

## Unit 9

### Ordering numbers and understanding addition and subtraction

Five daily lessons

**Primary**  
*National Strategy*

## Year 2

Autumn term

### Unit Objectives

#### Year 2

- Use and begin to read the vocabulary of comparing and ordering numbers, including ordinal numbers to 100.
- **Order whole numbers to at least 100**, and position them on a number line and 100 square.
- Extend understanding of the operations of addition and subtraction. Use and begin to read the related vocabulary.
- Find a small difference by counting up from the smaller to the larger number.
- Use patterns of similar calculations.
- **Choose and use appropriate operations and efficient calculation strategies** (e.g. mental, mental with jottings) **to solve problems**.
- Recognise all coins and begin to use the £.p notation for money. Find totals, give change, and work out which coins to pay.

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### Link Objectives

#### Year 1

#### Year 3

- **Understand and use the vocabulary of comparing and ordering numbers**, including ordinal numbers to at least 20.
- **Order numbers to at least 20** and position them on a number track.
- **Understand the operation of addition, and of subtraction (as 'take away', 'difference', and 'how many more to make')**.
- Use patterns of similar calculations.
- Recognise coins of different values. Find totals and change from up to 20p. Work out how to pay an exact sum using smaller coins.
- Choose and use appropriate number operations and mental strategies to solve problems.

- Read and begin to write the vocabulary of comparing and ordering numbers, including ordinal numbers to at least 100.
- **Order whole numbers to at least 1000**, and position them on a number line.
- Extend understanding of the operations of addition and subtraction, read and begin to write the related vocabulary, and continue to recognise that addition can be done in any order.
- Find a small difference by counting up from the smaller to the larger number.
- Use patterns of similar calculations.
- Recognise all coins and notes. **Understand and use the £.p notation**.
- **Choose and use appropriate operations (including multiplication and division) to solve word problems** and appropriate ways of calculating: mental, mental with jottings, pencil and paper.

(Key objectives in bold)

This Unit Plan is designed to guide your teaching.

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

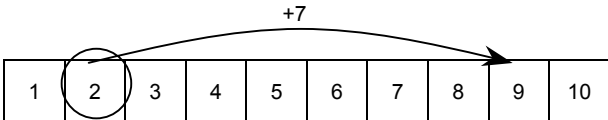
### Resources needed to teach this unit:

- Resource sheet 9.1
- OHT 9.1
- OHT 9.2
- OHT 9.3
- OHT 9.4
- OHT 9.5
- Activity sheet 9.1
- Activity sheet 9.2
- Activity sheet 9.3
- Interactive teaching program (ITP) 'Ordering numbers'
- ITP 'Number grid' (from Y4-6 plans and website: [www.standards.dfes.gov.uk/primary/numeracy](http://www.standards.dfes.gov.uk/primary/numeracy))
- ITP 'Difference'
- 100 square
- Toys and price tags
- Strips of paper (approx 60cm x 12cm)
- Place value cards
- 100 bead string
- Mega money (large coins)
- Sticky notes
- Whiteboards

See Models and Images Charts:

- Ordering numbers to 100;
- Counting on and back in tens;
- Partitioning and recombining;
- Understanding addition and subtraction.

Planning sheet	Day One	Unit 9 <i>Ordering numbers and understanding addition and subtraction</i>	Term: <i>Autumn</i>	Year Group: 2
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions
<p>Use and begin to read vocabulary of comparing and ordering numbers including ordinals to 30.</p> <p>VOCABULARY first second third fourth fifth sixth seventh eighth ninth tenth odd even</p> <p>RESOURCES 100 square Whiteboards</p>	<ul style="list-style-type: none"> <li>Count around the group using ordinal numbers, 1st, 2nd, 3rd etc.</li> </ul> <div>Q If Ben is the nineteenth child, who will be the twenty-first?</div> <ul style="list-style-type: none"> <li>On whiteboards, ask the children to write e.g. the 3rd letter of their name, the 4th day of the week, the 7th letter of the alphabet etc.</li> <li>Discuss how the first, second, third, twenty-first, twenty-second, twenty-third numbers are said differently to the other numbers where you simply add '-th' to the end of the number.</li> </ul>	<p>Use and begin to read the vocabulary of comparing and ordering numbers, including ordinal numbers to 100.</p> <p>Place numbers on a number line or 100 square.</p> <p>VOCABULARY twentieth twenty-first twenty-second twenty-third twenty-fourth etc.</p> <p>RESOURCES Bead string or show Resource sheet 9.1 Activity sheet 9.1 OHT 9.1 ITP Y1-3 'Ordering numbers' ITP 'Number grid'</p>	<ul style="list-style-type: none"> <li>Hold up the bead string.</li> </ul> <div>Q Which is the eleventh bead? How do you know?</div> <div>Q Which is the forty-first bead? How do you know?</div> <div>Q Which is the thirty-ninth bead? How do you know?</div> <div>Q Which is the sixty-ninth bead? How do you know?</div> <ul style="list-style-type: none"> <li>Ask the children to make up two similar questions for their partner using Resource sheet 9.1.</li> <li>Use ITP 'Ordering numbers'.</li> </ul> <div>Q Where will 50 beads come up to on this string? And 49? And 51? 20? 30? 25?</div> <p>Ask children to mark each number on the number lines as each appears. Repeat with different examples.</p> <ul style="list-style-type: none"> <li>Use ITP 'Number grid' to mask four numbers in a square formation.</li> </ul> <div>Q What numbers are covered? How do you know?</div> <p>Move the mask around the screen and repeat.</p> <ul style="list-style-type: none"> <li>Give out Activity sheet 9.1. Choose one snake and ask which numbers it is hiding.</li> </ul> <div>Q What clues can you use?</div> <p>Ask the children to write the missing numbers on each snake.</p>	<ul style="list-style-type: none"> <li>Show OHT 9.1 and ask the children where the number 12 goes on the 100 square.</li> </ul> <div>Q How do you know? How can we check that is correct?</div> <ul style="list-style-type: none"> <li>Repeat with 62, 19, 10, 20, 25, 66.</li> </ul> <div>Q Which are the hardest numbers to place? Why?</div> <ul style="list-style-type: none"> <li>Draw out that 66 was difficult because it was in the middle with few numbers around it to help.</li> </ul> <div>Q Which are the easiest? Why?</div> <ul style="list-style-type: none"> <li>Draw out that 12 and 62 were easy to place because they were next to numbers already on the square.</li> </ul> <div>Q Which numbers would complete another row under the number square starting under 91?</div> <ul style="list-style-type: none"> <li>Write these on the OHT.</li> </ul> <div>Q What would come next?</div> <div>Q What clues helped us?</div> <div> <p><b>By the end of the lesson, children should be able to:</b></p> <ul style="list-style-type: none"> <li><b>understand and use ordinal numbers: first, second, third...;</b></li> <li><b>position numbers on a number line and 100 square and explain how they decided on the position.</b></li> </ul> <p>(Refer to supplement of examples, section 5, pages 11 and 13.)</p> </div>

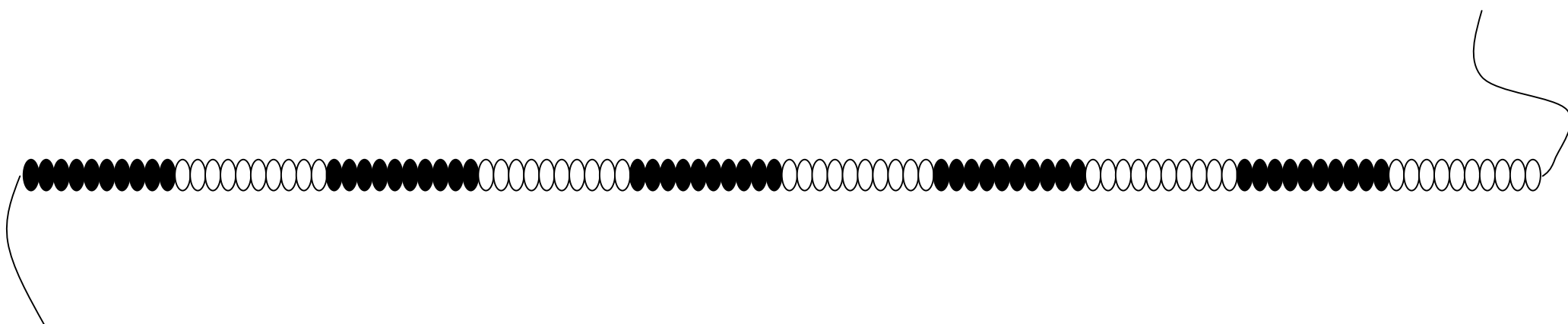
Planning sheet	Day Two (page 1 of 2)	Unit 9 <i>Ordering numbers and understanding addition and subtraction</i>	Term: <i>Autumn</i>	Year Group: 2
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions
<p>Count on or back in ones or tens starting from any two-digit number.</p> <p>VOCABULARY add subtract count on count back two-digit number multiple of 10</p> <p>RESOURCES 100 square Place value cards Whiteboards</p>	<ul style="list-style-type: none"> <li>Ask for an even number which lies between 22 and 41. Find the number on the 100 square. Count on and back in tens from this number.</li> <li>Repeat starting at different numbers.</li> </ul> <p><b>Q</b> What is: 35 + 10; 35 + 20; 35 + 30?</p> <ul style="list-style-type: none"> <li>Ask children to respond using place value cards or whiteboards. Ensure that children see the link with counting on in tens and adding multiples of ten.</li> </ul> <p><b>Q</b> What is; 67 – 10; 67 – 20; 67 – 30?</p> <ul style="list-style-type: none"> <li>Check that children see the link between counting back in tens and subtracting multiples of ten.</li> </ul>	<p>Use patterns of similar calculations.</p> <p>VOCABULARY pattern calculation describe the pattern predict</p> <p>RESOURCES 100 square</p>	<ul style="list-style-type: none"> <li>Write on the board <math>2 + 7 = 9</math></li> <li>On a 100 square, ring 2, draw an arrow to 9 and write + 7 above the arrow.</li> </ul>  <p><b>Q</b> What is <math>12 + 7</math>? What is <math>22 + 7</math>?</p> <p>Record each calculation on a number square as above.</p> <p><b>Q</b> What do you think <math>72 + 7</math> is? Why?</p> <p><b>Q</b> <math>2 + 7 = 9</math> so what is <math>9 - 7</math>?</p> <p>Determine the answer and record on number square as above. (Ring 9, draw an arrow to 2 and write – 7 above the arrow.)</p> <p><b>Q</b> What is <math>19 - 7</math>? <math>29 - 7</math>? <math>39 - 7</math>?</p> <ul style="list-style-type: none"> <li>Record each calculation on a 100 square as above.</li> </ul> <p><b>Q</b> So what is <math>89 - 7</math>? How do you know?</p> <p><b>Q</b> What is <math>20 + 70</math>? How do you know? 20 is 2 tens and 70 is 7 tens, how many tens altogether?</p> <ul style="list-style-type: none"> <li>Explain that it is 2 tens plus 7 tens which total 9 tens and 9 tens are 90.</li> </ul> <p><b>Q</b> What is <math>200 + 700</math>?</p> <ul style="list-style-type: none"> <li>Establish that it is 2 hundreds plus 7 hundreds which is 9 hundreds.</li> </ul> <p><b>Q</b> What is <math>2000 + 7000</math>? <math>2\ 000\ 000 + 7\ 000\ 000</math>?</p> <ul style="list-style-type: none"> <li>Write on the board: <math>3 + 6 = 9</math> and ask children to write this number sentence in their books. Now write <math>13 + 6 = 9</math> and ask them to write this.</li> </ul>	<p><b>Q</b> How did the patterns help us to calculate?</p> <ul style="list-style-type: none"> <li>Write on the board: <math>9 + 4 = 13</math>.</li> </ul> <p><b>Q</b> What would be the next number sentence in the pattern?</p> <ul style="list-style-type: none"> <li>Record <math>19 + 4 = 23</math> etc.</li> </ul> <p><b>Q</b> How is this different to the patterns we looked at earlier?</p> <p>Establish that adding 4 onto 9 takes the answer over 10, and so takes each answer over the next tens boundary.</p> <p><b>By the end of the lesson, children should be able to:</b></p> <ul style="list-style-type: none"> <li>develop and recognise a pattern such as:  <math>3 + 5 = 8</math>  <math>13 + 5 = 18</math>  <math>23 + 5 = 28</math> and so deduce that <math>63 + 5 = 68</math>.  <math>4 - 3 = 1</math>  <math>14 - 3 = 11</math>  <math>24 - 3 = 21</math> and so deduce that <math>54 - 3 = 51</math>;</li> <li>recognise and use the pattern in, for example:  <math>4 + 3 = 7</math>  <math>40 + 30 = 70</math>  <math>400 + 300 = 700</math>.</li> </ul> <p>(Refer to supplement of examples, section 5, page 35.)</p>

Planning sheet	Day Two (page 2 of 2)	Unit 9 <i>Ordering numbers and understanding addition and subtraction</i>	Term: <i>Autumn</i>	Year Group: 2
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions
	<p><b>Q</b> If you make 67 with your place value cards, do you need to change both cards when you subtract 10? Or 20? 30?</p>		<p><b>Q</b> What are the next two in the pattern?</p> <ul style="list-style-type: none"> <li>Check that they are correct. Now ask them to complete the sentence <math>53 + 6 = \square</math>. Now write <math>9 - 6 = 3</math>, <math>19 - 6 = 13</math> and ask them to write these two and the next two number sentences.</li> </ul> <p>Check that they are correct. Now ask them to complete the sentence <math>79 - 6 = \square</math>.</p> <p><b>Q</b> What is <math>90 - 60</math>? <math>900 - 600</math>? <math>9000 - 6000</math>? <math>9\ 000\ 000 - 6\ 000\ 000</math>?</p> <ul style="list-style-type: none"> <li>Write <math>2 + 5 = 7</math> and <math>7 - 5 = 2</math> on the board and ask children to use these to generate other number sentences. They should record them in their books.</li> </ul>	

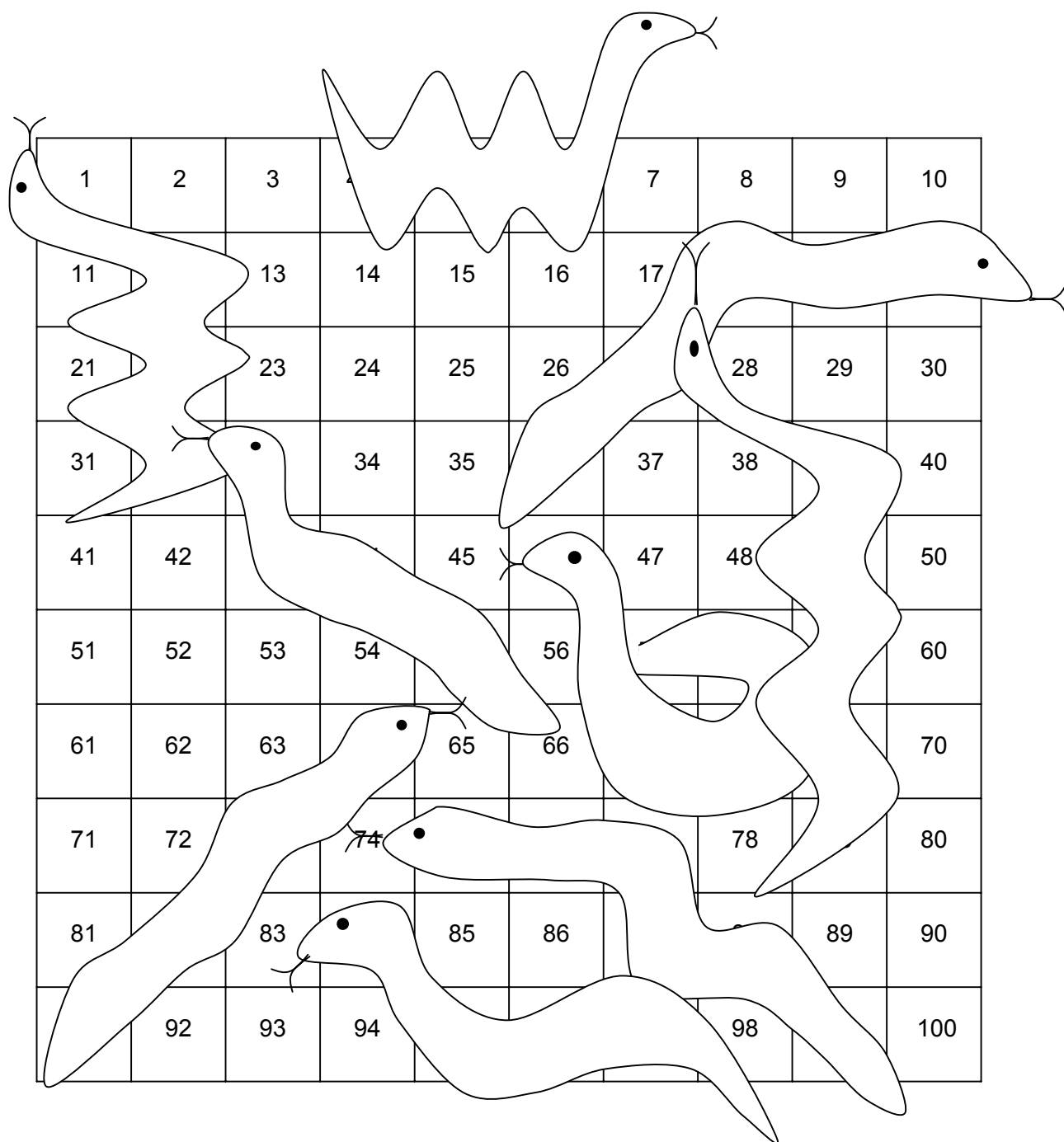


Planning sheet		Day Four	Unit 9 <i>Ordering numbers and understanding addition and subtraction</i>	Term: <i>Autumn</i>	Year Group: 2
Oral and Mental			Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities		
<p>Know what each digit in a two-digit number represents.</p> <p>VOCABULARY ones tens digit</p> <p>RESOURCES Bead string Large place value cards Mega money (large coins)</p>	<ul style="list-style-type: none"> <li>Revise place value using a bead string. Show 36 beads (as 3 groups of ten beads and 6 single beads).</li> </ul> <p><b>Q</b> How many beads are there? Do you need to count them all?</p> <ul style="list-style-type: none"> <li>Draw out that the children could count in tens to 30 and add on the 6 single beads to make 36. Write 36 on the board.</li> </ul> <p><b>Q</b> How many groups of ten are there in 36? What does the 3 stand for? And the 6?</p> <ul style="list-style-type: none"> <li>Show a pack of place value cards.</li> </ul> <p><b>Q</b> What place value cards do I need to make 36?</p> <ul style="list-style-type: none"> <li>Make 36 from 30 and 6, showing the two cards to the children. Match the 30 to the 3 tens on the bead string and the 6 to the 6 single beads.</li> <li>Show the 10p and 1p coins.</li> </ul> <p><b>Q</b> If I use only 10p and 1p coins how could I make 36p?</p> <ul style="list-style-type: none"> <li>Repeat for other two-digit numbers and prices.</li> </ul>	<p>Begin to use the £.p notation for money.</p> <p>VOCABULARY pound £ and p notation penny pennies pence decimal point money coin</p> <p>RESOURCES Activity sheet 9.2 A toy with a price tag on of £2.21 Other toys with tags on showing pounds and pence Mega money (large coins)</p>	<ul style="list-style-type: none"> <li>Show a toy with a £2.21 price tag.</li> </ul> <p><b>Q</b> How many pounds and how many pennies does this toy cost?</p> <p>Establish that the toy costs two pounds and twenty-one pennies. Draw attention to the £ sign and the decimal point and the fact that we don't use the p sign as well.</p> <p><b>Q</b> What coin or coins could we use to make £2? What coins could we use to make 21p?</p> <p>Use the large coins to show different ways of making the amounts, e.g. a £2 coin, two £1 coins, a 20p, two 10p coins and 1 penny. Establish that one way is to use two £1 coins, two 10p coins and one penny. Record this as:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">£1</div> <div style="text-align: center;">10p</div> <div style="text-align: center;">1p</div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">£1</div> <div style="text-align: center;">10p</div> </div> <ul style="list-style-type: none"> <li>Repeat for other prices e.g. £3.42 and £4.13, drawing out using £ coins, 10p coins and pennies as one way to make the amounts and recording these as above.</li> <li>Show a price tag of £3.05.</li> </ul> <p><b>Q</b> How many £1 coins would we use? 10p coins? 1p coins?</p> <ul style="list-style-type: none"> <li>Establish that there are no 10p coins, and we write a zero in this place.</li> <li>Write £5.09 and £5.90 on the board.</li> </ul> <p><b>Q</b> Which is more? Why?</p> <p>Draw out the explanation that £5.90 is 5 pounds and 90 pence and £5.09 is 5 pounds and 9 pence. Show the two amounts with the large coins and record as above.</p> <ul style="list-style-type: none"> <li>Choose a few amounts from Activity sheet 9.2 and ask for volunteers to help you write the amounts using £ notation e.g. £3.45.</li> <li>Ask the children to complete Activity sheet 9.2 and to draw and label their own amounts.</li> </ul>		
			<ul style="list-style-type: none"> <li>Discuss Activity sheet 9.2.</li> </ul> <p><b>Q</b> Which amounts did you find easy to write? Hard to write? Were amounts with zeros in them harder?</p> <p><b>Q</b> Which purse had the most money? Did it have the most coins?</p> <p><b>Q</b> Sohail has £1.48 and Jay has £1.84. Who has the most? How do you know?</p> <p>Show the two amounts with the large coins.</p> <p>HOMEWORK – Find four prices more than £1 from a till receipt or a catalogue. Record what the item is and what price it is. Don't forget to use the notation we have learned today e.g. box of choc ices £1.95. Then write the four amounts in order, cheapest first.</p> <p><b>By the end of the lesson, children should be able to:</b></p> <ul style="list-style-type: none"> <li>begin to appreciate that <b>£4.65 means £4 and 65p;</b></li> <li><b>write in £ and p the total of three £1 coins and six 1p coins (£3.06).</b></li> </ul> <p>(Refer to supplement of examples, section 5, page 69.)</p>		

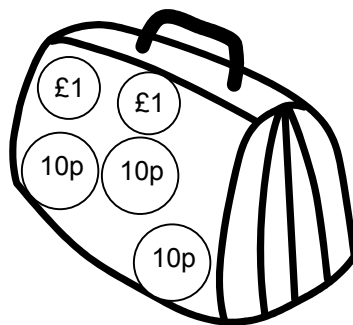
Planning sheet	Day Five	Unit 9 <i>Ordering numbers and understanding addition and subtraction</i>	Term: <i>Autumn</i>	Year Group: 2
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions
<p>Begin to use £.p notation. Order amounts of money.</p> <p>Choose and use appropriate number operations and ways of calculating to solve problems.</p> <p>VOCABULARY cheapest expensive total add subtract</p> <p>RESOURCES OHT 9.3 Sticky notes</p>	<ul style="list-style-type: none"> <li>Ask the children to write the largest amount they found for homework on a sticky note. They should write it as big as they can. Ask for the largest amount from each table and arrange them randomly on the board.</li> </ul> <div>Q Which is the smallest amount, the cheapest price? The largest amount, the most expensive? Are any of the prices of the same? Which amounts are very close to £10? Why do you think lots of prices end in 99p?</div> <ul style="list-style-type: none"> <li>Ask each group to order the remaining sticky notes on their tables.</li> <li>Show the first number sentence on OHT 9.3 (hiding the others with a piece of paper).</li> </ul> <div>Q What is missing in this number sentence? How do you know?</div> <ul style="list-style-type: none"> <li>Show one number sentence at a time and ask the children to hold up one finger horizontally to show that a – sign is missing or cross two fingers to show the + sign.</li> <li>Ask the children to discuss in pairs what is missing from the last two number sentences and discuss their answers.</li> </ul> <div>Q Could there be another solution to the last one?</div>	<p>Choose and use appropriate number operations and calculation strategies to solve simple word problems. Explain method.</p> <p>Begin to use the £.p notation for money.</p> <p>VOCABULARY operation calculation number sentence how much? spend jottings</p> <p>RESOURCES OHP 9.4 OHT 9.5 Activity sheet 9.3 (double-sided) Mega money (large coins) Whiteboards</p>	<ul style="list-style-type: none"> <li>Show the top part of OHT 9.4.</li> </ul> <div>Q I have 68p. I spend 30p. How much have I got left?</div> <div>Q Which operation do you need to use? How did you know? Did any of the words help you decide which operation to use?</div> <p>Ring the operation on OHT 9.4.</p> <p>Record the calculation <math>68p - 30p</math> on OHT 9.4. Ask the children to work in pairs to find the answer and write it on their whiteboards.</p> <div>Q How did you work it out?</div> <p>Show the two ways on OHT 9.4 and explain them. Ask if any of them worked it out like that, or if they used another way. Model the recording of any other efficient methods. Show the calculation using large coins. Record the number sentence <math>68p - 30p = 38p</math>.</p> <ul style="list-style-type: none"> <li>Repeat using OHT 9.5.</li> </ul> <div>Q Which operation do you need to use? How did you know? Did any words help?</div> <p>Ring the operation and then write the calculation <math>£2.40 + £3.20</math> on OHT 9.5.</p> <p>Ask children to work in pairs to find the answer and write it on their whiteboards. Encourage the use of the jottings to explain how they got the answer. Gather some explanations, show the recording of them on OHT 9.5 and explain it.</p> <p>Model the recording of any other efficient methods you can see on their whiteboards. Show the calculation using large coins and then record the number sentence.</p> <ul style="list-style-type: none"> <li>Give out Activity sheet 9.3. Ask the children to work in pairs, ring the operation, write the calculation, record any jottings as you did on OHTs 9.4 and 9.5 and write the complete number sentence.</li> <li>After most children have completed the first two questions, share children's use of using jottings to help their calculations and then ask them to continue.</li> </ul>	<ul style="list-style-type: none"> <li>Discuss how they solved the word problems.</li> </ul> <div>Q What were the important things to remember?</div> <p>Read the question carefully. Find the important words to help us decide on the operation. Decide on the operation. Record the calculation. Record how we worked it out (jottings). Write the number sentence.</p> <ul style="list-style-type: none"> <li>Write on the board: <math>23p + 20p = 43p</math>. Read it together. Ask the children to work in pairs to make up a number story.</li> <li>Repeat with <math>45p - 20p = 25p</math>.</li> <li>Repeat with <math>£5.80 - £4.99 = 81p</math>.</li> </ul> <div> <p><b>By the end of the lesson, children should be able to:</b></p> <ul style="list-style-type: none"> <li>use mental addition or subtraction, and own strategies to solve money problems;</li> <li>explain methods and reasoning orally and where appropriate, write a number sentence to show how the problem was solved.</li> </ul> <p>(Refer to supplement of examples, section 5, page 69.)</p> </div>

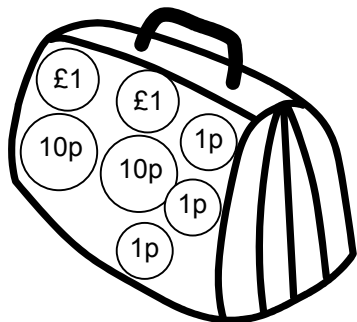


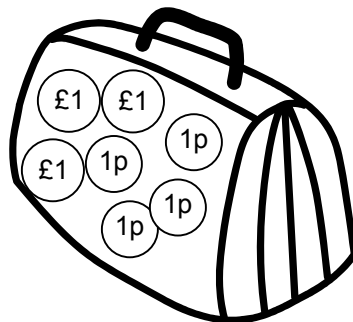


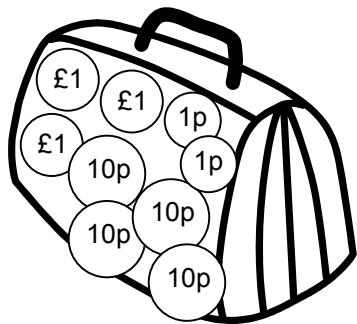


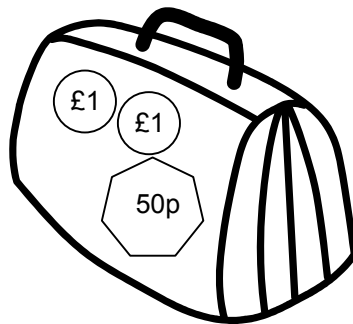


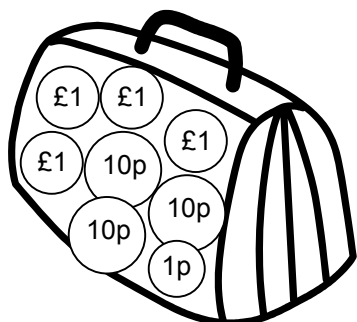


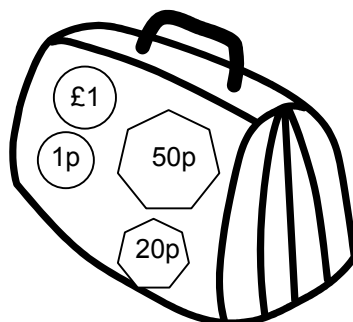


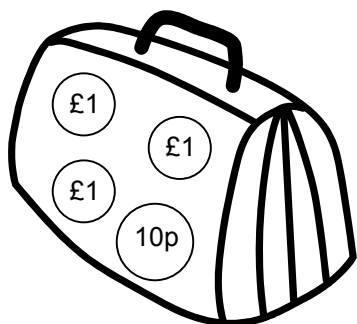


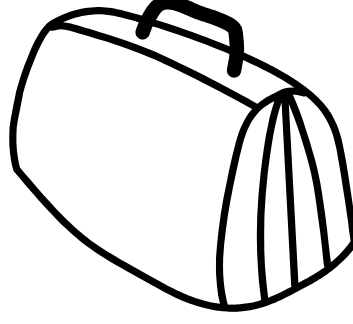


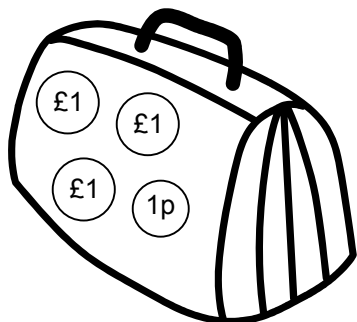


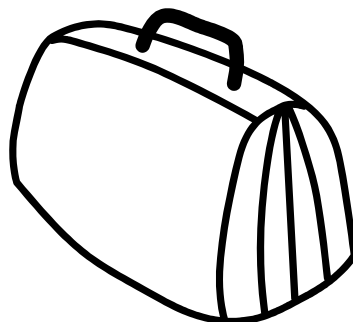












1. I had £1.50. I spent 50p. How much do I have now?

+      −      Calculation

How I worked this out (jottings)

Number sentence .....

2. You have £8.30. You get another £5 for your birthday.  
How much have you got now?

+      −      Calculation

How I worked this out (jottings)

Number sentence .....

3. Kathy has 26p. She finds another 9p under the sofa. How much does she have now?

+      –      Calculation

How I worked this out (jottings)

Number sentence .....

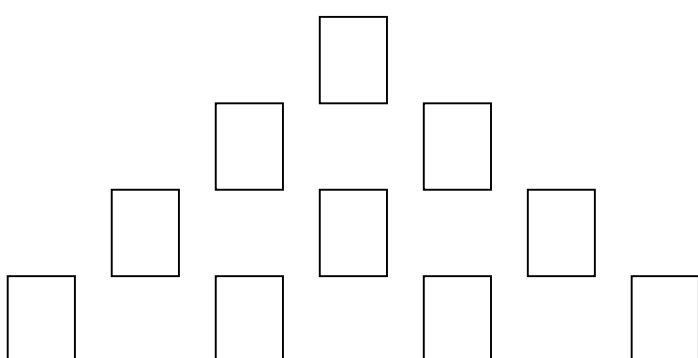
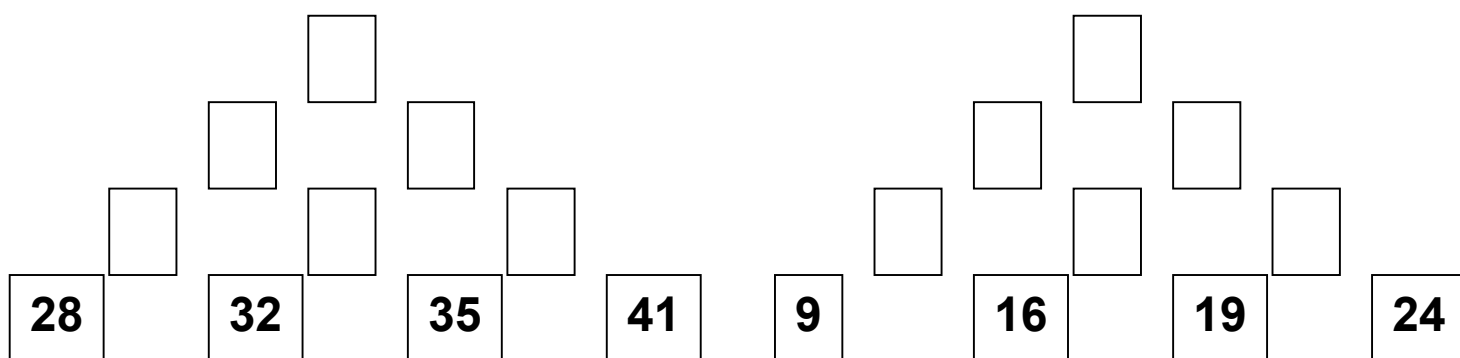
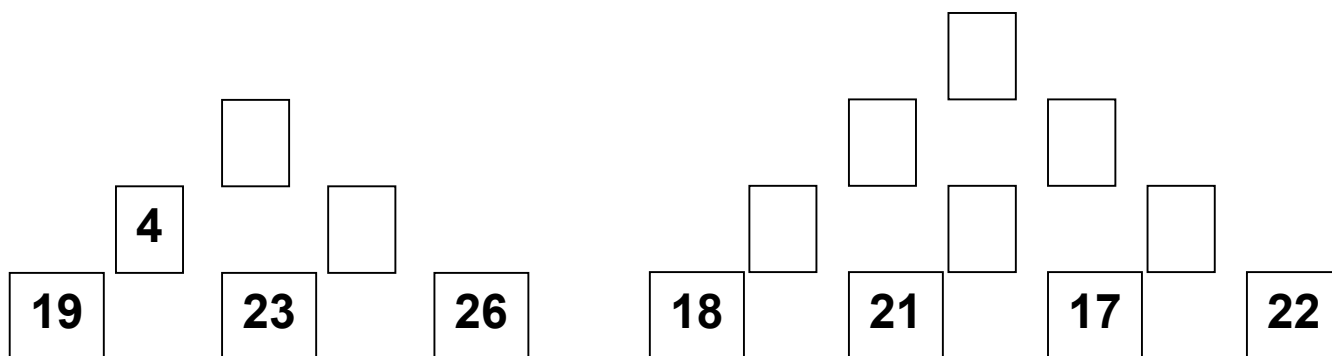
4. Jeanette has £5.80. She gives her sister three 10p coins. How much does Jeanette have left?

+      –      Calculation

How I worked this out (jottings)

Number sentence .....

<b>1</b>									
<b>11</b>									
<b>21</b>									
<b>31</b>									
<b>41</b>									
<b>51</b>									
<b>61</b>									
<b>71</b>									
<b>81</b>									
<b>91</b>									



1.  $6p \text{ ? } 4p = 10p$

2.  $16p \text{ ? } 4p = 20p$

3.  $£2 \text{ ? } 50p = £1.50$

4.  $£7.50 \text{ ? } £3.50 = £4$

5.  $£7.50 \text{ ? } £3.50 = £11$

6.  $£2.50 \text{ ? } \square = £2$

7.  $\square \text{ ? } £7 = £10$

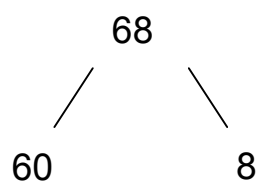
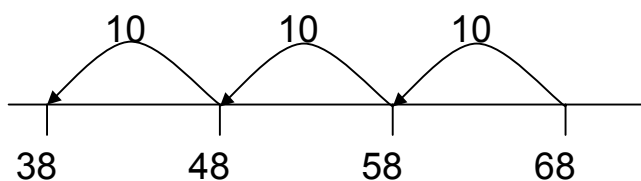
I have 68p. I spend 30p. How much have I got left?

+

—

Calculation

How I worked it out (jottings)



$$60 - 30 = 30$$

$$\text{so } 68 - 30 = 38$$

Number sentence:



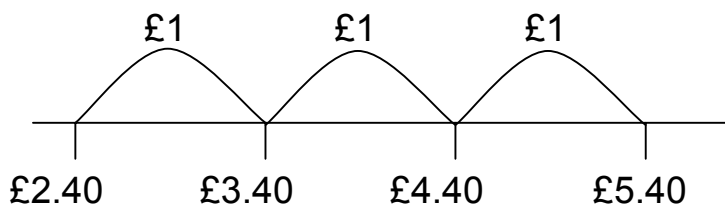
I had £2.40 in my money box and then I got £3 for my birthday!  
How much is in my money box now?

+

—

Calculation

How I worked it out (jottings)



$$\begin{array}{cc} & \text{£2.40} \\ & \swarrow \quad \searrow \\ \text{£2} & \quad \quad 40\text{p} \end{array}$$
$$\text{£2} + \text{£3} = \text{£5}$$
$$\text{so } \text{£2.40} + \text{£3} = \text{£5.40}$$

Number sentence:

# Year 2 Unit 9 (Autumn term) Support Session 1

## Finding a difference

### Objectives

Find a small difference by counting up from the smaller to the larger number.

### Vocabulary

difference  
count on

### Resources

Activity sheet of the S9.1 (enlarge to A3)  
Activity sheet S9.2

### Oral and mental starter

Count on in ones from 11 to 23.  
Count on in ones from 32 to 45.  
Count on in tens from 23 to 93.  
Count on in tens from 18 to 98.

### Main activity

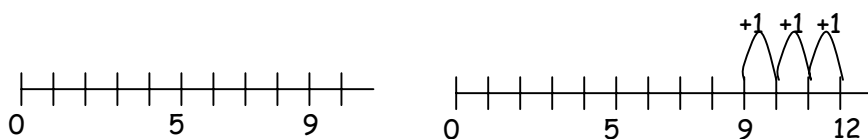
**Q** What is the difference between 9 and 12?

Show two towers of cubes

9	12
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**Q** What is the difference? How much more is 12 than 9?

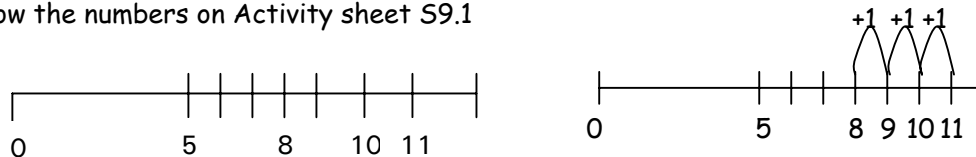
Count the ones that don't match. Now lay them horizontally to match them to the orientation of the number line. Show the two numbers on number lines (Activity sheet S9.1).



Say that the difference between 9 and 12 is 3.

**Q** What is the difference between 8 and 11?

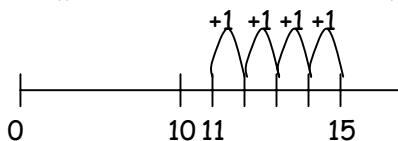
Ask the children to make the towers, count the difference and lay them horizontally. Show the numbers on Activity sheet S9.1



Say the difference between 8 and 11 is 3.

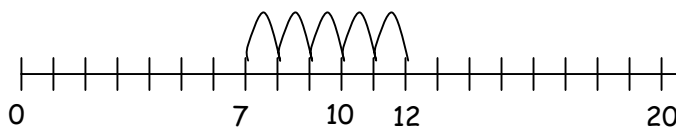
**Q** What is the difference between 11 and 15? Where is 11 on the number line?

Ask the children to find these numbers on Resource sheet S9.2 and find the difference.



**Q** What is the difference between 7 and 12?

Ask the children to find 7 and mark it, find 12 and mark it and then move along the number line.



Say 'the difference between 7 and 12 is 5'. If time allows repeat using other pairs of numbers.

### Plenary

**Q.** How do we find the difference?

Say that we can count on in our heads or count on using a number line.

Shake two dice and say that you want to find the difference between the numbers.

**Q.** Can we count on in our heads?

Repeat rolling the dice and finding the difference. Show the hops on the number line.

## Year 2 Unit 9 (Autumn term) Support Session 2

### Finding a difference

#### Objectives

Finding a small difference.

Find a small difference by counting on.

#### Vocabulary

'how many more to make?'  
difference  
count on

#### Resources

Cubes  
Strips of paper as  
on day 3 of Unit 9

#### Oral and mental starter

**Q** If we have 8, how many more do we need to make 12?

Put 8 cubes under a cloth. Count out extra cubes until you have 12, saying 9, 10, 11, 12. Say that we need 4 extra cubes to make 12 because the difference between 8 and 12 is 4. Show this on a number line.

Repeat the above, starting with 11 cubes and finding the extra number of cubes to make 16. Help the children to hold a finger for each extra cube added.

#### Main activity

Write  $22 - 18$ .

Mark 0 at one end and 22 at the other of a strip of paper.

**Q** Is 18 bigger or smaller than 22? Where would 18 be positioned?

0 18 22

Say that you are going to tear off 0 to 18 because you are taking it away.

**Q** What is the difference between 18 and 22?

Establish that this is what's left. Help the children to count on from 18 to 22, helping them to hold up a finger for each of 19, 20, 21 and 22.

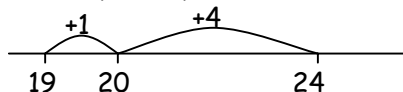
Write  $22 - 18 = 4$ . Say it together.

Repeat for  $24 - 19$ .

Cross out 0 to 19 and find how much is left.

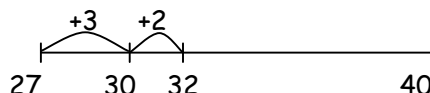
**Q** Do we need to count on in ones?

Establish that we can hop 1 step from 19 to 20 and then add 4 because we know that  $20 + 4 = 24$ .



Write  $32 - 27$ .

Ask the children to draw a number line with 0, 32 and 27 on it, to cross out 0 to 27 and then to count up from 27 to 32. Encourage the children to hop from 27 to 30 and then from 30 to 32.



All say  $32 - 27$  is 5.

#### Plenary

Remind the children of the main points, using one of the children's examples.

Write 0 and the two numbers in the calculation on the number line. Cross off the part you are taking away. Count up from the lower number to the higher. Mark the hops on the number line.

**Q** How many are left? What is the difference between the two numbers?

Write the number sentence.

