

Unit 11
Money and real life problems
Year 1
Autumn term

Five daily lessons

Unit Objectives

Year 1

- **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. Find totals and change 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

Link Objectives

Reception

- **Use developing mathematical ideas and methods to solve practical problems** involving counting and comparing in a real life or role play context.
- Begin to understand and use the vocabulary . Sort coins, including the £1 and £2 coins, and use them in role play to pay and give change.

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

(Key objectives in bold)

Resources needed to teach this unit:

- Resource sheet 11.1. enlarged to A3 size and laminated.
- Resource sheet 11.1 enlarged to A3 size, laminated and cut into individual cards.
- Class number line
- Individual whiteboard and pens
- Resource sheet 11.2 enlarged to A3 size.
- Selection of items from the class shop.
- Mega money or OHP money or magnetic money.
- Pots of coins containing 1ps, 2p, and 5ps. 10p coins to add to the pots on Day 5.

Planning sheet		Day One	Unit 11 Money and real life problems	Term: Autumn	Year Group: 1
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
		<p>Use mental strategies to solve simple problems using counting, addition, subtraction, halving or doubling, explaining methods and reasoning orally.</p> <p>Choose and use appropriate number operations and mental strategies to solve problems</p>	<p>Present Resource sheet 11.1 "The Toy Shop" to the class and read together the names of the toys. Clap or tap on a drum the value of each item.</p> <p>Which toy is the most expensive?</p> <p>Establish that the car is the most expensive as 10p has the highest value. Refer to class number line.</p> <p>Which toy is the cheapest?</p> <p>Establish that the ball is the cheapest as 3p has the lowest value. Refer to class number line.</p> <p>Which toy costs more the train or the doll?</p> <p>Ask the children to explain how they worked out their answers. Emphasise that if the train costs more than the doll the train is more expensive.</p> <p>How much more was the train than the doll?</p> <p>Use a number line to demonstrate counting on to find how much more.</p> <p>If the train costs more than the doll what could we say about the doll?</p> <p>Establish that as the doll costs less than the train the doll is cheaper. Repeat using different examples from "The Toy Shop." Using laminated cards ask the children to put the toys in order starting with the lowest value.</p>	<p>Put the cards in order starting with the lowest value. Using toys from the classroom e.g. compare bears, cars etc. ask the children;</p> <p>If the bear costs 7p which 2 toys, would it be between?</p> <p>Let a child put the bear between 2 cards.</p> <p>Is that the correct place? How do you know?</p> <p>Establish that 7p is more than 5p but less than 8p.</p> <p>How much more / less is the bear than the train, doll etc.</p> <p>Repeat using different toys and prices.</p> <p>Ask the children questions such as:</p> <p>If this toy cost 4p more than the car, how much would it cost?</p> <p>What would be the price of this toy if it cost 2p less than the train?</p>	
		<p>Vocabulary</p> <p>Most/least Expensive Cheapest Costs More than Less than How much more pence</p>			

Planning sheet		Day Two	Unit Money and real life problems	Term: Autumn	Year Group: 1
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
		<p>Use mental strategies to solve simple problems using counting, addition, subtraction, halving or doubling, explaining methods and reasoning orally.</p> <p>Choose and use appropriate number operations and mental strategies to solve problems</p> <p><u>Vocabulary</u></p> <p>Most/least Expensive Cheapest Costs More than Less than How much more Pence buy</p>	<p>Collect the laminated cards from day 1 and put one of the cards into a bag making sure the children can still see Resource sheet 11.1. Tell the children that you have one of the toys in the bag and they have to ask questions to work out which toy is hidden. Encourage the children to ask questions such as:</p> <p>Is the toy in the bag worth more/less than the train?</p> <p>Is it 5p more than the ball?</p> <p>Refer the children to Resource sheet 11.1. Tell them that they are going to buy two of the toys. Working in pairs, they can choose which toys they want and calculate out how much it will cost. Give the children a few minutes to record their answers on their whiteboards. Ask some of the children to feedback to the whole group and explain how they worked out their answers. Model the calculations on the whiteboard using + and = in a number sentence. <i>Make sure the examples you select are not the ones for the next activity.</i> Tell the children that they are going to be set a challenge.</p> <p>Can they choose the two toys which, when totalled together would cost the most? What is the total cost?</p> <p>Establish that it is the car and the boat. Model the calculation on the whiteboard.</p> <p>Which two toys would cost the least? What is the total cost?</p> <p>Establish that it is the ...and the Model the calculation on the whiteboard.</p> <p>Ask the children:</p> <p>How much would it cost if we bought two trains? What do we need to know to work the answer out as quickly as possible?</p> <p>Make sure the children understand that they can apply their knowledge of doubling to work out the answers for all the toys.</p>	<p>Present Resource sheet 11.2 to the children. Look at the first question. The train and the # costs 13p altogether. Ask the children:</p> <p>What is the missing toy? Could there be another answer?</p> <p>Establish that only the ball and the train totalled together costs 13p. Model the calculation on the whiteboard using + and = signs in a number sentence. Work through the examples with the children. Present the questions to the children in reverse order eg. the ball and the # costs 13p altogether. Ask the children to explain how they would know that the answer was the train without using a calculation. Establish whether the children understand that addition can be done in any order.</p>	

Planning sheet		Day Three	Unit 11 Money and real life problems	Term: Autumn	Year Group: 1
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
		<p>Use mental strategies to solve simple problems using counting, addition, subtraction, halving or doubling, explaining methods and reasoning orally.</p>	<p>Present Resource sheet 11.1 to the children. Read through the prices together. Tell the children that there is going to be a sale in the toy shop. Explain what this means to the children. Write on the whiteboard.</p> <p>2p off everything. Every toy is 2p less.</p> <p>Tell the children that they are going to work out how much each toy is going to cost in the sale. Choose one of the toys eg. the yoyo say the children:</p> <p>The yoyo costs 8p. How much will it cost in the sale?</p> <p>When the correct answer has been given ask the children:</p> <p>How can we check that 6p is the correct answer?</p> <p>Take responses and model the childrens method of working out using cubes and the number line. Write the calculation on the whiteboard using – and = in a number sentence.</p> <p>Work through all the toys on Resource sheet 11.1.</p> <p>Draw your own set of sale items. Write price tags not less than 6p next to them. Change the labels on the whiteboard to;</p> <p>5p off everything. Every item is 5p less.</p> <p>Work through these new sale items as above.</p>	<p>Assess the children’s understanding of the days lesson by asking them</p> <p>What have we been learning about in today’s lesson?</p> <p>How do you work out the price of an item in a sale when the sign tells you everything is 3p less?</p> <p>Write new price tags next to the sale items. Tell the children that these items were bought in a sale where everything was 2p less. The price tags show how much they cost after the price was reduced.</p> <p>Can anyone tell me how we could work out how much the items cost before the sale?</p> <p>Take the children’s responses. Say to the children <i>We know that 8p was the original price because 8 take away 2 is 6.</i> <i>And</i> <i>We know that 8p was the original price because when we count on 2 from 6 the answer is 8.</i> Repeat for the other items.</p>	

Planning sheet	Day Four	Unit 11 Money and Real Life Problems		Term: Autumn	Year Group: 1		
Oral and Mental		Main Teaching			Plenary		
Objectives and Vocabulary	Teaching Activities	<p>Objectives and Vocabulary 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. Find totals and change up to 20p. Work out how to pay an exact sum using smaller coins.</p>	<p>Teaching Activities</p> <p>At the front of the class put mega money /ohp coins in order as the children respond to questions such as:</p> <div data-bbox="905 427 1633 492" style="border: 1px solid black; padding: 2px;">Which coin is worth the least / has the smallest value? Which coin comes next?</div> <p>Chant the names of the coins with the children. Ask the children to close/cover their eyes and remove one of the coins.</p> <div data-bbox="905 605 1633 646" style="border: 1px solid black; padding: 2px;">Which coin is missing? How did you work that out?</div> <p>Present an item labelled 5p. (Use an item from the class shop or laminated card of from day 1.) Talk about how much it is worth, clap 5 times to match the value etc.</p> <p>Give the children the pots of money. Working in pairs, ask the children to show you 5p using the coins they have. Tell the children that there is more than one way so they can have several different answers. Take random examples from the children and show the class using mega money/ohp coins. Ask the children</p> <div data-bbox="905 992 1633 1049" style="border: 1px solid black; padding: 2px;">How do we know whether we have found all the different ways of making 5p?</div> <p>Agree that the best way would be to work systematically starting with 1ps through to a 5p coin. 1p 1p 1p 1p 1p 2p 1p 1p 1p 2p 2p 1p 5p Make sure the children understand that these are the only possibilities and that a combination of 1p 2p 1p 1p is the same as 2p 1p 1p 1p. Choose another item labelled 7p and repeat the above. Conclude by asking the children:</p> <div data-bbox="905 1373 1633 1430" style="border: 1px solid black; padding: 2px;">What is the greatest number of coins we need to make 7p? What is the least? Is there one coin we can use to make 7p?</div>			<p>Put out coins 1p and 2p. Ask the children:</p> <div data-bbox="1650 399 2053 464" style="border: 1px solid black; padding: 2px;">Which one coin do I add to my set to make 5p?</div> <p>Agree that it is 2p. Start again and this time ask the children:</p> <div data-bbox="1650 578 2053 643" style="border: 1px solid black; padding: 2px;">Which one coin do I add to my set to make 8p?</div> <p>Start again and this time ask the children:</p> <div data-bbox="1650 732 2053 797" style="border: 1px solid black; padding: 2px;">Which two coins do I add to my set to make 10p?</div> <p>Agree that it is 5p and 2p. Investigate whether there are any other possibilities.</p> <p>Play a game with the children. Put 3 coins into a purse or your pocket. Tell the children</p> <div data-bbox="1650 1057 2053 1146" style="border: 1px solid black; padding: 2px;">"I have 3 coins in my pocket and they total 7p. Which three coins are they?"</div> <p>Play the game several times.</p>	

Planning sheet		Day Five	Unit 11 Money and Real Life Problems	Term: Autumn	Year Group: 1
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions	
		<p>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.</p> <p>Recognise coins of different values. Find totals and change up to 20p. Work out how to pay an exact sum using smaller coins.</p>	<p>Using Resource sheet 11.1 or items from the class shop, read through the price labels.</p> <p>Working in pairs, give the children the money pots as in yesterday's lesson and ask the children to find the correct amount of money for each price label. Put the mega/ohp money next to the item using the least number of coins.</p> <p>Select two items. Tell the children that you would like to buy these two items. Say to the children:</p> <p>What would be the first step I would have to take?</p> <p>Establish that we need to work out how much they would cost altogether. Therefore we have to add the two totals together. Model the calculation using + and = signs on the whiteboard.</p> <p>Agree with the children that when they have found the total the next step is to decide which coins to use.</p> <p>Will we use all the coins from the beginning of the lesson?</p> <p>Make sure the children understand that the coins needed are the ones which will equal the final total rather than combining the two sets of coins. Ask the children</p> <p>Which coin do we need to add to our mega money and money pot?</p> <p>Agree that we will need a 10p coin. Model finding the total using 10p coin.</p> <p>Work through several examples as a whole class. If the children are confident calculate the totals as a whole group and allow the children to find the correct coins using their money pots.</p>	<p>Tell the children a story similar to the one below; "One day when I was in town I bought a pen for 6p and a pad for 7p."</p> <p>How much did it cost me altogether?</p> <p>Write the calculation on the board using + and = signs.</p> <p>"When I looked in my purse I had these coins."</p> <p>Show the children a 10p coin and a 1p coin.</p> <p>Did I have enough money to pay for my shopping?</p> <p>Can anyone tell me which coin I would have needed to make the final total?</p> <p>Extend the idea using your own examples.</p>	