

**Unit 4**  
**Money and real life problems**  
 Year 2  
 Autumn term

Five daily lessons

**Merseyside Consultants'**  
**Cluster Group**

**Unit Objectives**  
 Year 2

**Choose and use appropriate operations and efficient calculation strategies to solve simple `real life` word problems involving money**  
 Use mental addition and subtraction, simple multiplication and division to solve simple word problems using one or two steps  
 Recognise all coins and begin to use £.p notation for money  
**Explain how a problem was solved** orally and where appropriate in writing  
 Check results of calculations by repeating addition in a different order or checking with an equivalent calculation

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**Year 1 Link Objectives**

**Year 3**

**Use mental strategies to solve simple problems** set in `real life` involving money, **using counting, addition, subtraction, doubling and halving, explaining methods and reasoning orally.**  
 Recognise coins of different values  
 Choose and use appropriate number operations and mental strategies to solve problems

(Key objectives in bold)

**Choose and use appropriate operations (including multiplication and division) to solve word problem,** and appropriate ways of calculating: mental, mental with jottings, pencil and paper  
 Solve simple `real life` word problems involving money and explain how problem was solved  
**Understand and use £.p notation** (for example, know that £3.06 is £3 and 6p).  
 Check results of calculations by repeating addition or multiplication in a different order, checking with an equivalent calculation, checking subtraction with addition, halving with doubling and multiplication with division

**Resources needed to teach this unit:**

- 'Mega money'
- Small money
- Real money
- Shop items – toys/food/sweets, small classroom objects
- Shopkeeper's outfit
- Class toy/puppet
- Selection of appropriate large price tags for items
- Whiteboards and pens
- Key vocabulary on cards

- Resource sheet 1.1 – priced items
- Resource sheet 1.2 – problem
- Resource sheet 1.3 – problem
- Resource sheet 1.4 - problem

Planning sheet	Day One	Unit 4 Money and real life problems		Term: Autumn	Year Group: 2
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
		<p>Recognise coins and begin to use correct notation            Select fewest number of coins to pay for amounts            Explain how a problem was solved orally</p> <p>VOCABULARY</p> <p>1p, 2p, 5p, 10p, 20p, 50p            How much/how many            Value/worth            Cost            Price            Coin            Pence            Penny            Total            Altogether            Fewest</p> <p>RESOURCES</p> <p>Large money            Small money            Shop items with price tags            Picture cards            Whiteboards and pens            Shopkeeper's 'outfit'            Real money            Cards with items written on them/pictures to total (resource sheet 1.1)</p>	<p>Display large money – coins to 50p – and ask children to identify them.</p> <p style="border: 1px solid black; padding: 5px;">Q: What different coins can you see? Who can tell me what the value of this coin is?</p> <p>Draw attention to the value written on the coins whilst saying the value clearly. Ask children to identify the coin with the smallest value, then the next highest value – so ordering the coins and displaying them on the board with their value written underneath.</p> <p>Ask the children to discuss in pairs which coins they might choose that would have the same value as the 10p coin. Children could choose coins from small money trays and write their selection on a whiteboard and then share the different equivalents with the class. Repeat with 20p and 50p coins.</p> <p style="border: 1px solid black; padding: 5px;">Q: Which coins have you chosen that together total 10p/20p/50p?</p> <p>Direct attention to a 'shop/stall' pre-arranged with a selection of toys for sale – items up to 50p. Choose a child to be the shopkeeper and one to choose a toy from the stall to buy. Identify the price on the tag and ask children in pairs again to find the right coins they would need to pay for the item. Discuss the different combinations and show on board. Ask children to explain how they decided on which coins to pick.</p> <p style="border: 1px solid black; padding: 5px;">Q: What coins would I need to buy this toy?</p> <p>Choose one of the items and say this time you want them to try and find the fewest number of coins that they would need to be able to pay for it. Check understanding of language 'fewest' by referring to the different combinations of coins on the board and showing, for example, the fewest number of coins for the price tag 27p would be 20p, 5p and 2p.</p> <p>Repeat with other items in the shop – below 50p and one above 50p but less than £1</p>	<p>Explain you have other items to put in the shop and that each has its own price attached. Hand out cards to pairs of children (resource sheet 1.1) Ask a few to tell the class the price of the item.</p> <p style="border: 1px solid black; padding: 5px;">Q: What is the price of this toy/sweet/fruit?</p> <p>Differentiate as to which price is given to children of differing ability.</p> <p>Ask them to find the fewest number of coins to match their price.</p> <p>Ask children to explain how they found the fewest number of coins for the different amounts. Demonstrate replies on board – e.g. 87p</p> <p>Looking for the coin with the value nearest to 80p – 50p – then being able to see that the remaining 30p was a 20p and a 10p. Then dealing with the 7p as a 5p and a 2p.</p> <p>NB: - to further extend this activity more able children could be given two items on cards with different prices which total under £1. They could then explain how they totalled the items and then found the fewest number of coins.</p>	

Planning sheet	Day Two	Unit 4 Money and real life problems		Term: Autumn	Year Group: 2
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
		<p>Recognise coins and begin to use correct notation            Explain how a problem was solved orally            Solve simple 'real life' problems involving money            Use mental addition</p> <p>VOCABULARY</p> <p>As day one plus...</p> <p>£1            Pound            Add/addition            Total            Altogether            Equal/equivalent</p> <p>RESOURCES</p> <p>Large money            Small money            Shop items with large price tags            Whiteboards and pens            Shopkeeper's 'outfit'            Real money            Class toy/puppet</p>	<p>Revise ordering coins from day one and show £ coin.</p> <div data-bbox="1048 300 1729 376" style="border: 1px solid black; padding: 5px;"> <p>What is the value of this coin?            How many pennies equal £1?</p> </div> <p>Teacher chooses coins from the large money and displays them grouped randomly.</p> <p>50p, 10p, 5p, 2p, 1p,</p> <p>Children work out the total value of the coins and show on whiteboards.</p> <div data-bbox="1055 639 1727 727" style="border: 1px solid black; padding: 5px;"> <p>How did you count up the value of the coins?            Which coins did you add together first?</p> </div> <p>Teacher reinforces correct answer by counting up and then showing the amount written on board.</p> <p>Repeat for a few totals, both under and over £1</p> <p>Use 'shop' from day one with a selection of different items clearly labelled with large price tags – both under and over £1 – and explain to children that you (or a hand puppet/class toy) have 86p and that you would like to buy a certain two items from the shop but you are not sure if you have enough money. Can they help out? Children work in pairs to total the two items.</p> <div data-bbox="1055 1066 1727 1153" style="border: 1px solid black; padding: 5px;"> <p>How did you know I had enough money/not enough money?            Did anyone find the cost of the two items in a different way?</p> </div> <p>Repeat with different items as appropriate.</p>	<p>Explain you have a new puzzle for the plenary to which there will be lots of different answers and you are all going to work to see how many different answer the whole class can come up with.</p> <p>A child/class toy/puppet has £1.50</p> <p>They are to find out as many different combinations of items that could be bought from the shop for that sum.</p> <p>Explain that the totals do not have to be exactly £1.50 but that they cannot be over.</p> <p>More combinations can be made available by saying they can buy more than one of the same item and/or increasing the number of items on the stall.</p> <p>Allow children time to work in pairs or alone with whiteboards.</p> <p>Discuss and record the different combinations.</p>	

Planning sheet	Day Three	Unit 4 Money and real life problems	Term: Autumn	Year Group: 2
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions
		<p>Recognise coins and begin to use correct notation            Explain how a problem was solved orally            Solve simple 'real life' problems involving money            Use mental addition and subtraction            Use simple multiplication</p> <p>VOCABULARY</p> <p>1p, 2p, 5p, 10p, 20p, 50p, £1            How much/how many            Value/worth            Cost            Price            Coin            Pence            Penny            Pound            Change            Add/addition            Total            Altogether            Subtract/subtraction            Multiply/multiplication            Count on            Grouping/groups of            Calculation            Operation</p> <p>RESOURCES</p> <p>Large money            Small money            Shop items with large price tags            Whiteboards and pens            Shopkeeper's 'outfit'            Real money            Class toy/puppet</p>	<p>Remind the children of the puzzle set for plenary on day two.</p> <p>Explain that the lesson will start today with a similar sort of problem.</p> <p>Ask one of the children to come up and choose an item from the shop that costs less than 10p. (stock the shop with small items like rubbers, pencils etc.)</p> <p>Choose another child and give him/her 25p</p> <p>Explain that you want the children to work out how many of that item can be bought for the 25p. Allow time for the children to work on the problem using whiteboards. Then take answers.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>How many _____ could you buy?            How did you calculate how many you could buy?            How much money would s/he have left over?</p> </div> <p>Draw the children's attention to the link between repeated addition and multiplication and their knowledge of the multiplication tables.</p> <p>Highlight fact that they are finding out how many groups of 6p/7p/8p/etc. there are in any total amount they have to spend.</p> <p>Show the different methods on board and discuss.</p> <p>Ask the children how much money they would have left over or the amount of change they would have.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>How do you know how much change there was?            What kind of calculation would you need to do to find out what change s/he would have?</p> </div> <p>Draw a number line on board to show counting on to find out how much money would be left over.</p> <p>Repeat with other small items from the shop and different totals up to £1</p> <p>Encourage children to make links between the totals and what they find out – for example 3 pencils costing 8p could be bought with 25p with 1p change, so 6 pencils could be bought for 50p with 2p change.</p>	<p>Ask children to work in pairs to find the total amount of money needed to buy three items from the shop. Choose items that will total over £1 but under £1.10</p> <p>Children show their answers on whiteboards.</p> <p>Establish the correct answer orally and quickly look at the different ways that the children did the addition.</p> <p>Then look at the ways that they wrote the answer.</p> <p>Teach them why there is a zero place holder in the written notation of £1.06, matching the written notation on the board with the corresponding large money coins.</p> <p>Finish by putting some different amounts on the board or showing large cards –</p> <p>£1.46, £1.08, £1.75, £1.05, £2.99, £3.01</p> <p>- get children to say the values and find the correct amount. Draw attention to the place holder when there are no tens.</p>

Planning sheet	Day Four	Unit 4 Money and real life problems		Term: Autumn	Year Group: 2
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
		<p>Recognise coins and begin to use correct notation            Explain how a problem was solved orally            Solve simple 'real life' problems involving money            Use mental addition and subtraction            Use simple multiplication            Check results of calculations</p> <p>VOCABULARY</p> <p>1p, 2p, 5p, 10p, 20p, 50p, £1, £2            How much/how many            Value/worth            Cost            Price            Coin            Pence            Penny            Pound            Change            Add/addition            Total            Altogether            Subtract/subtraction            Multiply/multiplication            Count on            Grouping            Checking</p> <p>RESOURCES</p> <p>Large money            Small money            Shop items with large price tags            Whiteboards and pens            Shopkeeper's 'outfit'            Real money            Class toy/puppet            Resource sheet 1.2</p>	<p>Tell children how good they have become at recognising the different coins and writing amounts correctly and that there is one last coin to look at. Show £2 coin.</p> <div data-bbox="1037 339 1720 459" style="border: 1px solid black; padding: 5px;"> <p>Who can tell me the value of this coin?              If 100 pennies equal £1, how many pennies will be equal to this coin?              How many 10 pence pieces would make £2?</p> </div> <p>Explain you are going to give them some larger amounts to total. As on day two, display randomly grouped large money coins.</p> <p>E.g. £2 coin, £1 coin, 50p coin, 2x 20p coins, 3x 1p coins</p> <p>Children work in pairs to find totals and show on whiteboards.</p> <div data-bbox="1037 663 1720 746" style="border: 1px solid black; padding: 5px;"> <p>Which coins did you add up first?              Does anyone have a different way</p> </div> <p>Ask volunteers to write the amounts correctly on board. Include one total where the children have to use zero place holder in tens column.</p> <p>Next, show a simple problem written on card (sheet 1.2)</p> <div data-bbox="1037 884 1720 951" style="border: 1px solid black; padding: 5px;"> <p>Which operation do we need to use to solve this problem?              Which words tell you it is an addition?</p> </div> <p>Elicit addition and ask children to solve the problem and find a way of recording what they do on paper/whiteboard. Take one way of calculating the answer and put on the board.</p> <div data-bbox="1037 1054 1720 1121" style="border: 1px solid black; padding: 5px;"> <p><math>7p + 12p + 19p =</math></p> </div> <p>If we want to be absolutely sure of our answer we need to find a way of checking our work.</p> <div data-bbox="1037 1225 1720 1308" style="border: 1px solid black; padding: 5px;"> <p>What different ways are there of doing this calculation?              Could we use any of these ways to check our answer?</p> </div> <p>Elicit that we can do this by calculating in an alternative way – take children's alternative ways of mentally totalling the prices whilst looking at the calculation written on board.</p>	<p>During the plenary ask a member of each group to feedback to the class.</p> <div data-bbox="1765 339 2152 612" style="border: 1px solid black; padding: 5px;"> <p>Can you explain your group's problem to the class?              What operation did you decide on and why?              Can you show us at the board how you worked out the answer?              Did you find a way to check that you had the right answer?</p> </div>	

Next write the calculation in a different order.

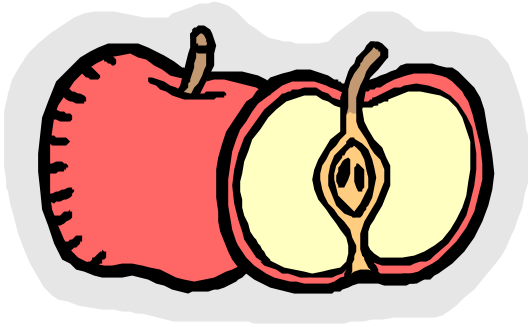
$$19p + 7p + 12p =$$

Ask the children if they think the answer will stay the same. Demonstrate that the total is the same and highlight the fact that changing the order of the numbers to be added will not affect the answer.

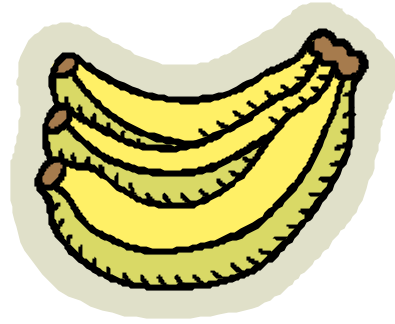
Set the children differentiated problems to work on in small groups explaining that they should read the problem and decide on the appropriate operation, perform the calculation and check their method.

Planning sheet	Day Five	Unit 4 Money and real life problems	Term: Autumn	Year Group: 2
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions
		<p>Solve simple 'real life' problems involving money using one or two steps            Use mental addition and subtraction            Use simple multiplication and division            Check results of calculations</p> <p>VOCABULARY</p> <p>1p, 2p, 5p, 10p, 20p, 50p, £1, £2            How much/how many            Value/worth            Cost            Price            Coin            Pence            Penny            Pound            Change            Add/addition            Total            Altogether            Subtract/subtraction            Multiply/multiplication            Divide/division            Count on            Grouping/sharing</p> <p>RESOURCES</p> <p>Large money            Small money            Shop items with large price tags            Whiteboards and pens            Shopkeeper's 'outfit'            Real money            Class toy/puppet            Resource sheet 1.3/1.4</p>	<p>Set the class a problem (sheet 1.3). One of the children is going to have a small birthday party and seven friends are to attend. Choose children in the class or toys/book characters etc.</p> <p>Explain you want them to work in pairs to choose the appropriate operation and record their working out and answer in any way they like on the whiteboard.</p> <p>Discuss the different ways of recording.</p> <div data-bbox="1048 533 1742 632" style="border: 1px solid black; padding: 5px;"> <math>7 \times 5p = 35p</math>  <math>7 \text{ lots of } 5p \text{ is } 35p</math>  <math>5p+5p+5p+5p+5p+5p+5p=35p</math> </div> <p>Revise the link between multiplication and repeated addition. Demonstrate using groups of pennies the different methods.</p> <p>Ask the children if they think the answer will be the same if the calculation is set out: -</p> <div data-bbox="1048 769 1742 829" style="border: 1px solid black; padding: 5px;"> <math>5p \times 7 =</math> </div> <p>Show that it is the same. Highlight the fact that they are able to check using a related method.</p> <p>Give the children second problem from sheet 1.4. As before ask them to discuss with a partner the best way to solve the problem and to record in any way they like.</p> <div data-bbox="1048 1008 1742 1129" style="border: 1px solid black; padding: 5px;">           How did you solve the problem?            What operation did you choose?            Which words told you which operation to choose?            How did you calculate the answer?         </div> <p>Take examples of the different ways of recording and show on board. Value all jottings/pictures as well as any formal calculations. Elicit from children that they were dividing the original sum of money up fairly so that each child could buy a required number of the item.</p> <p>Demonstrate using coins both grouping and sharing.</p> <p>First demonstrate with a child taking groups of 5p away from the amount and then seeing how many groups you have and so how many items could be bought. Second demonstrate sharing the money out equally between the number of friends.</p> <p>Discuss and make links between division and multiplication/repeated addition as a way to check work.</p>	<p>Finish with a problem involving a larger sum of money.</p> <p>Show the children a £5 note – establish its value and then say you want to share it between 4 members of the class – choose 4 children and put their names in a line on the board.</p> <p>In its present state you can't share the money without destroying the note.</p> <div data-bbox="1800 632 2145 699" style="border: 1px solid black; padding: 5px;">           What could I change the note for and keep the same value?         </div> <p>Change the £5 for 5 £1 coins and give each child £1. Record £1 under each name.</p> <div data-bbox="1800 778 2145 909" style="border: 1px solid black; padding: 5px;">           Now I have £1 left over, what can I change it for and keep the value the same?         </div> <p>Change the £1 for 10 10p coins and share them out until you have just 2 10p coins left. Ask the children how much they have now and amend the amount on board to £1.20</p> <p>Show the class the last 2 10p coins.</p> <div data-bbox="1800 1114 2145 1308" style="border: 1px solid black; padding: 5px;">           How much have I left?            What coins should I change these 2 10p coins for?            Does anyone think they know how much each child will get?         </div> <p>Change the coins again either to 2p coins then 1p or directly to 1p coins depending on children's suggestions.</p> <p>Record any changes at the board and ask the children to tell you how much they have each.</p>

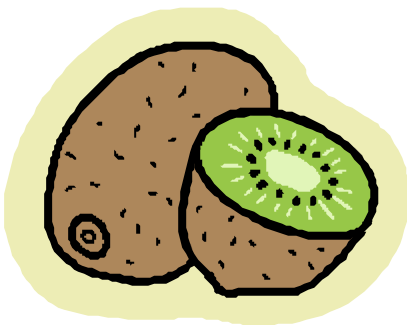
17p



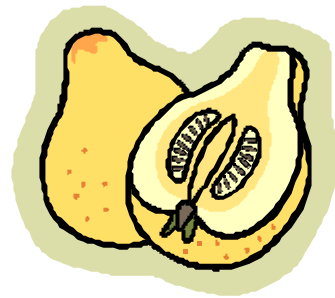
12p



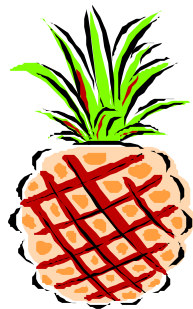
23p



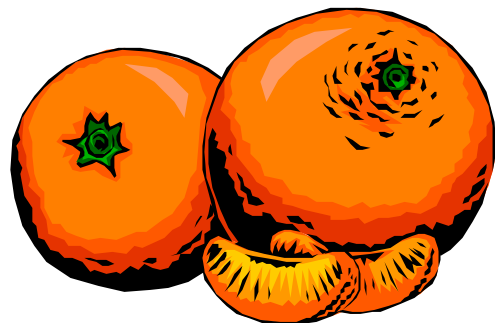
15p



45p



19p



99p



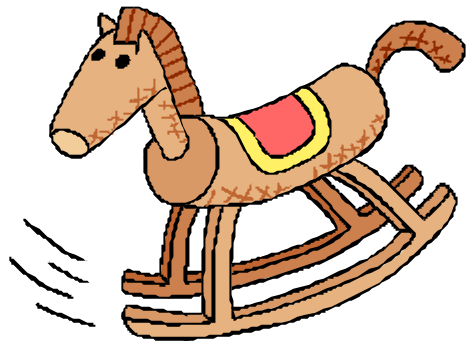
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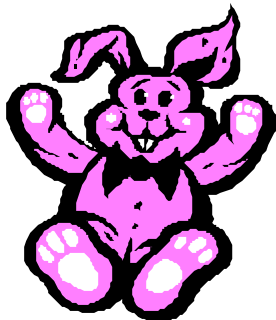
65p



50p



45p



72p



32p



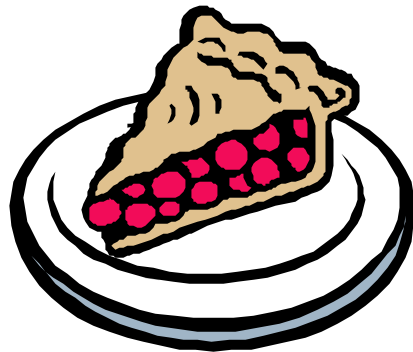
9p



25p



35p



28p



55p



A rubber costs 7p, a gel pen is 19p and a pencil costs 12p.

How much would it cost altogether to buy one of each item?

12

It is Carla's birthday and she is inviting 7 of her best friends for tea.

She wants to give each friend a small present when they arrive. So she buys 7 coloured balloons.

Each balloon costs 5p.

How much does she pay in total?

Nasir has 60p that he wants to share between himself and 5 friends.

He divides the money equally between them all and they go to the shop to buy sweets costing 5p each.

How many sweets can they each buy?