p> <p>Involve several Ps</p> <p>Individual work, monitored</p> <p>Discussion, checking</p> <p>Self-correction</p>
6	<p>Matching pictures</p> <p>a) T writes an addition on the BB (e.g. $4 + 4$) Who can come and draw a picture to show it? Is he/she correct? T repeats for other additions (e.g. $2 + 6$, $1 + 7$)</p> <p>b) T draws something to show an addition on the BB (e.g. 8 squares, 3 of which are coloured in).</p> <p>Who can come and write a matching equation? Who thinks something else?</p> <p style="text-align: right;"><i>37 min</i></p>	<p>Whole class activity</p> <p>Involve several Ps</p> <p>Discussion, agreement</p> <p>BB: e.g.</p> <p style="text-align: center;">  </p> <p style="text-align: center;"> $5 + 3 = 8$ $8 - 3 = 5$ $3 + 5 = 8$ $8 - 5 = 3$ </p>
7	<p>PbY2a, page 2</p> <p>Q.4 Read: <i>There are 3 more chestnuts than acorns. Complete the table.</i></p> <p>Talk about chestnuts and acorns (show real ones if possible) to make sure Ps know which row is which.</p> <p>Review at BB with whole class.</p> <p>Who can come and write down the rule? Is he/she correct? Who can come and write the rule in a different way? etc.</p> <p>(If nobody, T writes them and asks Ps to check them.)</p> <p style="text-align: right;"><i>45 min</i></p>	<p>Whole class activity first</p> <p>Drawn on BB or use enlarged copy master or OHP</p> <p>Individual work</p> <p>Discussion, agreement, checking</p> <p>BB:  < 3 </p> <p style="text-align: center;"> =  + 3</p> <p style="text-align: center;"> =  - 3</p>

Y2	<p>R: Mental counting to 20</p> <p>C: Numbers to 20. Addition and subtraction</p> <p>E: <i>Rules. Next nearest numbers. Roman numerals</i></p>	<p><i>Lesson Plan</i></p> <p>3</p>
Activity		Notes
1	<p>Work with Numbers Cards (to 10)</p> <p>a) Listen carefully and show me the number I am describing with number cards when I say.</p> <ul style="list-style-type: none"> • The number of fingers on one of my hands (T holds up hand) Show me . . . now! (5) A, come and choose the '5' flower and stick it on the BB. • The number of times I clap my hands (T claps 9 times) Show me . . . now! (9) B, come and stick the '9' flower on the BB. • 5 more than the number of times I stamp my foot (T stamps twice). Show me . . . now! (7) C, come and stick the '7' flower on the BB. • 6 less than the number of times I knock. (T knocks on desk 10 times) Show me . . . now! (4) D, come and stick the '4' flower on the BB. <p>b) Who can come out and write in the next nearest numbers beside the numbers in the flowers? (Ps choose a flower) (Use the class number line if necessary.)</p> <p style="text-align: right;"><i>10 min</i></p>	<p>T has a pile of 'number flowers' ready prepared from enlarged copy master, coloured and cut out.</p> <p>In unison T checking, praising</p> <p>In unison</p> <p>In unison T checking, praising</p> <p>In unison T checking, praising</p> <p>BB: 4 (5) 6 8 (9) 10 6 (7) 8 3 (4) 5</p>
2	<p>PbY2a, page 3</p> <p>Q.1 Read: <i>Write in the missing numbers.</i> Let Ps fill in the missing numbers first, then review at BB. Read: <i>There are numbers in the upper row.</i> E, what could we write in the space? e.g. 'ten' What else could we write there? e.g. 'odd' ('ten odd')</p> <p>Read: <i>There are numbers in the lower row.</i> F, what could we write in the space? e.g. 'eleven' What else could we write there? e.g. 'odd' ('eleven odd')</p> <p style="text-align: right;"><i>15 min</i></p>	<p>Individual work first Drawn on BB or use enlarged copy master or OHP</p> <p>Whole class discussion</p> <p>T writes words on BB and Ps write them in the correct spaces in their <i>Pbs</i>.</p>
3	<p>PbY2a, page 3</p> <p>Q.2 Read: <i>Draw pictures to show the additions and subtractions.</i></p> <p>First talk about each row in turn and the kind of drawings that could be done. Drawing can be creative – but simple!</p> <p>Ask a few Ps to tell the class what they drew. Class decides whether it is correct or incorrect.</p> <p style="text-align: right;"><i>23 min</i></p>	<p>Individual work Monitored, helped</p> <p>Checking, agreement Praising</p>
4	<p>Interlude</p> <p>Finger exercises</p> <p style="text-align: right;"><i>25 min</i></p>	Whole class in unison
5	<p>PbY2a, page 3</p> <p>Q.3 Read: <i>Colour red the boxes with even numbers and green those with odd numbers.</i></p> <p>Review orally with whole class. Did anyone decide which boxes were odd and even without actually counting the sweets?</p> <p>G, tell us how you did it. (Odd box has a sweet without a pair)</p> <p style="text-align: right;"><i>30 min</i></p>	<p>Individual work</p> <p>Discussion, agreement Praising (If nobody, T explains)</p>

Y2		<i>Lesson Plan 3</i>
Activity 6	<p><i>PbY2a, page 3, Q.4</i></p> <p>Make sure Ps know which are rows and which are columns and to count starting from the LHS.</p> <p>T (or P) reads each part and Ps come out, first to point to numbers, then, if class agrees, to colour them in.</p> <p>BB: a) 6, 8 and 10 b) 13 and 18 c) 9 and 19 d) 10, 15 and 20</p> <p>Who can think of another question to ask about the number grid?</p> <p style="text-align: right;"><i>37 min</i></p>	<p style="text-align: center;">Notes</p> <p>Whole class activity Involve several Ps Drawn on BB or use enlarged copy master or OHP Discussion, agreement (Or done as individual worked, monitored and reviewed) Praise creativity</p>
7	<p><i>PBY2a, page 3</i></p> <p>Q.5 Read: <i>Write down the Roman numerals from 1 to 5.</i></p> <p>Review at BB with whole class. Remind class that $IV = V - I$</p> <p style="text-align: right;"><i>42 min</i></p>	<p>Individual work, monitored BB: I II III IV V Praising</p>
8	<p>Number bonds</p> <p>T asks pairs of Ps (one boy, one girl) to stand up. One says a number (e.g. '3') and the other has to complete it to make 11 (e.g. '8').</p> <p>N.B. If breaktime, this can be a good way for the Ps to leave the class.</p> <p style="text-align: right;"><i>45 min</i></p>	<p>Whole class activity At speed. Involve all Ps. Ps can choose the starting number.</p>

Y2	R: Mental operations to 20 C: Numbers to 20. Additions E: 'Open' sums	<i>Lesson Plan</i> 4
<i>Activity</i>		<i>Notes</i>
1	Secret numbers I am thinking of a number. You must ask me questions to find out what it is. I can answer only 'Yes' or 'No'. (e.g. 'Is it odd?' Does it have 1 digit?' 'Is it less than 10?' etc.) <div style="text-align: right;">5 min</div>	Whole class activity Involve several Ps Encourage Ps to ask logical questions, keeping in mind the clues already given.
2	PbY2a, page 4 Q.1 a) Read: <i>Circle the even numbers in red and the odd numbers in blue.</i> Ps come to BB, choose a number and circle in the correct colour. Class agrees/disagrees. b) Read: <i>Write the numbers out again in decreasing order.</i> First T revises what 'decreasing' means (> sign). Review at BB with whole class. c) Read: <i>Write the numbers in the correct houses.</i> Discuss meaning of what is written in roofs of houses. (< 10 means 'less than 10'; > 10 means 'greater than 10') Ps come out, one at a time to write numbers in correct house. Class agrees/disagrees. <div style="text-align: right;">12 min</div>	Whole class activity T has numbers written on BB Ps write in <i>Pbs</i> too Individual work Check on class number line if there are difficulties. Whole class activity Discussion, agreement, checking on class number line Drawn on BB or use enlarged copy master or OHP
3	PbY2a, page 4 Q.2 Read: <i>Write the next nearest numbers to the middle number in the empty houses.</i> Deal with one part at a time. Review orally with whole class. How could we write it using numbers and signs? Ps come out to front in 3's. Middle P says a number, other 2 Ps say the next number smaller and greater than the number. <div style="text-align: right;">18 min</div>	Individual work, monitored If problems, demonstrate on class number line. Whole class discussion BB: a) $9 < 10 < 11$ b) $14 < 15 < 16$ c) $18 < 19 < 20$ Keep a good pace
4	Interlude: Song or rhyme <div style="text-align: right;">20 min</div>	Whole class in unison
5	PbY2a, page 4 Q.3 Read: <i>Fill in the missing numbers.</i> Deal with one part at a time. Review orally with whole class. What is different about the answers in part b)? (2-digit, so 2 boxes – LHS shows the tens and RHS the units.) Point out connection between e.g. '4 + 3' and '14 + 3' (10 more) <div style="text-align: right;">26 min</div>	Individual work, monitored Discussion, checking, agreement Show on class number line if there are problems.
6	PbY2a, page 4, Q.4 Look at this puzzle and think about how we can work out the missing numbers. (Start at the '10' and follow what the arrows say.) A , come and fill in one of the missing numbers. Why did you write that number? (e.g. $10 + 5 = 15$) Is A correct? Write the sum at the side of the BB. Continue with different Ps until puzzle is completed. <div style="text-align: right;">32 min</div>	Whole class activity Drawn on BB or use enlarged copy master or OHP Discussion, agreement, checking BB: $10 + 5 = 15$, etc.

Y2		<i>Lesson Plan 4</i>
Activity 7	<p>Number cards</p> <p>a) Think of the pairs of numbers which add together to make 8. T says one number and Ps hold up the other on command. (e.g.T: 4 + 'something' = 8. Show me . . . now! (4) BB: 4 + 4 Repeat with other number bonds. (2 + 6, 3 + 5, 1 + 7, 0 + 8)</p> <p>b) As above, but this time making the number 13.</p> <p style="text-align: right;"><i>40 min</i></p>	<p>Notes</p> <p>Whole class activity</p> <p>At speed</p> <p>In unison</p> <p>If there are problems, Ps check on class number line and write additions on BB.</p>
8	<p>Problem</p> <p>Listen carefully and show me the answer with number cards when I say. Write an addition in your <i>Pbs</i> to help you.</p> <p><i>Mary has 6 red and 8 green apples. How many apples has she altogether?</i></p> <p>Show me now! (14)</p> <p>B, come and explain to us how you worked out the solution. Who agrees with B? Who did it a different way?</p> <p>Demonstrate on BB: ○ ○ ○ ○ ○ ○ ● ● ● ● ● ● ● ●</p> <p>or with Ps at front of class, or on class number line, if there are difficulties.</p> <p style="text-align: right;"><i>45 min</i></p>	<p>Whole class activity</p> <p>T repeats slowly several times</p> <p>In unison</p> <p>BB: $8 + 6 = 14$ $\underbrace{8 + 2} + 4 = 14$ 10</p> <p>Checking, agreement</p> <p>Praising</p>

Y2		<i>Lesson Plan</i> 5
<i>Activity</i>	Writing practice, revision, activities, consolidation <i>PbY2a, page 5</i>	<i>Notes</i>

<h1>Y2</h1>	R: Mental counting C: Addition, subtraction. Problems in context E: <i>Missing numbers</i>	<h2>Lesson Plan</h2> <h1>6</h1>
Activity 1	Oral work Let's play a game with our voices. a) Let's say the 1st number (starting at 1) out loud and make no sound for the 2nd number, and so on up to 20. (1 - 3 - 5 - 7 . . . 17 - 19 -) What kind of numbers did we say out loud? (odd numbers in increasing order) b) Now let's count down from 20 in the same way. (20 - 18 - 16 . . . 4 - 2 - 0) What kind of numbers did we say out loud this time? (even numbers in decreasing order)	Notes Whole class activity T demonstrates In chorus Agreement, checking T demonstrates In chorus Agreement, checking
2	Comparisons T asks 10 Ps (by name) to come to front and face the class. Ps come to BB to write mathematical statements about them. T can ask questions such as: <ul style="list-style-type: none"> • How many boys /girls? Which is more? How many more? • How many have long/short (fair/dark) hair? . . . • How many are wearing/not wearing glasses (ribbons, watches, etc.) to help Ps think – but encourage Ps to make up own criteria.	Whole class activity Involve several Ps e.g. 4 boys + 6 girls BB: $4 + 6 = 10$ $6 > 4$ etc. Checking, agreement Praising creativity
3	PbY2a, page 6 Q.1 Read: <i>Where have we drawn the animals?</i> <i>Fill in the missing numbers.</i> Which animals are in the picture? (rabbit, squirrel, hedgehog) Ps come out to write the numbers where the animals are drawn beneath the number line. Who agrees/disagrees? Let's look at the rabbit first. A , come and write in the number where he is sitting in the empty box. (5) Is A correct? (1-digit numbers should be written on the RHS of the 2-digit box.) B , come and write in the next nearest numbers to 5. (4, 6) Is B correct? Who thinks something else? Let's check. C , come and write in the next nearest even numbers to 5. (4, 6) What do you notice? (Same as B 's numbers) Why? (5 is an odd number so the next nearest numbers must be even.) D , come and write in the next nearest odd numbers to 5. (3, 7) Is D correct? Who thinks something else? Let's check. Now do the same for the rabbit and hedgehog in your <i>Pbs</i> . Reviewed at BB with whole class. Mistakes corrected at number line.	Whole class activity at first Use enlarged copy master or OHP Discussion, agreement, checking on class number line Ps write in <i>Pbs</i> too BB: Individual work, monitored Discussion, agreement, checking
4	PbY2a, page 6 Q.2 Read: <i>Write additions about the pictures.</i> Talk about the pictures first. Deal with one at a time. Review at BB with whole class. Who can come and write subtractions about the pictures? (Show that subtraction is the inverse of addition.)	Individual work, monitored Use enlarged copy master/OHP Discussion, agreement, checking BB: a) $3 + 4 = 7$; $7 - 4 = 3$ $4 + 3 = 7$; $7 - 3 = 4$ etc.

20 min

Y2	R: Mental counting C: Addition, subtraction. Problem in context E: <i>Rules, equations</i>	<i>Lesson Plan</i> 7
<i>Activity</i>		<i>Notes</i>
1	Soft ball play a) T holds up a number card, e.g. 4 (7, 9, 11, 15) and throws ball to a P. P says the number 3 more (e.g. 7) and throws ball back to T. b) T holds up a number card, e.g. 3 (6, 10, 13, 17) and throws ball to a P. P says the number 2 less (e.g. 1) and throws ball back to T. <div style="text-align: right;"><i>5 min</i></div>	Whole class activity Ask several Ps At speed
2	PbY2a, page 7 Q.1 Read: <i>Fill in the missing numbers.</i> Let's see how quickly you can write the answers to these subtractions! Review orally round class. Mistakes corrected at number line. Who can see a connection between parts a) and b)? (Part b) is 10 more than part b). <div style="text-align: right;"><i>9 min</i></div>	Individual work, monitored Discussion, checking, agreement Praising
3	PbY2a, page 7, Q.2 Look carefully at the pictures. Who can tell us a story about the first picture? (e.g. There were 5 ducks swimming on the pond but 3 flew into the air.) A , come and write a subtraction about it. Is A correct? Who can write another subtraction about the picture? Ask Ps to come to BB to write the inverse additions. (Note pattern.) Continue in similar way for the other two pictures. <div style="text-align: right;"><i>15 min</i></div>	Whole class activity Use enlarged copy master/OHP Involve several Ps Discussion, agreement e.g. BB: $5 - 3 = 2$; $2 + 3 = 5$ $5 - 2 = 3$; $3 + 2 = 5$ Check on number line Praising
4	PbY2a, page 7 Q.3 Read: <i>Fill in the missing numbers.</i> Let's see how quickly you can do these. Review orally with the whole class. Mistakes corrected at class number line. Go through the subtractions again orally round the class but this time Ps give reverse subtraction and inverse addition. e.g. BB: $8 - 5 = 3$, $8 - 3 = 5$; $4 - 3 = 1$, $4 - 1 = 3$ $3 + 5 = 8$, $5 + 3 = 8$ $1 + 3 = 4$. $3 + 1 = 4$ <div style="text-align: right;"><i>22 min</i></div>	Individual work, monitored Discussion, checking, agreement T notes Ps having problems T demonstrates on BB, pointing out patterns Praising
5	Interlude Relaxation with music playing <div style="text-align: right;"><i>24 min</i></div>	Whole class resting
6	PbY2a, page 7 Q.4 Read: <i>Fill in the missing numbers</i> What is the connection between the equations and the grids? (numbers refer to how many squares are shaded dark/light) Review at BB with whole class. Mistakes corrected. Let's look at the grids again. Can anyone see how the first grid in the top row can help you with the other two grids in the row? B , come and tell us what you think. Who agrees? Who can come and explain how the first grid in the 2nd row helps you with the other two grids? Who agrees? <div style="text-align: right;"><i>32 min</i></div>	Whole class discussion first Drawn on BB or use enlarged copy master or OHP Individual work, monitored Agreement, self-correction Whole class discussion, checking, agreement BB: $4 + 8 = (4 + 6) + 2 = 12$ $4 + 9 = (4 + 6) + 3 = 13$ $13 - 5 = (13 - 3) - 2 = 8$ $13 - 8 = (13 - 3) - 5 = 5$

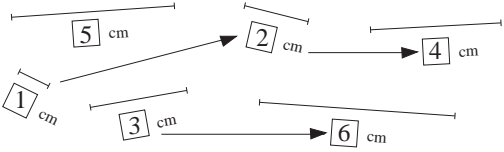
<h1>Y2</h1>	<p>R: Numbers to 20 C: Addition, subtraction, supplement. Problem in context E: Relations, puzzles</p>	<h2>Lesson Plan 8</h2>
<p>Activity 1</p>	<p>Next nearest numbers T has BB already prepared (or cards stuck to side of BB):</p> <p> $4 < \square < 6$ $8 > \square > 6$ $13 < \square < 15$ $20 > \square > 18$ $15 < \square \square \square < 19$ $17 > \square \square > 14$ </p> <p>Ps come out to write in the missing numbers.</p> <p style="text-align: right;">5 min</p>	<p>Notes</p> <p>Whole class activity Drawn on BB or use copy master, enlarged and cut out</p> <p>If cards used, Ps can choose a card to complete</p> <p>Class agrees/disagrees Check on class number line</p>
<p>2</p>	<p>PbY2a, page 8, Q.1</p> <p>a) Study this number puzzle carefully. Can anyone work out what the rule might be? (Diagonal pairs of numbers add up to the middle number, 9) Why do you think that? (P comes out to point to the '6 + 3' which equals 9.)</p> <p>Let's use this rule. Who can come and fill in a missing number? (e.g. $2 + 7$) Is he/she correct? Let's check that they add up to 9.</p> <p>Continue until all numbers are complete.</p> <p>b) As above, but this time the pairs of numbers add up to 14.</p> <p>Who can come and write in their own pair of numbers? Think of a pair that we have not used yet. (e.g. $12 + 2$ or $0 + 14$ or $4 + 10$)</p> <p><i>Solutions:</i></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>a)</p> </div> <div style="text-align: center;"> <p>b)</p> <p>e.g.</p> </div> </div> <p style="text-align: right;">15 min</p>	<p>Whole class activity Drawn on BB or use enlarged copy master or OHP Praising</p> <p>Discussion, checking, agreement Involve several Ps</p> <p>Discussion, checking, agreement Give Ps time to think Praising</p> <p>Ps also write answers in <i>Pbs</i></p> <p>Develops observational and problem solving ability</p>
<p>3</p>	<p>PbY2a, page 8</p> <p>Q.2 Read: <i>Draw arrows towards the one which is 2 more. Write the answer above each sum.</i></p> <p>Ask Ps to work out the answers first and write them above the sums. Review at BB with the whole class. Mistakes corrected.</p> <p>Everyone put your finger on the first sum (LHS) on the top row. A, which picture is 2 more than '6 - 4'? ($10 - 6$) Is A correct?</p> <p>Let's all draw an arrow from the '6 - 4' to the '10 - 6'.</p> <p>T draws first arrow, then Ps can come to BB to draw the other arrows while rest of Ps do the same in their <i>Pbs</i>.</p> <p><i>Solution:</i></p> <p style="text-align: right;">22 min</p>	<p>Individual work at first Monitored</p> <p>Drawn on BB or use enlarged copy master or OHP</p> <p>Discussion, agreement T notes Ps having difficulty with crossing over tens</p> <p>Work logically along the top row, then the bottom</p> <p>Encourage drawing of short, neat arrows</p> <p>Praising</p>

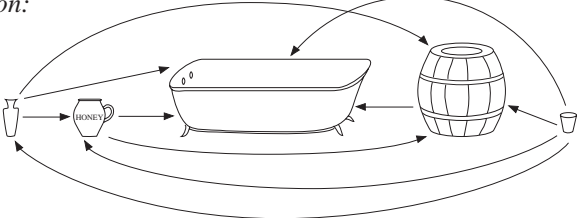
Y2		<i>Lesson Plan 8</i>
Activity		Notes
4	<p>Interlude Verse, song, physical exercises</p> <p style="text-align: right;">24 min</p>	Whole class in unison
5	<p>PBY2a, page 8 Q.3 Read: <i>Join up the sums to the corresponding points on the number line.</i></p> <p>T explains task. Encourage Ps to draw neat, short, joining lines. Some numbers on the line are used more than once. Review at BB with the whole class. Mistakes corrected. (Or done as a whole class activity, with Ps working at BB.)</p> <p style="text-align: right;">32 min</p>	<p>Individual work, monitored, helped</p> <p>T notes Ps having problems</p> <p>Drawn on BB or use copy master, enlarged and cut out</p> <p>Discussion, agreement</p> <p>Praising</p>
6	<p>PBY2a, page 8 Q.4 Read: <i>Fill in the missing numbers.</i></p> <p>Let's see how quickly you can do these! Review orally with the whole class. Mistakes corrected at class number line.</p> <p>Go through the additions/subtractions again orally round the class but this time Ps give inverse addition/subtraction. e.g. BB: $3 + 5 = 8$, $8 - 5 = 3$, etc.</p> <p style="text-align: right;">40 min</p>	<p>Individual work</p> <p>Monitored</p> <p>Checking, agreement</p> <p>T demonstrates on BB, noting pattern of inverse + / -</p> <p>Praising</p>
7	<p>Problem</p> <p>Listen carefully, picture the story in your head and show me the answer with number cards when I say. Use what you like to help you.</p> <p><i>Sophie picked 17 blackberries. She ate some and took the remainin 9 home for her brother. How many blackberries did Sophie eat?</i></p> <p>Show me now! (8)</p> <p>B, come and explain to us how you worked out the solution. Who agrees with B? Who did it a different way? Demonstrate with drawings on BB or with Ps at front of class.</p> <p><i>Answer:</i> Sophie ate 8 blackberries.</p> <p style="text-align: right;">45 min</p>	<p>Whole class activity (Drawing, counters, etc.)</p> <p>T repeats slowly several times or asks Ps to repeat it</p> <p>In unison</p> <p>BB: $17 - 9 = 8$ $(17 - 7) - 2 = 8$ $\underbrace{\hspace{2cm}}_{10}$</p> <p><i>Check:</i> $8 + 9 = 17$</p>

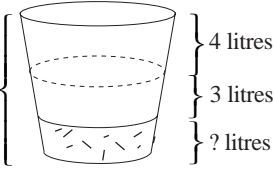
Y2	<p>R: Numbers, operations to 20</p> <p>C: Addition, subtraction, supplement. Problems in context</p> <p>E: <i>Sharing and remainders</i></p>	<p><i>Lesson Plan</i></p> <p>9</p>
Activity		Notes
<p>1</p>	<p>Oral work</p> <p>Let's see how many different ways we can think of to describe the number 15.</p> <p>(e.g. $10 + 5$, $18 - 3$, $4 + 4 + 4 + 3$, the next number greater than 16, the next number smaller than 16, the 3rd 2-digit odd number, etc.)</p> <p style="text-align: right;"><i>5 min</i></p>	<p>Whole class activity</p> <p>Class checks each response</p> <p>T writes all numerical cases on BB</p> <p>Praise creativity</p>
<p>2</p>	<p>Making pairs</p> <p>T has 10 cut-out gloves, each showing a number, an addition or a subtraction, stuck to the side of the BB but not in order.</p> <p>Ps come out to choose a glove and find its partner, so that both gloves are of equal value.</p> <p>Class agrees/disagrees and makes sure that each pair has a LH and a RH glove.</p> <p style="text-align: right;"><i>10 min</i></p>	<p>Whole class activity</p> <p>Use copy master, enlarged and cut out</p> <p>Ps give reason for choice</p> <p>Agreement, checking</p> <p>Praising</p>
<p>3</p>	<p>PbY2a, page 9</p> <p>Q.1 T explains task.</p> <p>a) Everyone put your finger on the number 20 on the number line in your <i>Pbs</i>. Jump back 2 at a time along the number line and mark with a red dot all the points you land on.</p> <p>What kind of numbers are these? (even)</p> <p>Write them out in increasing order in your <i>Pbs</i>. Review orally.</p> <p>b) Everyone put your finger on the number 19 on number line in your <i>Pbs</i>. Jump back 2 at a time along the number line and mark with a green dot all the points you land on.</p> <p>What kind of numbers are these? (odd)</p> <p>Write them out in increasing order in your <i>Pbs</i>. Review orally.</p> <p style="text-align: right;"><i>15 min</i></p>	<p>Individual work but class kept together</p> <p>T monitors, helps</p> <p>Discussion, agreement, checking</p> <p>Praising</p> <p>As above</p>
<p>4</p>	<p>PbY1a, page 9</p> <p>Q.2 Read: <i>Fill in the missing numbers.</i></p> <p>Let's see how quickly you can do these. Deal with one part at a time. Review orally with the whole class. Mistakes corrected at the class number line.</p> <p>Could be done as a competition, with Ps in teams (or boy v. girls)</p> <p>Ps exchange books for marking and totalling out of 15.</p> <p>T writes marks for each team on BB and awards a 'star' to the best (and quickest) team.</p> <p style="text-align: right;"><i>23 min</i></p>	<p>Individual work but class kept together</p> <p>T notes Ps with problems</p> <p>Discussion, agreement, checking</p> <p>Encourages speed in calculation</p> <p>Praising</p>
<p>5</p>	<p>Interlude</p> <p>Verse, song, physical exercises</p> <p style="text-align: right;"><i>25 min</i></p>	<p>Whole class in unison</p>
<p>6</p> <p>Extension</p>	<p>PbY2a, page 9</p> <p>Q.3 Read: <i>Colour the flower as shown.</i></p> <p>T explains task. Make sure that Ps realise that there are <u>two</u> numbers assigned to each colour.</p> <p>Review at BB with whole class. Mistakes corrected.</p> <p>Ps can make up their own clues and colours and put their own numbers in a blank flower.</p> <p style="text-align: right;"><i>35 min</i></p>	<p>Individual work, monitored, helped</p> <p>Drawn on BB or use enlarged copy master or OHP</p> <p>Discussion, agreement, checking, reasoning</p> <p>Whole class or paired activity</p>

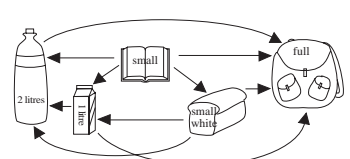
Y2		<i>Lesson Plan 9</i>																																	
Activity 7	<p>PBY2a, page 9</p> <p>Q.4 Read: <i>Follow the arrows and write in the missing numbers.</i> Start at the '2' and follow what the arrows tell you. Show me with number cards the number you finish on. Show me . . . now! (11)</p> <p>Ask Ps who have responded incorrectly to go through the additions/subtraction a step at a time on BB or at the class number line.</p> <p style="text-align: right;"><i>40 min</i></p>	<p style="text-align: center;">Notes</p> <p>Individual work in writing missing numbers.</p> <p>In unison</p> <p>Drawn on BB or use enlarged copy master or OHP</p> <p>Self-correction</p>																																	
8	<p>Preparation for division by 2</p> <p>T calls 7 Ps to front of class. How can we divide them up into 2 equal groups. (Put one P in LH group and 1 in RH group, then another in LH group and another in RH group, and so on.)</p> <p>How many are in each group? (3) How many remain? (1)</p> <p>T shows table on BB. E, come and point to the column which shows what we have just done. (BB: $7 = 3 + 3 + 1$)</p> <p>Repeat with 10 Ps at the front of class.</p> <p>BB:</p> <table border="1" data-bbox="359 1010 1034 1196"> <tbody> <tr> <td>Total number of pupils</td> <td>7</td> <td>10</td> <td>4</td> <td>9</td> <td></td> <td></td> <td>13</td> <td></td> <td></td> <td>20</td> </tr> <tr> <td>Pupils in each group</td> <td>3</td> <td></td> <td></td> <td></td> <td>6</td> <td>8</td> <td></td> <td>7</td> <td>9</td> <td></td> </tr> <tr> <td>Pupils remaining</td> <td>1</td> <td></td> <td></td> <td></td> <td>0</td> <td>0</td> <td></td> <td>1</td> <td>1</td> <td></td> </tr> </tbody> </table> <p>Who can come and fill in a missing number without us having to demonstrate with Ps? Explain to us how you did it. Who agrees?</p> <p style="text-align: right;"><i>45 min</i></p>	Total number of pupils	7	10	4	9			13			20	Pupils in each group	3				6	8		7	9		Pupils remaining	1				0	0		1	1		<p>Whole class activity</p> <p>Ask several Ps what they think</p> <p>Drawn on BB or use enlarged copy master or OHP</p> <p>Preparation for division by 2 with remainder</p> <p>Continue demonstrating if necessary</p> <p>Ps can use counters (or items from their collection) to help them.</p> <p>Discussion, agreement, checking, praising</p>
Total number of pupils	7	10	4	9			13			20																									
Pupils in each group	3				6	8		7	9																										
Pupils remaining	1				0	0		1	1																										

Y2		<i>Lesson Plan 10</i>
<i>Activity</i>	<p>Completion of table on LP 9/7 if necessary. Writing practice, revision, activities consolidation <i>Practice Book Y2a, page 10</i></p>	<i>Notes</i>

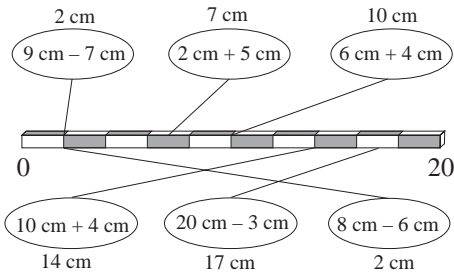
Y2		Lesson Plan 11
<p>Activity</p> <p>4</p>	<p>PBY2a, page 11</p> <p>Q.2 a) Read: <i>Measure each pencil and write down its length in cm.</i></p> <p>T explains how to use the rulers (place zero on edge of pencil nearest letters, keep ruler straight along middle of pencil, measure to end of point of pencil.) Then write the number of cm in the box beside each pencil.</p> <p>Deal with one pencil at a time. Review with whole class. C, what did you measure? Who agrees/disagrees? Let's check.</p> <p>Continue until all pencils completed.</p> <p>b) Read: <i>Which is the longest pencil?</i> Ps write in <i>Pbs</i>. (B)</p> <p>c) Read: <i>Which is the shortest pencil?</i> Ps write in <i>Pbs</i>. (D)</p> <p>d) Read: <i>Which pencils are not longer than Pencil C?</i> (the 3rd pencil from the top)</p> <p>Ask several Ps what they think before agreeing on correct answer. (A, D, F)</p> <p>e) Read: <i>Which pencils are not shorter than Pencil C?</i> (the 3rd pencil from the top)</p> <p>Ask several Ps what they think before agreeing on correct answer. (B, E, F, G)</p> <p style="text-align: right;">30 min</p>	<p style="text-align: center;">Notes</p> <p>Ps have rulers on desks</p> <p>T demonstrates on BB using enlarged copy master or OHP for demonstration only</p> <p>Individual work, monitored</p> <p>Discussion, checking, agreement. T writes agreed answers on copy master.</p> <p>BB: A: 5 cm B: 11 cm C: 6 cm D: 4 cm E: 9 cm F: 6 cm G: 7 cm</p> <p>Discussion, agreement, especially about Pencil F</p> <p>Demonstrate on class number line if there are problems.</p>
<p>5</p>	<p>PBY2a, page 11</p> <p>Q.3 Read: <i>Measure the length of each line segment.</i></p> <p>T explains what a 'line segment' means. (part of a line)</p> <p>Deal with one segment at a time. Review with whole class. D, what did you measure? Who agrees/disagrees? Let's check. Continue until all segments are completed.</p> <p>Read: <i>Draw arrows towards the line which is twice as long.</i></p> <p>Which line segment is shortest? (1 cm) What measurement is twice as long as 1 cm? (2 cm) E, come and point to the line which measures 2 cm. Is E correct? Let's draw an arrow from the 1 cm line segment towards the 2 cm line segment, like this.</p> <p>Deal with others in similar way. Ps can draw arrows on BB too.</p> <p><i>Solution:</i></p>  <p>If I drew the arrows pointing in the opposite direction, what would they mean? (This is half the length of this.)</p> <p style="text-align: right;">40 min</p>	<p>Individual work, monitored, helped</p> <p>Use enlarged copy master or OHP for demonstration only to show which segment is being done.</p> <p>Discussion, checking, agreement. T writes agreed answers on copy master.</p> <p>Whole class activity</p> <p>T demonstrates on BB and Ps draw in <i>Pbs</i> too.</p> <p>Encourage drawing of neat, straight lines</p> <p>Discussion, agreement</p>
<p>6</p>	<p>Practice in measuring</p> <p>T asks Ps to draw a line measuring 5 cm long at LH side of <i>Pbs</i> and write '5 cm' beneath line. T asks Ps to draw a line 10 cm long at RH side of <i>Pbs</i> and write '10 cm' below line.</p> <p>Who can tell me something about the 2 lines? (e.g. 15 cm altogether, 5 cm is half of 10 cm. 10 cm is twice 5 cm, 10 cm is 5 cm more, etc.)</p> <p style="text-align: right;">45 min</p>	<p>Individual work in drawing</p> <p>Monitored, helped</p> <p>Discussion. Involve several Ps</p> <p>Praise good responses</p>

Y2	R: Standard units of length C: Measurement: capacity E: <i>Problem in context</i>	<i>Lesson Plan</i> 12
Activity 1	Oral work a) T says lengths of 2 line segments. P says total length of line. e.g. T: 7 cm + 5 cm, P ₁ : 12 cm; T: 11 m + 3 m, P ₂ : 13 m; etc. b) T says the total length of a line. Ps say the lengths of two line segments which together would make the line. e.g. T: 15 cm, P ₁ : 5 cm + 10 cm, P ₂ : 8 cm + 7 cm, etc. <p style="text-align: right;">5 min</p>	Notes Whole class activity At speed round class Involve several Ps Insist on Ps saying units too Class agrees/disagrees
2	PbY2a, page 12 Q.1 Read: <i>Draw arrows towards the container which can hold more.</i> Talk about each picture first, what it might hold, e.g. water, milk, beer, honey (liquids) and how much when full (capacity). Tell Ps to work methodically, starting with LHS and drawing arrows to/from all the others. Encourage drawing of neat arrows. Review at BB with whole class. Solution:  <p style="text-align: right;">10 min</p>	Individual work Use enlarged copy master or OHP Discussion, agreement T demonstrates on BB Mistakes discussed with whole class Correct solution agreed on Point out that that the largest (smallest) capacity has every arrow pointing towards (away from) it.
3	Measuring capacity a) I have gathered lots of interesting things on my table. Who can come and choose one which we could use to measure a certain amount of liquid? Class agrees/disagrees and talks about when it would be used. Who can come and find another one? (T puts choices in a row.) b) Who can tell me a standard unit used to measure capacity? (litre) Which of these holds exactly 1 litre? (e.g. bottle, jug) Which of these holds less than (more than) 1 litre? Check by demonstration if class is unsure. <p style="text-align: right;">15 min</p>	e.g. ruler, set of scales, clock, 1 litre and 2 litre bottles, tablespoon, bucket, measuring tape, watch, medicine spoon, calibrated jug, milk bottle, glass, cup, etc. Discussion, agreement BB: 1 litre (pint) Ps come out and choose Class agrees/disagrees
4	PbY2a, page 12 Q.2 T shows a container (transparent if possible) which holds 10 litres and demonstrates the first problem by pouring in 7 litres of water using a litre bottle or jug. Class keeps count. '1 . . . 2 . . . 7 litres' How much water do we need to pour in to fill it up? Let's check. Class keeps count as T pours in 1 . . 2 . . . 3 litres. Ps do one part at a time. Review at BB with whole class. Demonstrate as above or refer to class number line if problems. <p style="text-align: right;">20 min</p>	Whole class introduction Demonstration In unison In unison Individual work, monitored BB: 7 litres + 3 litres = 10 litres etc.
5	Interlude Song, verse, game, physical exercises <p style="text-align: right;">22 min</p>	Whole class in unison

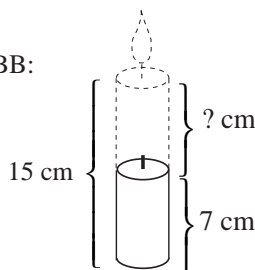
Y2		<i>Lesson Plan 12</i>
Activity 6	<p><i>PbY2a, page 12, Q.3</i></p> <p>T shows two containers, one holding 10 and the other 8 litres.</p> <p>a) Let's start with the 10 litre bucket first.</p> <p>T pours in 4 litres of water while class keeps count. '1 . . . 4 litres'</p> <p>How much more water do we need to pour in to fill it up to 10 litres?</p> <p>A, come and write in the missing number and units. Is A correct?</p> <p>Who thinks something else? Let's check (by demonstration or refer to class number line).</p> <p>Continue for rest of part a), using a different P for each equation and only demonstrating if there are problems.</p> <p>b) Repeat above for the 8 litre container.</p> <p style="text-align: right;">32 min</p>	<p style="text-align: center;">Notes</p> <p>Whole class activity e.g. buckets</p> <p>Demonstration</p> <p>In unison</p> <p>Written on BB or use enlarged copy master or OHP</p> <p>Discussion, agreement, checking</p> <p>Ps write in <i>Pbs</i> too</p> <p>(Or done as individual work)</p>
7	<p><i>PBY2a, page 12</i></p> <p>Q.4 Read: <i>Each morning, Sally has one glass of orange juice and John has 2 glasses.</i></p> <p><i>How many glasses will they each drink over a number of days?</i></p> <p>Make sure Ps know which row is which.</p> <p>Review at BB with whole class. Mistakes corrected by demonstration (e.g. using 2 Ps at front of class with plastic cups) or at class number line.</p> <p style="text-align: right;">40 min</p>	<p>Individual work</p> <p>Monitored, helped</p> <p>Drawn on BB or use enlarged copy master or OHP</p> <p>Discussion, reasoning, checking, agreement</p>
8	<p>Problem</p> <p>Listen carefully, picture the story in your head and show me the answer with number cards when I say. Use what you like to help you</p> <p><i>I filled a 10 litre bucket with water. I use 4 litres to water my plants and another 3 litres to clean out the bird bath.</i></p> <p><i>How many litres of water are left in the bucket?</i> BB:</p> <p>Show me . . . now! (3)</p> <p>B, tell us how you got your answer.</p> <p>Who agrees?</p> <p>Who did it a different way?</p> <p>Let's draw a diagram to help us.</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 10px;">10 litres</div> <div style="margin-right: 10px;">}</div>  </div> <p><i>Answer:</i> There were 3 litres left in the bucket.</p> <p style="text-align: right;">45 min</p>	<p>Whole class activity (Drawing, counters, etc.)</p> <p>T repeats slowly several times or asks Ps to repeat it</p> <p>In unison</p> <p>BB: $4 + 3 = 7$ $10 - 7 = 3$</p> <p>or $10 - 4 - 3 = 3$</p> <p>Only rough drawing needed</p> <p><i>Check:</i> $4 + 3 + 3 = 10$</p>

Y2	R: C: Measurement: mass (weight) E: <i>Problems in context</i>	<i>Lesson Plan</i> 13
Activity 1	Mass (weight) T has a simple balance (or coathanger with transparent plastic bags tied to each side) and a collection of interesting objects (e.g. bottle of nail varnish, lipstick, brightly coloured ball, crayons, beads, plastic dinosaur, toy car, cotton wool balls, book, etc.) Ps come out to front of class, choose 2 items and say which is heavier. Then Ps weigh them on the balance. Elicit that weight can depend on: <ul style="list-style-type: none"> • size (e.g. book weighed against pencil) • number of objects (e.g. 1 crayon weighed against 6 crayons) • type (density) of material (e.g. rubber ball weighed against cotton wool ball of same size) 	Notes Whole class activity Ps can choose items Involve several Ps Class agrees/disagrees Checking Discussion Involve several Ps Agreement
2	PbY2a, page 13 Q.1 Read: <i>Which animal weighs more? Write the correct sign between them.</i> Talk about each picture first. Same number of each, same type of material (bones, muscle, skin), but different sizes. Who can come and draw the sign which means 'greater than' (less than)? Review with whole class. Who do you think in the classroom is heaviest (lightest)? Why? (biggest, smallest)	Whole class discussion as introduction Use enlarged copy master or OHP Involve several Ps BB: >, < Elephant > monkey < lion > bird Discussion, agreement
3	Measuring weight (mass) a) Who can come and choose from the table something which we can use to find out exactly how heavy something is? When would we use each one? (e.g. cooking, dieting) Who can tell us other times when things are weighed? (e.g. shopping, air travel, medicines/pills, cement/gravel/sand, etc.) b) Who can tell me a standard unit used to measure weight? Which one is the smaller unit? (g) Who can show this on BB? If possible, T can show 1 g and 1 kg weights	Whole class discussion e.g. as in previous lessons but including kitchen and bathroom scales Discussion Involve several Ps BB: kg, g (lb, oz) kg > g, g < kg Pass round class so that all Ps can hold and compare.
4	PBY2a, page 13 Q.2 Read: <i>Which weighs more? Draw arrows towards the heavier item.</i> Talk about each picture first: Which is bigger? What might the bottle (carton, bag) hold? Are they empty or full? What size (how thick) is the book? What kind (size) of loaf? Let's estimate how heavy they could be. A, if both the bottle and the carton are full of milk, come and draw an arrow pointing towards the one which is heavier. Who agrees? Continue with other Ps, comparing each pair of items and class agreeing/disagreeing. <i>Solution will depend on agreed state of each item, but could be as shown opposite.</i>	Whole class activity Use enlarged copy master or OHP Discussion, agreement T can have real items to show and compare T helps in drawing of arrows Discussion, agreement 

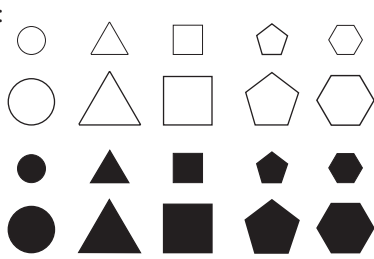
Y2		<i>Lesson Plan 13</i>
Activity		Notes
5	Interlude Song, verse <p style="text-align: right;">25 min</p>	Whole class in unison
6	PBY2a, page 13 Q.3 Read: <i>Join up the equal amounts.</i> Ps write totals above the rectangles first. Encourage drawing of neat, short, joining lines. Review at BB with whole class. Which weight has no joining lines attached to it? (7 kg + 3 kg = 10 kg) Mistakes corrected at class number line. <p style="text-align: right;">30 min</p>	Individual work, monitored Drawn on BB or use enlarged copy master or OHP Discussion, reasoning checking. Self-correction Praising
7	PBY2a, page 13 Q.4 Read: <i>Fill in the missing numbers and units.</i> Let's see how quickly you can do them! Remember the units! Deal with one part at a time. Review at BB with whole class. Mistakes corrected at class number line. <p style="text-align: right;">38 min</p>	Individual work, monitored Drawn on BB or use enlarged copy master or OHP Discussion, reasoning checking. Self-correction
8	Problem Listen carefully, picture the story in your head and show me the answer with number cards when I say. Use what you like to help you <i>The Squirrel family collected 20 kg of nuts to feed them during the long winter.</i> <i>By Christmas they had eaten 8 kg of nuts. How many kilograms of nuts did the Squirrel family have left?</i> Show me . . . now! (12) B , tell us how you got your answer. Who agrees? Who did it a different way? <i>Answer:</i> The Squirrel family had 12 kg of nuts left. <p style="text-align: right;">43 min</p>	Whole class activity (Drawing / number line) T repeats slowly several times or asks one or two Ps to repeat it In unison BB: 20 kg – 8 kg = <u>12 kg</u> Check: <u>12 kg</u> + 8 kg = 20 kg
9	PBY2a, page 13, Q.5 T says a weight (e.g. 3 kg) and Ps have to complete it to make 13 kg (e.g. 10 kg). T goes through all weights in table but in a different order. Can either be done orally or, as each one is dealt with, Ps find correct column and write in missing weight (like <i>Bingo</i>) and first P to finish with all correct is awarded e.g. a star. <p style="text-align: right;">45 min</p>	Whole class activity At speed Done orally or as a game Praising

Y2	R: Calculations C: Measurement: length, capacity, mass E: <i>Changing measurement units</i>	Lesson Plan 14
Activity	Notes	
1 Oral work T says an item. P says a standard unit used to measure it. e.g. T: 'milk,' P: litres (pints); T: 'sugar', P: kg (lb); T: 'ribbon', P: m (yards); T: 'sweets', P: g (oz), etc.	5 min	Whole class activity Involve several Ps At speed Discuss non-metric units too
2 PbY2a, page 14 Q.1 Read: <i>Join up the lengths to the corresponding places on the 20 cm stick.</i> Talk about the stick first. What is missing from it? (numbers) What length does each white and black section show? (2 cm) Explain that it is like jumping 2 at a time along a number line. Ps write in '0' at LHS of stick and '20' at RHS of stick in <i>Pbs</i> . Where would 1 cm (5 cm) be? (Ps come out to model to point.) Elicit that even numbers will be at the intersections of light/dark segments, while odd numbers will be in the middle of each segment. First Ps work out answers and write above ellipses. Review. T (or P) demonstrates first joining line, then Ps do the rest in their <i>Pbs</i> . Review at BB with whole class. (Or continue as a whole class activity if there are problems.) <i>Solution:</i>		Whole class discussion to start T has a real 20 cm stick divided into 2 cm lengths, or drawn on BB, or use enlarged copy master or OHP Discussion, agreement Individual work, monitored, helped Demonstration Discussion, checking, agreement Note: A numberless stick like this can be used for any start and finish number and is good for mental practice. e.g. 0–10, 0–100, 15–65, etc.
3 PbY2a, page 14, Q.2 Read: <i>Write an addition for the total amount of apples in each pair of baskets.</i> Deal with one part at a time. Revise how many in a 'pair.' Ps come to BB to point to baskets being dealt with and to write in an addition. Who agrees/disagrees? Have we dealt with all the possible pairs? Are there any pairs we have not added together yet? (1st and 3rd: 4 kg + 3 kg = 7 kg; 2nd and 3rd: 6 kg + 3 kg = 9 kg)	23 min	Whole class activity Revision of how many in a pair Use enlarged copy master/OHP Checking, agreement BB: a) 4 kg + 6 kg = 10 kg b) 6 kg + 10 kg = 16 kg c) 3 kg + 10 kg = 13 kg d) 4 kg + 10 kg = 14 kg Praising if Ps point them out
4 Interlude Relaxation with music playing	25 min	Whole class resting

Y2		<i>Lesson Plan 14</i>
Activity 5	<p><i>PbY2a, page 14</i></p> <p>Q.3 Read: <i>A car's tank holds 20 litres of petrol.</i> <i>How much petrol is needed to fill it up again?</i></p> <p>Study the table. What do you think the <i>ℓ</i> means? (short for litre to save space) Who can think of another unit of measure which we shorten to save space? (e.g. m: metre, cm: centimetre; kg: kilogram)</p> <p>Make sure Ps understand what each row in the table means.</p> <p>Review at BB with whole class. Mistakes corrected at number line.</p> <p style="text-align: right;">34 min</p>	<p style="text-align: center;">Notes</p> <p>Individual work, monitored Drawn on BB or use enlarged copy master or OHP</p> <p>Initial discussion BB: <i>ℓ</i> means litre Discussion, checking, agreement Self-correction</p>
6 Extension	<p>Comparing quantities</p> <p>T says two quantities. Ps come out to write them on BB. Which one is more? Who can come and write the correct sign between them? Is he/she correct? Let's check (T demonstrates with correct measures)</p> <p>What about 40 g and 10 metres ? (Cannot compare as they are not measuring the same thing.)</p> <p style="text-align: right;">40 min</p>	<p>Whole class activity Ps come out in pairs to write quantities BB: e.g. 10 cm $<$ 1 m 30 kg $>$ 30 g</p> <p>Discussion, agreement</p>
7	<p><i>PbY1a, page 14, Q.4</i></p> <p>Listen carefully, picture the story in your head and show me the answer with number cards when I say. Draw on the candle and write an equation in your <i>Pbs</i> to help you.</p> <p><i>Mum lit a 15 cm long candle for a family dinner. At the end of the meal the candle measured 7 cm. How many cm had burned away?</i></p> <p>Show me . . . now! (8)</p> <p>X, tell us how you got your answer. BB:</p> <p>Who agrees?</p> <p>Who did it a different way?</p> <p>Let's draw a diagram to help us.</p> <p><i>Answer:</i> 8 cm of the candle burned away.</p> <p style="text-align: right;">45 min</p>	<p>Whole class activity Ps drawing, writing</p> <p>T repeats slowly or asks one or two Ps to repeat it In unison</p> <p>BB: $15 - 7 = \underline{8}$ or $15 - \underline{8} = 7$</p> <p>Rough drawing only needed</p> <p><i>Check:</i> $7 \text{ cm} + 8 \text{ cm} = 15 \text{ cm}$</p>

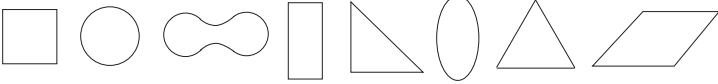
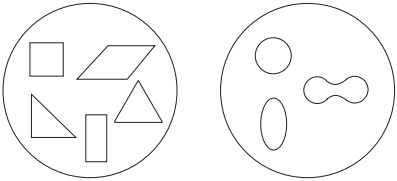



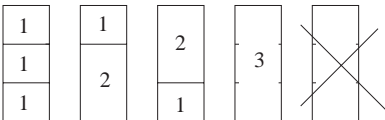
Y2		<i>Lesson Plan 15</i>
<i>Activity</i>	Measuring practice, revision, activities consolidation <i>PbY2a, page 15</i>	<i>Notes</i>


Y2	R: Mental counting C: Plane shapes: use of logic set. Simple combinatoric problems E: Roman numerals	<i>Lesson Plan</i> 16
Activity		Notes
1	Soft ball play T throws ball to P saying an addition or subtraction. P throws ball back saying answer. (e.g. $4 + 3$, $9 - 6$, $14 - 3$, etc.) <i>5 min</i>	Whole class activity At speed. Involve many Ps T walking round the class
2	PbY2a, page 16 Q.1 Read: <i>Colour the small rectangles according to their answers.</i> T explains key. A , what is the answer to the 1st rectangle on the left in the top row? (11) So what colour will you use? (red) Review at BB with whole class. Mistakes corrected at class number line. <i>13 min</i>	Individual work, monitored Reasoning, agreement, checking Drawn on BB or use enlarged copy master or OHP Self-correction
3	PbY2a, page 16 Q.2 Read: <i>Complete the table.</i> <i>Write down the rule in different ways.</i> Study the table carefully and think what the rule might be. B , what do you think the rule is? Is he/she correct? Come and write it on the BB. (e.g. $a + b + c = 10$) Let's use this rule to complete the table. Review at BB with whole class. Mistakes corrected. Who can come and write the rule in a different way? Who agrees? Who thinks something else? etc. Try to cover all possible variations in a logical manner. <i>20 min</i>	Whole class discussion first Drawn on BB or use enlarged copy master or OHP Give Ps time to think T gives hints if nobody knows Individual work, monitored Discussion, checking, agreement BB: $a + b + c = 10$ $a + b = 10 - c$ $a = 10 - b - c$ $a + c = 10 - b$ $b = 10 - a - c$ $b + c = 10 - a$ $c = 10 - a - b$ or similar
4	Interlude Action song <i>22 min</i>	Whole class in unison
5	Logic set (20 elements) First T shows Ps how to lay out set logically on desks. (5 columns of circles, triangles, squares, pentagons and hexagons; each column with 4 kinds: small white, large white, small black, large black (20 in all) BB: Ps come out to point to rows/ columns which contain, e.g. <ul style="list-style-type: none"> • circles (4) • hexagons (4) • large white shapes (5) • small black shapes (5)  T holds up a shape. Ps hold up same one on command. Who can tell us all about it? (e.g. small black triangle, 3 sides, large white square, 4 sides; large black hexagon, 6 sides, etc.) Ps encouraged to pack away shape cards in order, so that they will be easier to lay out next time. <i>32 min</i>	Whole class activity Individual work, monitored, helped Whole class activity Involve several Ps Ps can specify set too Class agrees/disagrees In unison T (class) corrects any incorrect statements and points out any missed attribute. Monitored, helped

Y2		<i>Lesson Plan 16</i>
<p>Activity</p> <p>6</p>	<p><i>PbY2a, page 16</i></p> <p>Q.3 Read: <i>Continue the colouring and shape pattern.</i></p> <p>Ps first colour in the shapes as instructed (R: red, B: blue, etc.)</p> <p>Ps continue the pattern. You can turn the corner and go down the side of your <i>Pb</i> if you want.</p> <p>Deal with one part at a time. Review orally with whole class.</p> <p>T asks everyone to try to memorise the sequence of shapes and colours. T asks 4 Ps to come to front and stand in a line facing the class. You are the shapes in the pattern. Look where you are in the line and work out what shape/colour you should be.</p> <p>T: Step forward (turn around, sit down, etc.) if you are a circle (blue, a triangle, etc). The rest of the class must make sure they are correct!.</p> <p>More Ps can be added or new Ps take the place of original line.</p> <p style="text-align: right;"><i>40 min</i></p>	<p>Notes</p> <p>Individual work</p> <p>Monitored, helped</p> <p>Discussion, agreement about the rule:</p> <p>BB:</p> <p>a) circles: 1st, 4th, 7th, . . .</p> <p>b) triangles: 2nd, 5th, 8th, . . .</p> <p>c) squares: 3rd, 6th, 9th, . . .</p> <p>Develops understanding and forward thinking</p> <p>Ps can give instructions too</p> <p>Involve several Ps</p>
<p>7</p>	<p><i>PbY2a, page 16, Q.4</i></p> <p>What do you think the answers might be to these sums?</p> <p>T writes each on BB. Ps come out to complete, explaining solution. Who disagrees? Why? etc.</p> <p><i>Solutions:</i></p> <p>a) $X + V + II = XVII$ b) $X + V - I = XIV$ c) $XX - X = X$</p> <p>d) $II + II = IV$ e) $II + II + II = VI$ f) $II + II + II + II = VIII$</p> <p>g) $III + III = VI$ h) $III + III + III = IX$ i) $III + III + III + III = XII$</p> <p style="text-align: right;"><i>45 min</i></p>	<p>Whole class activity</p> <p>Discussion, reasoning, agreement</p> <p>Revise: $V = 5, X = 10$</p> <p>$VI = V + I = 6$</p> <p>$IV = V - I = 4$</p> <p>$XV = X + V = 15$</p> <p>$XX = X + X = 20$</p>

Y2	R: Mental counting C: Plane shapes (logic set). Simple combinatoric problems E: <i>Handling data</i>	<i>Lesson Plan</i> 17
<i>Activity</i>		<i>Notes</i>
1	Addition/subtraction relay T says an addition or subtraction and touches a P. The P says answer then touches another P saying a different addition/subtraction. <div style="text-align: right;">5 min</div>	Whole class activity Many Ps involved Praising for difficult questions posed or answered
2	Logic set Ps lay out in order on desks (as in previous lesson). <ul style="list-style-type: none"> • Group the shapes using the measure of size. How many groups are there? (2: small and large) How many shapes are in each group? (10) • Group the shapes according to shape. How many groups are there? (5) Tell me them in order of number of sides. (circle, triangle, square, pentagon, hexagon) • Lay out the shapes as I describe them in a line across your desks then continue the sequence with the other shapes in your set. T: 'small white circle, small black circle, large white circle, large black circle, small white triangle, small black triangle, . . .' Review at BB with whole class. Ps come out to add next shape. Ps pack away shape cards in order. <div style="text-align: right;">15 min</div>	Individual work, monitored, helped Discussion, agreement Discussion, agreement In unison Individual (paired) work, monitored, helped Repeat slowly. Ps nod heads when they have done each one Reasoning, agreement Praising
3	PbY2a, page 17 Q.1 Make sure Ps know what 'straight' and 'curved' mean. T draws 2 large dots on BB. A , come and draw a straight line between them. Is A correct? (Refer to earlier lesson about straight line being the shortest distance between 2 points.) B , come and draw a curved (not straight) line between the 2 points. Is B correct? Who can come and draw another curved line? Read: <i>Draw over the straight lines in blue and the curved lines in red.</i> <i>Colour the shape in blue if all its edges are straight lines.</i> C , how many shapes did you colour blue? (5) Come and point to them. Who agrees/disagrees? Now colour the shapes in red which have only curved edges. D , how many shapes did you colour red? (3) Come and point to them. Who agrees/disagrees? How many shapes are not coloured in? (2) How many straight (curved) edges does each have? What does it look like? <div style="text-align: right;">22 min</div>	Whole class introduction Demonstration P uses BB ruler (with T's help) Discussion, agreement Note that many curved lines are possible but only 1 straight line Individual work, monitored Drawn on BB or use enlarged copy master or OHP Checking, agreement Talk about each shape (name, number of edges) Discussion, agreement
4	Interlude Song or rhyme <div style="text-align: right;">24 min</div>	Whole class in unison
5	PbY2a, page 17 Q.2 Read: <i>Complete the drawings.</i> First talk about each shape. What is it called? How many sides (edges) should it have? How many are missing? What kind of lines should we draw? (straight) Point out that the lines do not necessarily need to be all the same length. Review with whole class. Ps chosen to redraw shapes on BB. <div style="text-align: right;">30 min</div>	Individual work Monitored, helped Class repeats name of each shape in unison (Mention 'regular' shapes) Praise creativity

Y2	<p>R: Even, odd</p> <p>C: Plane shapes (logic set). Simple combinatoric problems</p> <p>E: Sequences</p>	<p><i>Lesson Plan</i></p> <p>18</p>
Activity		Notes
<p>1</p>	<p>Soft ball play</p> <p>a) Let's count from 0 to 20 but saying only the even numbers. T throws ball to P saying '0', P throws ball to another P saying '2', etc..</p> <p>b) Let's count down from 21 to 1 saying only the odd numbers. T throws ball to P saying '21', P throws ball to another P saying '19', etc.</p> <p style="text-align: right;">5 min</p>	<p>Whole class activity</p> <p>First in unison, then individual Ps, at speed</p> <p>Also practice in throwing and catching</p>
<p>2</p>	<p>Shape sets</p> <p>T sticks different shapes in a line on the BB. e.g.</p>  <p>Let's separate them into 2 groups (sets). How could we do it?</p> <p>A, what do you think? Who agrees? Who thinks another way? Let's try A's way. (e.g. straight / curved edges) T draws 2 large circles on BB and labels them. Ps come to front to put shapes in the correct set. e.g. BB:</p>  <p style="text-align: center;">straight edges curved edges</p> <p>Try to memorise the 2 sets. Now lay your head on your hands on the desk and close your eyes. T changes (or adds) a shape (e.g. T adds a  shape to the straight edge set). Everyone look again at the two sets. What has been changed? (an extra shape is in the wrong set)</p> <p>Repeat for other shapes added or taken away or changed around.</p> <p>Ps come out and point to changes, explaining reason for choice.</p> <p style="text-align: right;">13 min</p>	<p>Whole class activity</p> <p>Use shapes from copy master, enlarged, cut out and stuck to BB</p> <p>Ask several Ps</p> <p>Class can choose</p> <p>Class agrees/disagrees</p> <p>Develops observational and reasoning ability</p> <p>Ps can change the shapes too</p> <p>Give Ps plenty of time</p> <p>Discussion, agreement</p> <p>Praising</p>
<p>3</p>	<p>PbY2a, page 18</p> <p>Q.1 Read: <i>What is the rule? Draw in the missing shapes.</i></p> <p>Who can tell me something about the first shape on the left on the top row? (e.g. square) Who can tell me something else? (e.g. white) Is there anything else you can say about it? (e.g. small)</p> <p>Think about what is different about the shape below it in the table.</p> <p>Review at BB with whole class. <i>Rule:</i> The size has increased.</p> <p style="text-align: right;">20 min</p>	<p>Individual work</p> <p>Monitored, helped</p> <p>Drawn on BB or use enlarged copy master or oHP</p> <p>Discussion, checking, agreement</p>
<p>4</p>	<p>Interlude</p> <p>Physical exercises</p> <p style="text-align: right;">22 min</p>	<p>Whole class in unison</p>
<p>5</p>	<p>PbY2a, page 18</p> <p>Q.2 Read: <i>Continue the sequences.</i></p> <p>Deal with one part at a time. Ask Ps to describe the shapes in the sequence. Review with whole class.</p> <p>(If Ps have continued in a different way from the obvious one, ask them to explain their logic – it might hold true!)</p> <p style="text-align: right;">30 min</p>	<p>Individual work, monitored</p> <p>Discussion, checking</p> <p>Drawn on BB or use enlarged copy master (or shape cards)</p> <p>Praise creativity</p>

Y2		<i>Lesson Plan 18</i>
Activity 6	<p><i>PbY2a, page 18, Q.3</i></p> <p>T tells a story about Squirrel going to visit his friends Bunny, Crow and Hedgehog. Explain about using the first (initial) letter of each animal's name to save time and space.</p> <p>Look beneath Bunny. This is one way that Squirrel could have visited his friends. A, tell us the order in which Squirrel visited them (Bunny first, then Crow, then Hedgehog)</p> <p>Who can think of another way Squirrel could have visited his friends if he still visited Bunny first? B, come and write it on the BB beneath Bunny. (B-H-C)</p> <p>C, tell me another order in which Squirrel could have visited his friends (e.g. C-B-H) Come and write it beneath Crow, etc.</p> <p>Continue until all 6 ways are shown.</p> <p>(Or it could be done using Ps at front of class as Bunny, Crow and Hedgehog, each holding their corresponding initial letter. Ps come out to rearrange them before writing the combination on the BB.)</p> <p style="text-align: right;">35 min</p>	<p style="text-align: center;">Notes</p> <p>Whole class activity</p> <p>Use enlarged copy master or OHP</p> <p>Develops observational ability and logical thought</p> <p>Encourage a systematic solution</p> <p>BB: B-C-H C-H-B H-R-C B-H-C C-B-H H-C-R</p> <p>Ps write in <i>Pbs</i> too</p> <p>Agreement, checking</p> <p>Praising</p>
7	<p><i>PbY2a, page 18</i></p> <p>Q.4 Read: <i>Draw the different ways you could climb up 3 stairs.</i></p> <p>You can climb up 1, 2 or 3 stairs at a time. The first picture shows how you would climb 1 step at a time. Draw other ways.</p> <p>Review at BB with whole class. <i>Solution:</i></p> <div style="display: flex; align-items: center; gap: 10px;"> <div style="text-align: center;"> <p>Demonstrate that only 4 different ways are possible, so the 5th picture is not needed (unless you count not climbing the stairs at all!)</p>  </div> </div> <p style="text-align: right;">40 min</p>	<p>Individual work, monitored, helped</p> <p>Ps could build steps with Cuisenaire rods if necessary.</p> <p>Drawn on BB</p> <p>Discussion, checking by demonstration if needed (using boxes, benches, chairs or wooden steps)</p>
8	<p>Ordering pairs</p> <p>Ps work in pairs. Each pair selects 2 circles and 2 squares from their sets.</p> <p>See how many different ways you can put them in order. Write down or draw the different combinations at the back of your <i>Pbs</i>.</p> <p>T asks those with 6 combinations to show on BB.</p> <p>e.g. ○ ○ □ □ ○ □ ○ □ ○ □ □ ○ □ ○ ○ □ □ ○ □ ○ □ □ ○ ○</p> <p>(Or done as a whole class (group) activity, reordering 2 boys and 2 girls and T writing combinations on BB)</p> <p style="text-align: right;">45 min</p>	<p>Paired work</p> <p>Trials and drawing/writing</p> <p>Monitored, helped</p> <p>Encourage systematic working</p> <p>Discussion checking, agreement, praising</p> <p>Especially if T thinks class (or a group) does not fully understand</p>

Y2	R: C: Plane shapes (logic set). Simple combinatoric problems E:	<i>Lesson Plan</i> 19
Activity		Notes
1	Secret shapes I have hidden a shape card behind my back. You have to find out what it is by asking me questions about it. I can answer only 'yes' or 'no'. Ps who answer correctly can hide a shape and the other Ps ask him/her questions. (e.g. Is it big? Is it white? Does it have more than 4 sides?) _____ 5 min _____	Whole class activity Encourage Ps to ask logical questions, bearing in mind the clues already given. Keep a good pace
2	PbY2a, page 19 Q.1 Read: <i>Colour the strings of beads in different ways. On each string there should be one red, one blue and one green bead.</i> Explain that each string of beads must be different from all the others. Encourage Ps to think of as many ways as they can. Review at BB with whole class. Who found 3, (4, 5, 6, > 6)? Extension If these were real strings of beads, would you still need to make up 6 strings to show all the different ways? (No, you would need only 3 strings of beads, as they could be turned around to show the other 3 cases.) _____ 15 min _____	Individual work Monitored, helped Use enlarged copy master or OHP BB: R, B, G B, G, R R, G, B G, R, B B, R, G G, B, R Discussion Praising if a P notices Demonstration if they don't
3	Logic set Group the shapes in your set: a) by size (2 groups: 10 large, 10 white) b) by colour (2 groups: 10 white, 10 black) c) by shape (5 groups: 4 circles, triangles, squares, pentagons, hexagons) Who can think of another way to group them? (e.g. straight edges [polygons] and curved edges [circles]) Let's all try it. _____ 23 min _____	Individual (or paired) work Monitored Discussion, checking after each part Praising if P thinks of it P monitors with T
4	Interlude Action song _____ 25 min _____	Whole class in unison
5	PbY2a, page 19 Q.2 Read: <i>Colour similar pairs of shapes in the same colour.</i> Make each pair of shapes a different colour from the other pairs. Review at BB with the whole class. Ps come to BB to point to pairs and to say something about each pair. (e.g. name, number of edges, straight or curved). _____ 30 min _____	Individual work Monitored (helped) Drawn on BB or use enlarged copy master or OHP Discussion, agreement
6	PbY2a, page 19, Q.3 This activity is best done first on loose sheets of paper, or Ps can be given several of the shapes to fold or cut out, so that it does not matter if they make a mistake. Then Ps can draw their solutions in their Pbs. Review with whole class, with Ps demonstrating on a real shape and then marking it up on the BB. (A possible solution is shown opposite but there are others.) _____ 38 min _____	Individual (or paired) work Monitored closely Use copy master, enlarged and cut out BB: e.g. triangle quadrilateral pentagon 

Y2*Lesson Plan 19***Activity****7***PbY2a, page 19*

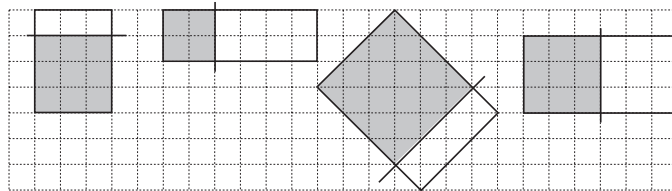
Q.4 Read: *Make a square from each rectangle by drawing one straight line. Colour it in.*

First talk about properties of a square (a square is a 'regular' rectangle and has all 4 straight sides of equal length).

Ps should count the squares in the grid to make sure that all the sides in their squares are the same length.

Review at BB with whole class. Ps come out to show their solutions. Class agrees/disagrees. Who did it another way? (Show that there is more than one way of drawing the lines.)

Solution: e.g.



45 min

Notes

Individual work

Monitored, helped

Ps should use pencils and be able to rub out, or should try out on loose sheets first.

Use enlarged copy master or OHP

Discussion, checking, agreement

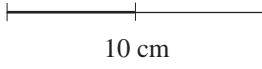
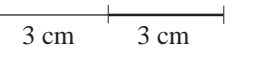
Praising

Y2		<i>Lesson Plan</i> 20
<i>Activity</i>	Manipulation practice, revision, activities, consolidation <i>PbY2a, page 20</i>	<i>Notes</i>

Y2	<p>R: Mental calculation</p> <p>C: Addition with equal numbers; preparation for multiplication and division</p> <p>E: <i>Problems in context</i></p>	<i>Lesson Plan</i> 21
Activity 1	<p>Number sets</p> <p>T gives number cards to some Ps, e.g. 7, 20, 17, 2, 9, 14, 6, 0, 11, 5. T tells Ps to stand in order facing the class (zero on the left). Let's all read out the numbers in increasing order. '0, 2, 5, ...' Now let's read out the numbers in decreasing order. '20, 17, ...' How can we put these numbers into 2 groups? (e.g. odd/even) P comes out to rearrange the numbers into odd and even groups. Is he/she correct? Who can think of another way? (e.g. 1-digit / 2-digit) Numbers are rearranged again to fit new criteria.</p> <p style="text-align: right;"><i>10 min</i></p>	Notes
2	<p>PbY2a, page 21</p> <p>T asks 4 Ps to come to front of class and hold hands. If we wanted two times as many Ps, how many more would have to come out? (4) T calls out another group of 4 Ps to hold hands. How many groups are there? (2) How many in each group (4) How many altogether? (Ps all join hands to make 8.) Who can write an addition about it? Repeat for another number of Ps (e.g. $5 + 5 = 10$)</p> <p>Q.1 Read: <i>Complete each drawing so that there are 2 times the number of shapes shown.</i> <i>Write an addition about each drawing.</i></p> <p>Deal with one part at a time. Discuss the type/number of shapes. Review at BB with whole class. B, come and show us how you did it. Who agrees? Who did it a different way? (e.g. counting the shapes already there and drawing the same number again, or one-to-one correspondence) Talk about 'double' and 'half' in relation to the drawings. Ps say a sentence about each part using 'double' or 'half of'.</p> <p style="text-align: right;"><i>20 min</i></p>	<p>Whole class introduction</p> <p>Discussion, demonstration, agreement</p> <p>BB: $4 + 4 = 8$</p> <p>Individual work, monitored</p> <p>Drawn on BB or use enlarged copy master or OHP</p> <p>BB: a) $6 + 6 = 12$ b) $9 + 9 = 18$ c) $7 + 7 = 14$</p> <p>e.g. 12 is double 6 6 is half of 12</p>
3	<p>Interlude</p> <p>Rhyme or song</p> <p style="text-align: right;"><i>22 min</i></p>	Whole class in unison
4	<p>PbY2a, page 21</p> <p>Q.2 Read: <i>Colour the parts of the picture as shown.</i></p> <p>T explains that the picture has been divided up into small sections and that Ps must work out the answer to the sum in each section to find out which colour to use. What colour will this section be? (T points to one or two sections) Make sure Ps understand the colour code. Check each answer before you colour it and colour in carefully! What did you find in your picture? (duck) If there is a problem, go over each section with the whole class.</p> <p style="text-align: right;"><i>30 min</i></p>	<p>Individual work</p> <p>Use enlarged copy master or OHP</p> <p>Ps shout out in unison</p> <p>Monitoring, helping</p> <p>Ask several Ps</p> <p>Checking, agreement</p>






















Y2		<i>Lesson Plan 21</i>
Activity 6	<p><i>PbY2a, page 23, Q.3</i></p> <p>X, come and put your finger on the zero on the class number line. You are going to jump along the the number line 2 at a time and the class will shout out the number you land on each time.</p> <p>T writes the number in the correct column in the table on the BB.</p> <p>T stops X after the 11th jump. Who knows what the last column will be before X has jumped? (12th jump: 24)</p> <p>T covers up table. Where did X get to after the 2nd (4th, 7th, 9th) jump? (4, 8, 14, 18)</p> <p>Can anyone notice something about the table? (Numbers on bottom row are twice the numbers on the top row.)</p> <p>(Or done as individual work, with Ps using their 0–20 number lines)</p> <p style="text-align: right;">35 min</p>	<p style="text-align: center;">Notes</p> <p>Whole class activity</p> <p>In unison</p> <p>Drawn on BB or use enlarged copy master</p> <p>Praising</p> <p>Ask several Ps</p> <p>Discussion, agreement,</p> <p>Praising</p>
7	<p>Pairs</p> <p>Listen carefully and show me the answer with number cards when I say.</p> <p><i>Granny is counting all the gloves she has.</i></p> <p>a) <i>How many gloves does she have if she has 4 pairs?</i> <i>Show me . . . now! (8)</i></p> <p>Repeat for 5 (10, 7) pairs.</p> <p>Elicit that the number of gloves is '2 times' ('twice', 'double') the number of pairs.</p> <p>b) <i>How many pairs does she have if she has 2 gloves?</i> <i>Show me . . . now! (1)</i></p> <p>Repeat for 6 (12, 18) gloves.</p> <p>Elicit that the number of pairs is 'half' the number of gloves.</p> <p style="text-align: right;">40 min</p>	<p>Whole class activity</p> <p>In unison</p> <p>Praising</p> <p>Discussion, agreement</p> <p>In unison</p> <p>Discussion, agreement</p> <p>Demonstration if necessary</p>
8	<p><i>PbY2a, page 21</i></p> <p>Q.4 Read: <i>Sue threw the ball 8 m. Joe threw it 2 times as far. How many metres did Joe throw the ball?</i></p> <p>Review at BB with whole class, with Ps coming out to draw lines to show Sue's and then Joe's throws and then writing an addition about Joe's throw on the BB.</p> <p>T elicits that:</p> <ul style="list-style-type: none"> • 2 times 8 metres is 16 metres • half of 16 metres is 8 metres. <p style="text-align: right;">45 min</p>	<p>Individual work to start</p> <p>Discussion, agreement</p> <p>BB:</p> <p><i>Sue:</i> 8 m</p> <p><i>Joe:</i> 8 m + 8 m = 16 m or 2 times 8 m = 16 m</p>

<h1>Y2</h1>	R: Mental counting C: Addition with equal numbers; preparation for multiplication and division E: <i>Two times (double, twice); half</i>	<h2>Lesson Plan</h2> <h1>22</h1>
Activity 1	Mental counting a) T asks 3 Ps to stand at the front of the class and gives each of them 2 (e.g. flags) to hold, one in each hand. How many flags are the Ps holding altogether? (6) Who can come and write an addition about it? Who agrees? We could also write it as a multiplication (BB) by saying there are 3 times 2 flags which equals 6 flags. (BB) We could write an addition and multiplication in another way. T tells the 3 Ps to hold up their right hands. How many flags are being held up? (3) How many are being held down? (3) Who can come and write an addition about it? (BB) Who can come and write a multiplication about it? b) Imagine there are 5 Ps standing in the row, holding a flag in each hand. Who can come and write an addition about it? (BB) Who can come and write it as a multiplication? (BB) Let's imagine that they all hold up the flags in their right hands. How many flags will be held up (down)? (5, 5) Who can come and write an addition about it? (BB) Who can come and write it as a multiplication? (BB) Let's check that they are correct (Another 2 Ps come to join the line and the T gives them each 2 flags.) T goes through equations. c) The 5 Ps are replaced by another 4 Ps and the T gives them each 3 pencils to hold How many pencils do they have altogether? (12) Who can come and write an addition about it? (BB) Who can come and write a multiplication about it? (BB) We could write another addition and multiplication about how many pencils there are altogether T tells each P in row to put one pencil behind their ear and to hold one pencil in each hand. How many pencils are behind ears? (4) How many pencils are in left (right) hands? (4, 4) Who can come and write an addition about it? (BB) Who agrees? Who can come and write it as a multiplication? (BB) Who agrees? <p style="text-align: right;"><i>9 min</i></p>	Notes Whole class activity (to demonstrate multiplication by a positive integer) BB: <u>addition</u> : $2 + 2 + 2 = 6$ <u>multiplication</u> : 3 times 2 = 6 BB: <u>addition</u> : $3 + 3 = 6$ <u>multiplication</u> : 2 times 3 = 6 BB: <u>addition</u> : $2 + 2 + 2 + 2 + 2 = 10$ <u>multiplication</u> : 5 times 2 = 10 <u>addition</u> : $5 + 5 = 10$ <u>multiplication</u> : 2 times 5 = 10 Demonstration, checking BB: <u>addition</u> : $3 + 3 + 3 + 3 = 12$ <u>multiplication</u> : 4 times 3 = 12 <u>addition</u> : $4 + 4 + 4 = 12$ <u>multiplication</u> : 3 times 4 = 12
2	PbY2a, page 22 Q.1 Read: <i>Write an addition and multiplication about each picture.</i> T requests that the addition should be written in the top box and the multiplication in the lower box Deal with one part at a time. Review at BB with whole class. Ps come out to explain reasoning behind their equations. Does anyone notice a connection between parts b) and c)? (The total number of elements in each are equal.) $3 + 3 + 3 + 3 + 3 = 5 + 5 + 5 = 5 \text{ times } 3 = 3 \text{ times } 5 = 15$ <p style="text-align: right;"><i>15 min</i></p>	Individual work, monitored, helped Drawn on BB or use enlarged copy master or OHP BB: a) $2 + 2 + 2 + 2 = 8$ $4 \text{ times } 2 = 8$ b) $3 + 3 + 3 + 3 + 3 = 15$ $5 \text{ times } 3 = 15$ c) $5 + 5 + 5 = 15$ $3 \text{ times } 5 = 15$
3	Interlude Song, verse or physical exercises <p style="text-align: right;"><i>17 min</i></p>	Whole class in unison

Y2		<i>Lesson Plan 22</i>
Activity 4	<p><i>PbY2a, page 22</i></p> <p>Q.2 Read: <i>The length of a pink strip is 2 cm.</i> <i>What is the length of 6 pink strips?</i></p> <p>Ps have on desks either six 2 cm strips cut from coloured card, or cuisenaire rods. They check the length of 1 strip (rod) with a ruler, then put the 6 strips(rods) together in a long line and/or</p> <p>Ps colour the single pink strip in their <i>Pbs</i> and check its length. Then they colour pink each of the 6 strips.</p> <p>Ps then complete the addition and multiplication. Review at BB with whole class. Mistakes corrected. T demonstrates with strips stuck to BB if there are problems.</p> <p style="text-align: right;"><i>23 min</i></p>	<p style="text-align: center;">Notes</p> <p>Individual work Monitored, helped</p> <p>Manipulation with rods/strips</p> <p>Discussion Agreement, checking</p> <p>BB: $2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} + 2\text{ cm} = 12\text{ cm}$ $6\text{ times } 2\text{ cm} = 12\text{ cm}$</p>
5	<p><i>PbY2a, page 22</i></p> <p>Q.3 Read: <i>The length of a violet strip is 6 cm.</i> <i>What is the length of 2 violet strips?</i></p> <p>Ps have on desks either two 6 cm strips cut from coloured card, or cuisenaire rods. They check the length of 1 strip (rod) with a ruler, then put the 2 strips(rods) together in a long line. and/or</p> <p>Ps colour the single violet strip in their <i>Pbs</i> and check its length. Then they colour violet each of the 2 strips .</p> <p>Ps then complete the addition and multiplication. Review at BB with whole class. Mistakes corrected. T demonstrates with strips stuck to BB if there are problems.</p> <p>Can anyone see a connection Q.3 and Q.4? (The total lengths are equal, i.e. 6 times 2 cm = 2 times 6 cm = 12 cm)</p> <p style="text-align: right;"><i>29 min</i></p>	<p>Individual work Monitored, helped Use blue if no violet Manipulation with rods/strips</p> <p>Discussion Agreement, checking</p> <p>BB: $6\text{ cm} + 6\text{ cm} = 12\text{ cm}$ $2\text{ times } 6\text{ cm} = 12\text{ cm}$</p> <p>Discussion Praising</p>
6	<p>Drawing Lines</p> <p>T demonstrates on BB with BB ruler how to draw accurately a line of a certain length.</p> <p>a) Ps draw a line of 10 cm (using rulers) on a sheet of paper and write the length beneath it. Ps then draw over one half of the line in red. T writes on BB: $\text{'one half of } 10\text{ cm} = \square\text{ cm'}$</p> <p>Ps copy it beneath their line, and fill in the missing length. A, what did you write? Who agrees? Who thinks something else? Let's check.</p> <p>b) Ps draw a line of 3 cm and write the length beneath it. Ps then extend the line to 2 times its length. T writes on BB: $\text{'2 times } 3\text{ cm} = \square\text{ cm'}$</p> <p>Ps copy it beneath their line, and fill in the missing length. Review as in part a).</p> <p style="text-align: right;"><i>40 min</i></p>	<p>Ps need pencils (1 black and 1 coloured) with sharp points, rulers and sheets of paper.</p> <p>T demonstrates first</p> <p>BB:  10 cm one half of 10 cm = $\square 5$ cm</p> <p>BB:  3 cm 3 cm 2 times 3 cm = $\square 6$ cm</p> <p>N.B. Similar exercises are on <i>PbY2a, page 25, Q.3 and 4</i></p>
7	<p>Mental practice</p> <p>a) T says a number, e.g. '4', P says 2 times that number, e.g. '8'. b) T says a number, e.g. '10', P says half that number, e.g. '5'.</p> <p style="text-align: right;"><i>45 min</i></p>	<p>Whole class activity Involve several Ps Demonstration with Ps if needed</p>

Y2	R: Mental counting C: Addition with equal numbers; preparation for multiplication and division E: <i>Problems in context</i>	<i>Lesson Plan</i> 23
Activity	Notes	
1	Addition and multiplication Listen carefully and picture the story in your head. Think of an addition and a multiplication which describe the story. a) <i>There are 4 plates on the table and 4 apples on each plate. How many apples are on the table altogether?</i> Who can tell me an addition about it? ($4 + 4 + 4 + 4 = 16$) Who can tell me a multiplication about it? (4 times 4 = 16) Repeat above but with: b) 2 plates, each with 6 apples ($6 + 6 = 12$, 2 times 6 = 12) c) 3 plates each with 7 apples ($7 + 7 + 7 = 21$, 3 times 7 = 21) 5 min	Whole class activity Done mentally/orally (Do not write on BB) Ps give the equations in words only Agreeing, checking Praising
2	PbY2a, page 23 Q.1 Read: <i>Write additions and multiplications about the picture.</i> a) Let's all look carefully at the picture. Who can tell me something about it? (e.g. 15 triangles, 3 rows, 5 in each row) A , come and write an addition about it. Is A correct? Who thinks something else? Who can write a multiplication which matches A 's addition? Can anyone write another addition about the picture? Who can come and write a matching multiplication? b) Let's see if you can do the same with the picture in part b) in your <i>Pbs</i> . Review at BB with whole class. Ps come out to explain solutions. Class agrees/disagrees. 15 min	Whole class activity to start Drawn on BB or use enlarged copy master or OHP Ps write in <i>Pbs</i> too Discussion, agreement BB: a) $5 + 5 + 5 = 15$ 3 times 5 = 15 $3 + 3 + 3 + 3 + 3 = 15$ 5 times 3 = 15 b) $8 + 8 = 16$ 2 times 8 = 16 $2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 16$ 8 times 2 = 16
3	Dominoes If possible, Ps have a set of dominoes on desks. Ps find dominoes which have the same number of dots on each half and hold them up. (If not possible, Ps come out to choose from T's set.) T asks several Ps with correct dominoes to say an addition and a multiplication about their dominoes (e.g. $3 + 3 = 2 \text{ times } 3 = 6$) and to write them on the BB. Class agrees/disagrees. PbY2a, page 23 Q.2 Read: <i>Complete the dominoes so that both halves are equal. Write in the missing numbers.</i> Deal with one part at a time. Review at BB with whole class. 25 min	Whole class introduction If no set of dominoes, make T set on card from blank dominoes on copy master in Y1 LP 62/3 and stick to side of BB for Ps to choose Discussion, agreement Individual work, monitored Drawn on BB or use enlarged copy master or OHP Discussion, agreement
4	Interlude Relaxation 27 min	Whole class resting, with music playing

Y2		<i>Lesson Plan 23</i>
Activity 5	<p>Preparation for Division</p> <p>a) Ps lay out 20 counters (beads, cubes, etc.) on their desks. How many times is it possible to take 3 of them away? How many remain? Ps write it down as a subtraction. T asks several pairs what they found and writes subtraction on BB. We could take away 3 counters 6 times and 2 counters remained. Another way of saying it is '6 times 3, and 2, makes 20'</p> <p>b) Repeat whole exercise again but with 13 counters. T asks several pairs what they found and writes subtraction on BB. T: We could take away 3 counters 4 times and 1 counter remained. Another way of saying it is '4 times 3, and one, makes 13'</p> <p>c) Repeat whole exercise again but with 9 counters. T asks several pairs what they found and writes subtraction on BB. T: We could take away 3 counters 3 times and no counters remained. Another way of saying it is '3 times 3 makes 9'</p> <p style="text-align: right;">35 min</p>	<p style="text-align: center;">Notes</p> <p>Paired work, monitored, helped (1 takes away, 1 writes)</p> <p>BB: $20 - 3 - 3 - 3 - 3 - 3 - 3 = 2$ $20 = 6 \text{ times } 3 + 2$ Discussion, agreement</p> <p>BB: $13 - 3 - 3 - 3 - 3 = 1$ $13 = 4 \text{ times } 3 + 1$ Discussion, agreement</p> <p>BB: $9 - 3 - 3 - 3 = 0$ $9 = 3 \text{ times } 3$ Discussion, agreement</p>
Extension 5	<p>PbY2a, page 23</p> <p>Q.3 Read: <i>Share 12 carrots equally among 4 rabbits. Continue the drawing.</i></p> <p>T explains task and Ps join up the carrots to the rabbits and fill in the missing numbers.</p> <p>Read: <i>How many carrots does each rabbit get?</i> Show me with a number card . . . now! (3) X, come and explain to us how you got your answer. Who agrees? Who thinks something else? If there are problems, demonstrate with cut-out rabbits and carrots (or Ps and pencils).</p> <p>How many times could we take away 4 carrots from 12 carrots? Show me with a number card . . . now! (3) Y, come and explain how you worked out the answer. Who agrees? (Ps can cross out the carrots in their Pbs and draw a ring around every 4 carrots.)</p> <p style="text-align: right;">40 min</p>	<p>Individual work, monitored, helped</p> <p>Preparation for division</p> <p>In unison Discussion, agreement BB: $4 \text{ times } 3 \text{ carrots} = 12 \text{ carrots}$ Use copy master enlarged, cut out and rabbits/carrots stuck to BB In unison Discussion, agreement BB: $3 \text{ times } 4 \text{ carrots} = 12 \text{ carrots}$</p>
6	<p>Problem</p> <p>Listen carefully, picture the story in your head and show me the answer with number cards when I say.</p> <p><i>Ann is saving up for her holiday. Each day she puts two £1 coins into her piggy bank. How many £'s has she saved after one week?</i></p> <p>Show me with number cards . . . now! (14)</p> <p>T (or P with correct answer) explains method of solution:</p> <p>BB: Each day: £ <u>2</u> 1 week = <u>7</u> days $7 \text{ times } £ 2 = £ 14$</p> <p><i>Answer:</i> Ann has saved £14 after one week.</p> <p style="text-align: right;">45 min</p>	<p>Whole class activity</p> <p>T asks one or two Ps to repeat the story In unison Discussion, agreement Reasoning Praising</p>

Y2	R: Mental operations C: Addition with equal numbers; preparation for multiplication E: <i>Preparation for division. Problems in context</i>	Lesson Plan 24																								
Activity		Notes																								
1	Mental practice (relay) T says an addition to P ₁ . P ₁ gives answer and says a subtraction to P ₂ , etc. (T intervenes occasionally if more variety needed.) 5 min	Whole class activity At speed Majority of Ps involved																								
2	PbY2a, page 24 Q.1 Read: <i>Fill in the missing numbers.</i> Let's see how quickly you can do them! (The first 4 questions in each column do not involve crossing tens.) Deal with one column at a time. Review orally with whole class. How many sums are there altogether? (24: 8 in each of the 3 columns, i.e. 3 times 8 = 24) Who had no (1, 2, 3, more than 3) mistakes? Mistakes corrected at class number line. 18 min	Individual work, monitored Can be done as a competition: girls v boys or teams. Ps mark own (or neighbour's) work and count total correct Discussion Praising (awards?) Self-correction																								
3	PbY2a, page 24 Q.2 Read: <i>Write an addition and a multiplication about each picture.</i> a) What can you see in the picture? (e.g. 3 strings of beads, 5 beads on each string) A, come and write an addition about it. Is A correct? Who can come and write a matching multiplication? (If P writes '5 times 3' point out that it does not match the picture.) b) Repeat as above. (2 bunches of balloons, 6 balloons in each) If T thinks Ps understand, c) and d) can be done as individual work, reviewed at BB with whole class. (Encourage Ps to write small as there is not much room!) 25 min	Whole class activity Use enlarged copy master/OHP Discussion, checking, agreement BB: a) $5 + 5 + 5 = 15$ 3 times 5 = 15 b) $6 + 6 = 12$ 2 times 6 = 12 c) $4 + 4 + 4 = 12$ 3 times 4 = 12 d) $8 + 8 = 16$ 2 times 8 = 16 (or $4 + 4 + 4 + 4 = 16$ 4 times 4 = 16)																								
4	Interlude Song, verse or physical exercises 26 min	Whole class in unison																								
5	PbY2a, page 24, Q.3 T explains task. Talk about the animals in the table. Which do you think can jump the farthest? Why? Ps come out to choose an animal and show its jumps on the number line, e.g. <i>Fox</i> : P points to 10 on the number line. This is how far <i>Fox</i> jumped after 2 jumps. How far would he have got after 1 jump? P points to 5 and writes '5' in the table, giving his reasoning. Who agrees? Who thinks something else? etc. Continue until all the blanks are completed. Ask Ps to compare the jumps orally, using words such as: 'double', 'twice', '2 times', 'half', e.g. 'frog's jumps are twice as long as squirrel's' Solution: <table border="1" data-bbox="368 1944 970 2085"> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>After 1 jump</td> <td>0</td> <td>1</td> <td>3</td> <td>4</td> <td>6</td> <td>5</td> <td>9</td> </tr> <tr> <td>After 2 jumps</td> <td>0</td> <td>2</td> <td>6</td> <td>8</td> <td>12</td> <td>10</td> <td>18</td> </tr> </table> 32 min									After 1 jump	0	1	3	4	6	5	9	After 2 jumps	0	2	6	8	12	10	18	Whole class activity Drawn on BB or use enlarged copy master or OHP Demonstration, reasoning Agreement Ps complete table in <i>Pbs</i> too Ask several Ps Preparation for multiplication and division by 2.
																										
After 1 jump	0	1	3	4	6	5	9																			
After 2 jumps	0	2	6	8	12	10	18																			

Y2		<i>Lesson Plan</i> 25
<i>Activity</i>	Writing practice, revision, activities, consolidation <i>PbY2a, page 25</i>	<i>Notes</i>

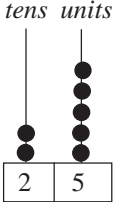
Y2	<p>R: 1-digit and 2-digit numbers</p> <p>C: Extending the number line to 100. Reading 2-digit numbers</p> <p>E: <i>Writing 2-digit numbers on the number line</i></p>	<p><i>Lesson Plan</i></p> <p>26</p>
<p>Activity</p> <p>1</p>	<p>Counting</p> <p>a) Let's start at zero and count aloud to 30. (Ps may use their 0–100 number line to help them.) (0, 1, 2, . . . , 29, 30)</p> <p>b) Let's start at 20 and count aloud to 50. (20, 21, 22, . . . , 49, 50)</p> <p>c) Let's say the whole tens aloud to 100. (10, 20, 30, . . . , 90, 100)</p> <p style="text-align: right;"><i>8 min</i></p>	<p>Notes</p> <p>Whole class in unison (slowly)</p> <p>T points to numbers on the class number line</p>
<p>2</p>	<p>Equal amounts (<i>Tx2, page 15, Q.1</i>)</p> <p>T has flash cards (numbers, multiplications and and pictures) stuck to BB at random. Ps come out to choose 3 (or in some cases 2) cards which show equal amounts and stick them in order across the BB.</p> <p>Class agrees or disagrees. Continue until all cards are used.</p> <p>Let's read out the tens (multiplications) together.</p> <p style="text-align: right;"><i>16 min</i></p>	<p>Whole class activity</p> <p>Use copy master, enlarged and cut out (or as OHP to join up)</p> <p>Involve several Ps</p> <p>Discussion, agreement</p> <p>In unison</p>
<p>3</p>	<p>PbY2a, page 26</p> <p>Q.1 Read: <i>Fill in the missing numbers.</i></p> <p>T explains that the numbers start at 0 (top right-hand corner) and should be written in increasing order from left to right. At the end of a line, the numbers continue on to the beginning of the next line.</p> <p>Let's all do one row at a time together. (T writes on BB and Ps write in <i>Pbs.</i>) Ps say each row aloud when complete.</p> <ul style="list-style-type: none"> • What do you notice about the numbers in the first column? (all whole tens, i.e. units digit is zero) • What do you notice about the 2nd (3rd, etc.) columns? (units digits are the same; all even, all odd) • Who can come and point to numbers which have: equal digits (both digits odd, both digits even)? • How can you tell whether a 2-digit number is even or odd? (If the units digit is even, the whole number is even; if the units digit is odd, the whole number is odd) • Let's read all the numbers from 0 to 100 in increasing (decreasing) order. <p style="text-align: right;"><i>30 min</i></p>	<p>Whole class activity</p> <p>Use enlarged copy master or OHP</p> <p>Or a different P comes out to write the numbers in each row</p> <p>Discussion, agreement</p> <p>Ps also show position of numbers on class number line</p> <p>Ps can ask questions too or talk about 2-digit numbers which mean something to them, e.g. house number, birthday, lucky numbers, lottey, etc.</p> <p>In unison</p>
<p>4</p>	<p>Interlude</p> <p>Relaxing</p> <p style="text-align: right;"><i>32 min</i></p>	<p>Whole class resting, with music playing</p>
<p>5</p>	<p>PbY2a, page 26</p> <p>Q.2 Read: <i>Write the missing numbers below each segment of the number line.</i></p> <p>T first reminds Ps what a 'line segment' is (part of a line) Deal with one part at a time. Ps can show where each segment is on the the class number line.</p> <p>Review at BB with whole class. Talk about tens and units and what they mean, e.g. 28 is 2 tens and 8 units (ones). Show with 2 bundles of 10 straws (lolly sticks, strings of 10 beads) and 8 single ones.</p> <ul style="list-style-type: none"> • Draw a circle around all the whole tens • Who can find these numbers on the number square? <p style="text-align: right;"><i>38 min</i></p>	<p>Whole class introduction</p> <p>Drawn on BB or use enlarged copy master of OHP</p> <p>Individual work, closely monitored, helped</p> <p>Discussion, demonstration (prepared beforehand)</p> <p>P to BB and Ps in <i>Pbs</i> too</p> <p>Praising</p>

Y2		<i>Lesson Plan 26</i>
Activity 6	<p><i>PbY2a, page 26, Q3</i></p> <p>Let's read aloud the whole tens on this number line. (BB)</p> <p>T explains that each 'tick' shows the position of a number (0 to 100), but there is no room to write the digits.</p> <p>Who can come and point to number 5 (50, 75, 100)? Who agrees?</p> <p>Each letter stands for a number. How can we find out which number it is? (follow the arrow from the letter to the number line)</p> <p>X, come and point to the letter <i>a</i> and follow the arrow down to the number line. Which number is it pointing to? (12) Is X correct?</p> <p>X writes the number in the box opposite <i>a</i> and Ps write it in their <i>Pbs</i>.</p> <p>Repeat with a different P for each letter. If problems, Ps can point to next nearest whole ten and count on (or back) to number required.</p> <ul style="list-style-type: none"> • Who can come and show us the next nearest whole tens to <i>a</i>? • How can we write it using only numbers and signs? <p>Similarly for other numbers.</p> <p style="text-align: right;"><i>45 min</i></p>	<p style="text-align: center;">Notes</p> <p>Whole class activity</p> <p>Use enlarged copy master or OHP</p> <p>Practice in finding 2-digit numbers on number line</p> <p>Checking, agreement</p> <p>Praising</p> <p>BB $a = 12$ $b = 27$ $c = 38$ $d = 51$ $e = 64$ $f = 72$ $g = 85$ $h = 92$</p> <p>BB: $10 < a < 20$</p> <p>Praising</p>

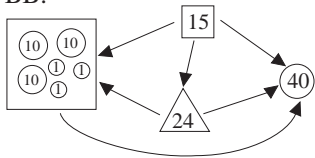
Y2	R: Mental counting C: Extending number line to 100. Writing and reading numbers. Money E: <i>Tens and units. Next nearest numbers.</i>	<i>Lesson Plan</i> 27
Activity 1	Counting a) Let's count aloud from 0 to 100. (Ps have number line on desk if needed.) b) Let's count aloud from 100 down to 50. <p style="text-align: right;"><i>5 min</i></p>	Notes Whole class activity In unison (at speed) T can point to numbers on class number line.
2	<i>PbY2a, page 27, Q.1</i> a) Let's all say the numbers on this segment of the number line '20. . .' A , come and point to the number 22. What do you notice about it? (It has a black dot with 2 arrows pointing away from it.) Follow the arrow and point to the next nearest number less than (greater than) 22. (21, 23) This has been written as an inequality. Let's all read it together from left to right: 'twenty-one is less than twenty-two, twenty-two is less than twenty-three'. Now let's read it from right to left: 'twenty-three is greater than twenty-two, twenty-two is greater than twenty-one'. B , come and point to the other number on this line segment which has a black dot. (30) Show us the next nearest number less than 30. B points and says '29' Is B correct? B writes '29' on the left side of the inequality and Ps write it in their <i>Pbs</i> too. C , come and point to the next nearest number greater than 30. C points to 31. Is C correct? C writes '31' on the right side of the inequality and Ps also write in in their <i>Pbs</i> . Let's read the inequality from left to right (right to left). b) As above with different Ps at BB. Elicit that: <ul style="list-style-type: none"> each number has 2 nearest numbers (one less, one greater); if a number is even (odd) its next nearest numbers are odd (even). <p style="text-align: right;"><i>10 min</i></p>	Whole class activity Drawn on BB or use enlarged copy master or OHP BB: a) $21 < \underline{22} < 23$ In unison In unison Discussion, agreement BB: $29 < \underline{30} < 31$ Discussion, agreement In unison BB b) $76 < \underline{77} < 78$ $84 < \underline{85} < 86$ Discussion, agreement, checking, praising
3	<i>PbY2a, page 27</i> Q.2 Read: <i>Write down the next nearest numbers.</i> Ps may use number lines to help them. Review orally around the class. Ps read out each inequality with T's help. Mistakes corrected at class number line and written on BB. <p style="text-align: right;"><i>15 min</i></p>	Individual work, closely monitored, helped Discussion, reasoning, checking (BB) Self-correction Praising
4	<i>PbY2a, page 27</i> T shows large purse to class. I wonder how much money there is inside? D , come and find out. D takes out one coin at a time (real or play money) and T draws it on the BB (or sticks play money on BB) How many 10 p coins? How many 1 p coins? How much altogether? Q.3 Read: <i>How much money do we have? Write it down as numbers.</i> Ps could have play money on desks. Make sure Ps realise that 'units' are the same as 'ones'. Deal with one part at a time. Review at BB with whole class (or Ps can show answer with number cards). Mistakes corrected. If problems, demonstrate with coins (real or plastic or cardboard) <p style="text-align: right;"><i>23 min</i></p>	Whole class introduction BB: e.g. $\textcircled{10}$ (cut out from $\textcircled{1} \textcircled{1} \textcircled{1}$ copy master) $1 \text{ ten} + 3 \text{ ones} = 10 + 3 = 13$ Individual work, monitored, helped BB: a) $3 \text{ tens} + 2 \text{ units} = 30 + 2 = 32$ b) $2 \text{ tens} + 6 \text{ units} = 20 + 6 = 26$ c) $4 \text{ tens} + 4 \text{ units} = 40 + 4 = 44$

Y2		<i>Lesson Plan 27</i>
Activity		Notes
5	Interlude Song, verse, physical exercises 25 min	Whole class in unison
6	Tens and units Who can tell me a 1-digit number? (e.g. 8) T writes on BB. What does the 8 mean? (8 of something, 8 single things, eight '1's or units) P comes out to stick 8 '1's on BB. Who can tell me a 2-digit number? (e.g. 23) T writes on BB. What does this digit mean? (T points to the '2') (twenty '1's or 2 '10's) P comes out to stick 2 '10's on BB. What does this number mean? (T points to the '3') (3 '1's or units) P comes out to add 3 '1's to the 2 tens already on the BB. Now I will stick some units on the BB and you must show me how many tens it is equal to. e.g. BB: $\overset{\text{T}}{\text{1 1 1 1 1 1 1 1 1 1}} = \overset{\text{P}}{\text{10}}$ T writes 10 units = 1 ten $\begin{array}{c} \text{1 1 1 1 1 1 1 1 1 1} \\ \text{1 1 1 1 1 1 1 1 1 1} \end{array} = \begin{array}{c} \text{10} \\ \text{10} \end{array}$ 20 units = 2 tens $\begin{array}{c} \text{1 1 1 1 1 1 1 1 1 1} \\ \text{1 1 1 1 1 1 1 1 1 1} \\ \text{1 1 1 1 1 1 1 1 1 1} \\ \text{1 1 1 1 1 1 1 1 1 1} \end{array} = \begin{array}{c} \text{10} \\ \text{10} \\ \text{10} \\ \text{10} \end{array}$ 40 units = 4 tens etc. and $\text{10 10 10 10 10 10 10 10 10 10} = \text{100}$ 10 tens = 100 35 min	Whole class activity Use coins from copy master 27/4 BB: $\text{1 1 1 1 1 1 1 1} = 8$ BB: $\text{10 10} = 20$ $\text{10 10 1 1 1} = 20 + 3 = 23$ Praising Ps also copy down at back of Pbs or in Ex Bks: 10 units = 1 ten 20 units = 2 tens 40 units = 4 tens 100 units = 10 tens 10 tens = 1 hundred and recite them together. Laying a solid foundation for the concept
7	Problem Listen carefully and picture the story in your head. Draw a picture to help you. Show me the answer with number cards when I say. <i>I have 40 p in my left hand and 20 p in my right hand, but I have only 10 p coins. How much money do I have altogether?</i> Show menow! (60) T (or P with correct answer) shows drawing and calculation on BB. <i>Answer:</i> I have 60 p altogether. Which hand has more? How much more? (Left hand has 20 p more.) 40 min	Whole class activity T (or Ps) repeat problem Give Ps time to think/ draw In unison BB: <i>Left</i> 10 10 10 10 <i>Right</i> 10 10 $40 + 20 = 60$ $40 > 20, 40 - 20 = 20$
8	PbY2a, page 27 Q.4 Read: <i>Each box holds 10 balls. How many boxes will be needed?</i> Talk about possible methods of solution. (Counting all the balls, or drawing a circle around every 10 balls to show each full box.) Ps draw circles and write in the missing numbers. Review at BB with whole class. (Ps can show total number of balls with number cards.) 45 min	Individual work, monitored Use enlarged copy master/OHP Discussion, reasoning, agreement on best method BB: $4 \text{ times } 10 + 2 = 40 + 2 = 42$ Praising

Y2	R: Mental counting C: Reading, writing numbers on number line. Ordering numbers E: <i>Inequalities. Next nearest whole tens</i>	<i>Lesson Plan</i> 28
Activity		Notes
1	<p>Number cards</p> <p>a) What number am I thinking of? Show me the number with number cards when I say. (After each number has been agreed, T writes number on BB.)</p> <ul style="list-style-type: none"> • The next nearest number greater than 24. (25) • The number which is greater than 40 and less than 42. (41) • The smallest 3-digit number. (100) • The largest 2-digit number. (99) • The number which is greater than 86, less than 89 and even. (88) • The next nearest number less than 37. (36) <p>Who can come and write these numbers in increasing (decreasing) order? Who agrees/disagrees?</p> <p>Who can point to these numbers on the number line?</p> <p>T covers up the number line. Tell me the next nearest numbers (whole tens) to the number I point to.</p> <p style="text-align: right;"><i>10 min</i></p>	<p>Whole class activity</p> <p>Ps show each answer with number cards</p> <p>Check on number line</p> <p>BB: 25, 41, 100, 99, 88, 36</p> <p>BB: 25, 36, 41, 88, 99, 100 100, 99, 88, 41, 36, 25</p> <p>Different P for each number</p> <p>T points, class shouts out in unison. At a good pace!</p>
2	<p>PbY2a, page 28, Q.1</p> <p>T explains task.</p> <p>a) Let's all read the numbers on this segment of the number line. (18, 19, . . . , 30, 31)</p> <p>Who can come and show us the segment on the class number line?</p> <p>A, come and point to the number on this line segment which has a black dot. (25) Follow the arrow and tell us the next nearest whole ten less than 25. B points and says '20' Is B correct? B writes '20' on the LHS of the inequality. Ps write it in their <i>Pbs</i> too.</p> <p>C, follow the other arrow and tell us the next nearest whole ten greater than 25. C points to 30. Is C correct? C marks X and writes '30' on the RHS of the inequality. Ps also write in <i>Pbs</i>.</p> <p>Let's read the inequality from left to right (right to left).</p> <p>b) and c) As above, with different Ps at BB.</p> <p style="text-align: right;"><i>15 min</i></p>	<p>Whole class activity</p> <p>Drawn on BB or use enlarged copy master or OHP</p> <p>Discussion, agreement</p> <p>BB:</p> <p>a) $20 < 25 < 30$</p> <p>b) $50 < 58 < 60$</p> <p>c) $90 < 92 < 100$</p> <p>In unison</p>
3	<p>PbY2a, page 28</p> <p>Q.2 Read: <i>Write down the next nearest whole tens.</i></p> <p>Ps may use number lines to help them. Review orally round the class. Encourage Ps to express their reasoning clearly.</p> <p>e.g. $70 < 73 < 80$: 73 is more than 70 and less than 80</p> <p>Mistakes corrected at class number line and written on BB.</p> <p style="text-align: right;"><i>20 min</i></p>	<p>Individual work, closely monitored, helped</p> <p>Discussion at BB and at class number line</p> <p>Reasoning, agreement</p> <p>Self-correction. Praising</p>
4	<p>Interlude</p> <p>Action song</p> <p style="text-align: right;"><i>22 min</i></p>	<p>Whole class in unison</p>
5	<p>Ordering 2-digit numbers</p> <p>T sticks houses containing numbers, e.g. 31, 42, 74, 85, 26, 60, 97, in random order on BB. Ps (one each number) come out to put them in increasing (decreasing) order. Which are the even (odd) numbers?</p> <p>Which digit helps us most? (tens digits tell us which number is larger)</p> <p style="text-align: right;"><i>30 min</i></p>	<p>Whole class activity</p> <p>Use copy master, enlarged and cut out</p> <p>(Ps can put houses on 2 sides of a road – even and odd).</p>

Y2		Lesson Plan 28
<p>Activity</p> <p>6</p>	<p><i>PbY2a, page 28</i></p> <p>T asks Ps for a 2 digit number (e.g. 25) and writes on BB. Let's draw some dots to show how many tens and units it has.</p> <p>T draws 2 vertical lines on BB and labels them 'tens' and 'units' BB: </p> <p>How many tens are there? (2) T (or P) draws 2 dots on tens line. How many units are 2 tens? (20) How many units are there? (5) T (or P) draws 5 dots on units line. T writes addition on BB</p> <p>Q.3 Read: <i>Write in the missing numbers and complete the drawings.</i></p> <p>What do you think 't' and 'u' mean? (tens and units) T (or P) explains the diagram in a). Ps do parts b), c) and d). Review at BB with whole class. T goes through part e) with whole class. Ps do parts f) and g). Review at BB with whole class. Who can tell me the even (odd) numbers? Class agrees/disagrees Who can come and write additions about each diagram?</p> <p style="text-align: right;"><i>40 min</i></p>	<p>Notes</p> <p>Whole class introduction (Or use wooden rods with discs or string beads on vertical wires or use an abacus)</p> <p>Discussion, agreement</p> <p>BB: $20 + 5 = 25$</p> <p>Individual work, monitored, helped</p> <p>Drawn on BB or use enlarged copy master or OHP</p> <p>Reasoning, checking, agreement</p> <p>BB: $50 + 3 = 53$, $30 + 5 = 35$ etc.</p>
<p>7</p>	<p>Number line</p> <p>a) T describes a number, e.g. '2 tens and 1 unit', and Ps come out to class number line to point to it.</p> <p>b) T says a number and Ps say how many tens and units it has.</p> <p style="text-align: right;"><i>45 min</i></p>	<p>Whole class activity At speed Involve majority of Ps Praising only</p>

<h1>Y2</h1>	R: Mental counting C: Reading and writing numbers on number line. Ordering. Money E: Comparisons. Even, odd	<h2>Lesson Plan</h2> <h1>29</h1>
Activity	Notes	Notes
1	Numbers T gives some Ps pieces of paper with numbers on (e.g. 45, <u>46</u> , 47, 61, <u>62</u> , 63, 76, <u>77</u> , 78, 84, <u>85</u> , 86, 90, <u>91</u> , 92, 52, <u>53</u> , 54) T calls out a number (e.g. 46) and P with that number comes out to front of class. Then Ps with the next nearest numbers come out and stand on the correct side. Rest of class agrees, disagrees. Ps then point to their numbers on the class number line. <p style="text-align: right;">5 min</p>	Whole class activity Involve several Ps Agreement, checking, Praising
2	PbY2a, page 29 Q.1 Read: <i>Write down the next nearest numbers and next nearest whole tens.</i> T explains task using part a) as an example, with Ps coming out to point to, in turn, the middle number (46), the next nearest number and next nearest whole ten less than (greater than) 46. Ps come out to point to the numbers on the class number line. Let's do part b) together. Everyone point to 62 on your number line. What is the next nearest number less than 62? (61) A , come and write it in the correct house. What is the next nearest whole ten less than 62? (60) B , come and write it in the correct house. Similarly for the next nearest numbers greater than 62 (63, 70) Ps do parts c) to f) in <i>Pbs</i> . Review at BB and number line with whole class. Note the 2 numbers which are the same in part e). (If Ps do not fully understand, continue as a whole class activity.) <p style="text-align: right;">12 min</p>	Whole class introduction Drawn on BB or use enlarged copy master or OHP Ps also find on own number lines Class shouts out numbers in unison BB: b) 60, 61, <u>62</u> , 63, 70 c) 70, 76, <u>77</u> , 78, 80 d) 80, 84, <u>85</u> , 86, 90 e) 90, 90, <u>91</u> , 92, 100 f) 50, 52, <u>53</u> , 54, 60
3	PbY2a, page 29 Q.2 Read: <i>How much money is in each wallet?</i> Remind Ps realise that 'units' are the same as 'ones'. Ps could colour the '10's' in, e.g. red, and the '1's' in, e.g. yellow, to make them easier to count. Deal with one part at a time. Review at BB with whole class. Ps also show answers on the class number line. If problems, demonstrate with coins (real or plastic or cardboard). Which wallet which has the most (least) amount of money? (d, b) <p style="text-align: right;">18 min</p>	Individual work, monitored Use enlarged copy master/OHP (or coins from LP27/4) Discussion, reasoning, agreement BB: a) 2 tens + 4 units = 20 + 4 = 24 b) 1 ten + 8 units = 10 + 8 = 18 c) 3 tens + 3 units = 30 + 3 = 33 d) 4 tens + 1 unit = 40 + 1 = 41
4	Interlude Physical exercises <p style="text-align: right;">20 min</p>	Whole class in unison
5	PbY1a, page 29. Q.3 T has apples cut out from copy master and gives to some Ps who come out to front and stand in a line. (not in order) Class puts them in <i>increasing</i> order by calling out which number goes on left, then next number, etc. Let's read the numbers from left to right. Ps then muddle themselves up again and class puts them in <i>decreasing</i> order. How can we write this using numbers and signs? T calls a number to step forward. P has to say whether his/her number is odd/even, how many tens/units, next nearest numbers/whole tens. <p style="text-align: right;">26 min</p>	Whole class activity Use copy master enlarged and cut out In unison: '9, 16, . . . , 50, 62 BB: $62 > 50 > 37 > 26 > 23 > 16 > 9$ Ps can choose numbers and ask the questions too.

Y2		<i>Lesson Plan 29</i>										
Activity 6	<p><i>PbY2a, page 27</i></p> <p>Q.4 Read: <i>Colour in as much money as the number at the top of the column.</i></p> <p>T explains task using first example (13). Ps agree on a colour for the '10's (e.g. red) and '1's (e.g. yellow). Deal with each number orally first, (how many tens, units?) noting that '3' has no tens. Make sure Ps realise that they colour in <u>only</u> the amount required! Review at BB with whole class. Mistakes corrected.</p> <ul style="list-style-type: none"> • Who can come and write out the numbers in increasing order? • Who can come and draw a circle around the odd numbers? <p style="text-align: right;"><i>34 min</i></p>	<p style="text-align: center;">Notes</p> <p>Individual work, monitored (helped)</p> <p>Drawn on BB or use enlarged copy master or OHP</p> <p>Discussion, reasoning, checking, agreement</p> <p>Self-correction</p> <p>Class agrees/disagrees</p> <p>Praising</p>										
7	<p>Comparing</p> <p>T asks a P to come and draw (or stick) an amount of money on the BB, (e.g. 3 tens and 1 unit). T ask another 3 Ps for a different number. (e.g. 24, 15, 40) and T writes (or sticks them) spaced out on BB.</p> <p>Let's compare them. Which is more? Ps come out to draw arrows pointing towards the bigger value, explaining reasoning. Class agrees/disagrees.</p> <p>Could be repeated with other numbers and the arrows could point towards the smaller of 2 values.</p> <p style="text-align: right;"><i>40 min</i></p>	<p>Whole class activity</p> <p>BB:</p>  <p>Discussion, reasoning, agreement. Praising</p>										
8	<p>Roman numerals</p> <p>T writes on BB:</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>1</td> <td>5</td> <td>10</td> <td>50</td> <td>100</td> </tr> </table> <p>Who know the Roman way to write these numbers?</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>I</td> <td>V</td> <td>X</td> <td>L</td> <td>C</td> </tr> </table> <p>Ps write what they know, T completes.</p> <p>Revise the Roman numeral system (with help of Ps).</p> <p style="text-align: center;">(VI = V + 1, IX = X - 1)</p> <p>T writes Roman numerals on BB and Ps say the Arabic number. (e.g. III, IX, XV, XXX, LX, XC: 3, 9, 15, 30, 60, 90)</p> <p style="text-align: right;"><i>45 min</i></p>	1	5	10	50	100	I	V	X	L	C	<p>Whole class activity</p> <p>Do not expect too much</p> <p>Ps try to guess the numbers and give reasoning</p> <p>Praising only</p>
1	5	10	50	100								
I	V	X	L	C								

Y2		<i>Lesson Plan</i> 30
<i>Activity</i>	Writing practice, revision, activities consolidation <i>PbY2a, page 30</i>	<i>Notes</i>