

Unit 9
Understanding addition and subtraction

Five daily lessons

Merseyside Consultants'
Cluster Group

Year 2
Spring term

Unit Objectives

Year 2

- | | |
|---|---|
| <ul style="list-style-type: none"> • Compare two two digit numbers, say which is more or less and give a number that lies between • Understand and use vocabulary of addition and subtraction • Bridge through 10, then 20 and adjust • Add 2 then 3 two digit numbers with apparatus • State subtraction fact corresponding to addition and visa versa • Find totals, give change and work out how to pay • Choose and use an appropriate number operation and mental strategy to solve money and 'real life' word problems • Check results. Explain methods orally. Record result in number statement, using +, -, = | <p>Page 10</p> <p>Page 24</p> <p>Page 41</p> <p>Page 27</p> <p>Page 29</p> <p>Page 69</p> <p>Page 69</p> <p>Page 34</p> |
|---|---|

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:

- Number line
- Number fans
- Whiteboards
- Resource sheets
- Cut out rabbit

Link Objectives

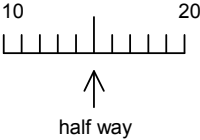
Year 1

Year 3

- **Understand the operation of addition and subtraction as how many more.**
- Partition into 5 and a bit when adding 6, 7, 8 or 9.
- Bridge through 10 when adding single digit numbers.
- Choose and use the appropriate number operations and mental strategy to solve a problem.

- Add three two-digit numbers using apparatus or informal methods.
- Partition into tens and units and recombine.
- Explain and record methods.
- Check results.

(Key objectives in bold)

Planning sheet	Day One	Unit 9 Place value and ordering understanding addition and subtraction	Term: Spring	Year Group: 2
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions
		<p>Compare 2 2 digit numbers and say which is more or less and give a number which lies in between.</p> <p>Choose and use an appropriate number operation to solve 'real life' problems.</p> <p>Explain methods orally.</p> <p>VOCABULARY More than Less than Between Calculation</p> <p>RESOURCES Class number line Individual number lines Whiteboards Resource sheet 1</p>	<p>Q Which is less 36 or 63?</p> <ul style="list-style-type: none"> Children to show answer using number fans. <p>• Ask one child to indicate where these numbers are on number line and show which is less.</p> <p>Q Give me a number between 36 and 63</p> <ul style="list-style-type: none"> Children to show answers using number fans. <p>• Ask selection of children to indicate where their numbers are on number line and check they come between 36 and 63.</p> <p>Q What even numbers lie between 36 and 63?</p> <ul style="list-style-type: none"> Children to talk to partner and then show number on number fans. <p>Q If Ali has 16 pens and Ben has 22 pens who has more pens?</p> <ul style="list-style-type: none"> Children to talk to partner and then write answer on whiteboard. <p>Q How many more pens does Ben have?</p> <ul style="list-style-type: none"> Children to discuss again with a partner and write calculation on whiteboard. Ask some children to explain how they found the answer. How did they decide on the calculation? Children to answer questions on problem sheet and then devise own problems giving solutions. 	<ul style="list-style-type: none"> Write on board 25 □ 31 <p>Q What number could go in the box?</p> <ul style="list-style-type: none"> Children to show answers using fans. <p>Q What number comes half way between 10 and 20?</p> <ul style="list-style-type: none"> Children to talk to partners and show answers using number fans. Ask children to explain how they found the answer. If necessary model using a number line  <p>By the end of the lesson children should be able to:</p> <ul style="list-style-type: none"> Use appropriate number operations to solve real life problems . <p>(Refer to supplement of examples, section 5, page 67)</p>

Resource Sheet 1

Day 1

1. Which is shorter: 18 metres or 15 metres?
2. Which is more: 31 kg or 37 kg.
3. Which is less: 67p or 76p.
4. What even numbers lie between 15 and 20?
5. Sam is 110 cm tall and Joe is 122 cm tall. Jane is taller than Sam but shorter than Joe. How tall could she be?
6. My cake cost more than 90p but less than £1.00. What could it have cost?

Planning sheet		Day Two	Unit 9 <i>Place value and ordering understanding addition and subtraction</i>	Term: <i>Spring</i>	Year Group: 2
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions	
		<ul style="list-style-type: none"> Understand and use the vocabulary of addition and subtraction (p24) Bridge through 10 then 20 and adjust (p41) <p>VOCABULARY Multiple Number bond Take away Subtraction</p> <p>RESOURCES Whiteboards Fans Digit cards</p>	<p>Q What is $6 + 7 = ?$</p> <ul style="list-style-type: none"> Children to talk to partners and show answers using number fans. <p>Q How did you work out the answer?</p> <ul style="list-style-type: none"> Children to explain their methods. Explain that it is always easier to add something to 10 so we need to partition these numbers so we can make a 10. <p>Q How could we do this?</p> <ul style="list-style-type: none"> Take responses from children. Explain we need to split the 7 into 4 and 3 to give us $6 + 4 + 3 =$ <p>Q Do we have a number bond to 10?</p> <p>$6 + 4 = 10$</p> <ul style="list-style-type: none"> Therefore $10 + 3 = 13$. Explain we can use this method with bigger numbers. <p>Q What is $16 + 7$?</p> <ul style="list-style-type: none"> Ask children to talk to their partners about how they would do this calculation. Take children's responses and model <p>$16 + 7$ $16 + 4 + 3$ $20 + 3 = 23$</p> <p>Q Why is it easier to add to 20?</p> <ul style="list-style-type: none"> Take children's responses and then explain that as 20 is a multiple of 10 it makes it easier to add another number to. <p>Q What do we mean by a multiple?</p> <ul style="list-style-type: none"> Take responses - if children are unsure of this term explain that it means 20 is in the 10 times table. <ul style="list-style-type: none"> Activities. Children to use digit cards to add single digit to 2 digit numbers by bridging through multiples of 10. 	<p>Q How could we calculate $22 - 7$?</p> <ul style="list-style-type: none"> Ask children to think about what we have been doing - the lesson and how we could apply this to a take away. Talk to partners and explain methods. Model - <p>$22 - 7$ $= 22 - 2 - 5$ $= 20 - 5$ $= 15$</p> <p>Q $24 - 8$</p> <ul style="list-style-type: none"> Children to talk to partners and write solutions on whiteboards. <p>By the end of the lesson children should be able to:</p> <ul style="list-style-type: none"> Add a single digit to a 'teens' number, crossing 20. <p>(Refer to supplement of examples, section 5, page 41)</p>	

Planning sheet	Day Three (Cont'd)	Unit 9 <i>Place value and ordering understanding addition and subtraction</i>	Term: <i>Spring</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>Q What is $36 - 24$?</p> <ul style="list-style-type: none"> Children to show answers using fans. <p>$36 - 24 = 12$</p> <ul style="list-style-type: none"> So $24 + 12 = 36$ We have checked our answer. <ul style="list-style-type: none"> Activities. With partner pick two 2 digit numbers (one each) from digit cards. Children to write calculations smallest number + Δ = largest number Find value for Δ and check answers using subtraction. 	

Planning sheet		Day Five	Unit 9 Place value and ordering understanding addition and subtraction	Term: Spring	Year Group: 2
Oral and Mental			Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities		Teaching Activities/ Focus Questions
		<ul style="list-style-type: none"> Find totals, give change and work out how to pay Choose and use an appropriate number operation to solve money and real life word problems Check results. Explain methods orally <p>VOCABULARY Investigate</p> <p>RESOURCES Number lines Number squares Rods Whiteboards Large coins - magnetic Money</p>	<p>Q I have £14. I am given another £9. How much do I have now?</p> <ul style="list-style-type: none"> With partners children to discuss calculation and show answer using fans. Discuss methods. Repeat for these questions. <p>Q A pear costs 15p more than an apple. An apple costs 12p. What does a pear cost?</p> <p>Q Patrick bought 3 choc bars at 15p each. How much change did he get from 50p?</p> <ul style="list-style-type: none"> Discuss methods in both cases and provide apparatus for children eg number lines, squares, rods, whiteboards. <p>Q How many different ways can you make 50p using only silver coins?</p> <ul style="list-style-type: none"> Children to spend some time in groups investigating different ways to make 50p using silver money and recording. Bring class back together and discuss solutions. <p>50p 20p + 20p + 10p 20p + 20p + 5p + 5p 20 + 10 + 10 + 10</p> <ul style="list-style-type: none"> Look at ways to ensure finding all answers by being systematic. <ul style="list-style-type: none"> Activities. Children to investigate. Joe has 3 20p and 2 15p stamps. What values can he make using 1 or more of the stamps. 		<ul style="list-style-type: none"> Together look at answer to investigation taking answers from children and demonstrating systematic way to ensure all answers are found. <p>By the end of the lesson children should be able to:</p> <ul style="list-style-type: none"> Use systematic methods to ensure they find all the answers to a question. <p>(Refer to supplement of examples, section 5, page 67)</p>