

Planning Overview

Year 2 Money

Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value

Find different combinations of coins that equal the same amounts of money

Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

Use different coins to make the same amount (TAF ARE)

Know the value of different coins (TAF WT)

Recognise coins and notes (recap year 1)

Combine amounts to make a particular value

Allow children to explore the range of coins we use. Can the children explain their value?

Aid children in their conceptual understanding by attaching coins to numicon.

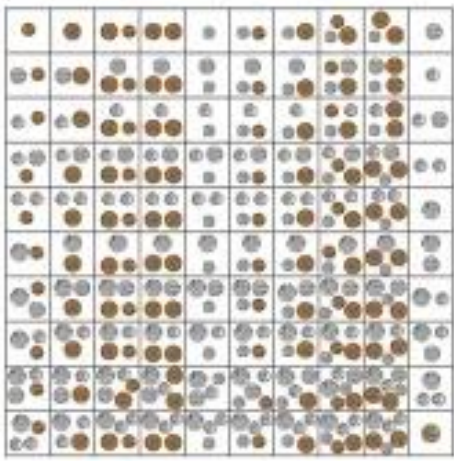
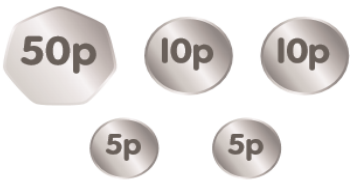


Get the children to complete a money 100 square where they place the coins on the appropriate square of a numbered 100 square. Where did we put the £1 coin? Why is this on the 100 space? Which coin is worth the most? Which coin is worth the least? How much more is the 10p worth than the 5p?

Hundred Square

		3	4		6	7	8	9	
11	12	13	14	15	16	17	18	19	
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	

Children to explore empty spaces on the hundred square. Why is 3 empty? Because we have no 3p coin. How could we fill that space?

	Ask the children questions around certain amounts, encourage the use of Numicon to support where needed, e.g. How many 5ps would make 20p? How many 2ps to make 20p? I have a 2p and a 10p how much will I have. Extend the amounts as children gain in confidence. Discuss which squares may be easier to complete. Is it always the smaller numbers? Children to see how much of the 100 square they can complete.  Consider the £2 coin how many hundred squares would we need to find the position for that? What about a £5 note? Recap that the paper money is much more valuable than the coins.
Find total value of groups of coins and notes and record using symbols £ and p (separately, depending on the unit being used)	Give children simple fluency questions totalling coins with the answer in pence and totalling pounds (coins and notes) with the answer in pounds. E.g. how much money is in the purse/piggy bank. Make sure they are recording with p or a £ appropriately (25p, £25). Recap and compare useful strategies through totalling money e.g. if totalling a 50p, two 20p and a 10p coin, children could start with the highest value coin then count on in tens tapping the 20p coins twice. Or they could double the 20p to give 40p, notice ten more is 50 then double 50 to give a hundred. Children could make patterns with coins – repeating or symmetrical – and then work out the total value of their pattern. Challenge children to make a pattern with a particular value. Mastery Look at these coins. How could you make up the same total amount using just one type of coin? 

2. What is the total value of these coins?



Taken from – Mathematics guidance: Key stages 1 and 2 – non-statutory guidance for the National Curriculum in England

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Five Coins
Age 5 to 11
Challenge Level ★★

Ben has five coins in his pocket.
How much money might he have?

You may also like

8 I'm Eight
Find a great variety of ways of asking questions which make 8.

Let's Investigate Triangles
Vincent and Tara are making triangles with the class construction set. They have a pile of strips of different lengths. How many different triangles can they make?

Noah
Noah saw 12 legs walk by into the Ark. How many creatures did he see?

Mastery with Greater Depth

Sam says I can make 97p using just four coins. Is he correct?

Explain your reasoning.

Find different combinations of coins that equal the same amount of money

Investigate different ways to make the same amount of money.

Can you make 10p with 1 coin? 2 coins? 3 coins? Etc up to 10 coins? Which number of coins is not possible?

Can you make all the values up to 20p with the fewest coins possible?

Let's look at making 20p in more detail. Ask the children how they might make 20p in a different way that uses more coins. Which way uses the most coins? The second fewest coins? Can anyone think of a way no one else has thought of? I wonder how many ways there are in total? Could we find them all? How will we know we have found them all?

Begin to introduce a systematic problem-solving strategy to make 20p
Give children 1p, 2p, 10p, 20p and 5p coins.

Can the children come up with a range of combinations to make 20p?



Which children are working more systematically?

Can children identify that if the same coins are in a different order that it is still the same combination? Working systematically helps us to avoid repeats



Can children investigate making a different number such as 15p independently and devise a system for recording this work?

Investigate similar problems where not all the coins are available e.g. this example from the NCETM reasoning document

Possibilities

How many different ways can you make 63p using only 20p, 10p and 1p coins?

Or this one from TAF exemplification document



The bag of sweets costs 45p

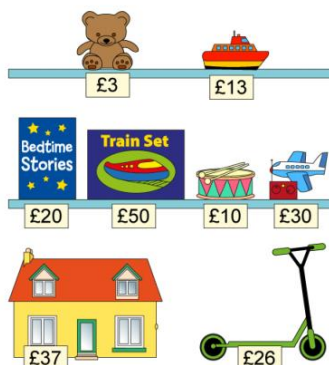
How many different ways can you find to pay for the sweets, using **only** silver coins?

$10p + 10p + 10p + 10p + 5p = 45p$
 $20p + 20p + 5p = 45p$
 $5p + 5p + 5p + 5p + 5p + 5p + 5p = 45p$
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Solve simple problems in a practical context involving addition of money

Children could set up a class shop and explore how much it would cost to buy different combinations of objects.



What is the total cost of:

- the bedtime stories book and the train set?
- the doll's house and the plane?
- the scooter and the teddy?
- the boat, the train set and the drum?

Taken from - Mathematics guidance: Key stages 1 and 2 - non-statutory guidance for the National Curriculum in England

It would be good to do this practically and ask the children to pay for the combination of objects using coins and/or notes as well, making links back to the previous sections.

Use this opportunity to consolidate children's understanding of a range of age-appropriate addition strategies e.g. children could use a number line to support them in adding two prices together to find the total cost of their purchases.

The following examples and guidance come from Professional Development documents on NCETM website.

'How much does a book, a computer game and a mug cost?'

$$\begin{array}{c} 20 \\ + 40 \\ \hline 60 \end{array} + 3 = 63$$

so $£20 + £40 + £3 = £63$

'What is the total cost of the bike and the construction set?'

Comparing calculations:

$$£40 + £5 + £20 + £3 \quad \quad \quad £45 + £23$$

- 'What's the same?'
- 'What's different?'

Dienes and part-part-whole model:

$$\begin{array}{r} 45 \\ + 23 \\ \hline 68 \end{array}$$

$$\begin{array}{r} 60 \\ + 8 \\ \hline 68 \end{array}$$

Explore problems where children need to investigate to find out which items have been purchased when a given amount is spent such as in this example for the shop above

I spent £30 in the class shop, what might I have bought? Can you think of more than one answer?

Mastery

Sid says, 'I have bought 2 items for my holiday.
One item cost £9 more than the other.
What might Sid have bought?
The _____ and the _____.



Mastery with Greater Depth

Sid says, 'I have bought 2 items for my holiday.
One item cost £9 more than the other. I spent over £15.
What two items did Sid buy?
The _____ and the _____.



Make up your own problems using the holiday items.

Mastery with Greater Depth

I spend £2 on a drink and sandwich. The sandwich costs 80p more than the drink.
How much does the sandwich cost?

NRICH – The Puzzling Sweet Shop

The Puzzling Sweet Shop

Age 5 to 11
Challenge Level ★★

Rosie went into the sweet shop with 10p to spend.

There were chews for 2p, mini eggs for 3p, Chocko bars for 5p and lollypops for 7p.



What could she buy if she wanted to spend all her money?

Alice, James, Katie and Henry went into the shop too. They each had 20p to spend and they all spent all of their money.

Alice bought at least one of each kind of sweet. Which one did she have two of?

James spent his money on just one kind of sweet, but he does not like chews. Which sweets did he buy?

Katie bought the same number of sweets as James but she had 3 different kinds. Which sweets did she buy?

Henry chose 8 sweets. What could he have bought?

Solve simple problems in a practical context involving change

Revisit class shop but this time we don't have to pay with the exact amount of money. Instead we can give a coin with a value that is more than the cost of the item(s) and receive change.

Start with change from 10p so that children can see and apply number bonds. If you buy something that costs 7p you get 3p change because shopkeeper needs 7p out of the 10p and you get the rest. Show how the amount the customer has and the amount the shopkeeper has still has to total 10. You could show this on a part whole model.

Move onto change from 20p, 50p £1. Can children still apply number bonds? Show alternative strategy of counting on from 7p (the price) to 20p (the amount paid) to work out the change. You can add the price and the change together and she should get the amount paid. If You could record on a part whole model. Does this help children to make the link to subtraction?

Simple fluency problems that include change. e.g. Jess buys a banana for 23p. She pays for it using a 50p. How much change does she get?

Children could be supported with a bead string if the amount remains within £1

Mastery

Holly uses a £1 coin to buy a pack of stickers. Here is the change she was given.



How much did the pack of stickers cost?

Grace uses a £1 coin to buy a can of drink which costs 80p. She is given three coins in change. What coins could she have been given?

Mastery with Greater Depth

Grace uses a £2 coin to buy a can of drink which costs 85p. She is given four coins in change.

Find all the possible combinations of coins she could have been given.

Solve simple problems in a practical context involving subtraction of money (other than change)

Children to explore a range of subtraction problems (34p–20p) and difference problems (Tom spent 65p and Jim spent 50p. how much more did Tom spend?) to find the remaining amount.

Consider other subtraction problems related to money. Use to recap subtraction strategies taught so far.

Jess has saved £62. She spends £15 on a computer game. How much does she have left?

At the sweet shop, Tom spent 65p and Jim spent 50p. How much more did Tom spend?

Oak class raise £68 for their class fund. They spend £40 on new paints. How much money do they have left?

I have £19 and want to buy a game which costs £25. How much more money do I need?

Taken from – Mathematics guidance: Key stages 1 and 2 – non-statutory guidance for the National Curriculum in England



'Someone spilled coffee on the price tag of the jeans! We know that the difference in price between the tracksuit and the jeans is eight pounds. How much do the jeans cost? Is there more than one possibility? Explain.'

Taken from NCETM – professional development materials

Consolidation, reasoning and problem solving

Children could develop their reasoning skills by attempting these problems from Mathematical Challenges for More Able Pupils with the extra reasoning activities added by First4Maths.

Gob-stopper

Jade bought a gob-stopper. It cost 6p.

She paid for it exactly. Which coins did she use?

There are 5 different ways to do it. Find as many as you can.

What if the gob-stopper cost 7p?

Teaching objectives
Solve mathematical problems or puzzles.
Know addition and subtraction facts up to 10.
Find totals, give change, and work out which coins to pay.

2

Questions and Activities to Develop Reasoning

Is it Possible?

Is it possible to pay for a gob-stopper costing 6p using exactly three coins? What if it cost 7p? 8p?
Which amounts are possible using 3 coins?

What Could it Be?

I pay for a gob-stopper with four coins. The price of the gob-stopper is less than 50p? What could it be?

Would you Rather?

Would you rather have the fifty of the lowest denomination of silver coins or 10 of the highest denomination of silver coins?

Another and Another

Give me a set of coins I could use to pay for a gob-stopper costing 25p. And another... And another...

Ride at the fair



Lucy had a ride at the fair.
Her Mum asked Lucy to pay less than 20p towards it.

Lucy paid exactly three coins towards the ride.
How much did Lucy pay her Mum?

Find different ways to do it.



Teaching objectives

Solve mathematical problems or puzzles.
Find totals, give change, and work out which coins to pay.

8

Questions and Activities to Develop Reasoning

Is it Possible?

Is it possible to pay for a 15p ride using three different coins?

Would You Rather?

Would you rather go on a ride that costs the same as three 5p coins or a ride that costs the same as ten 2p coins?

What Could It Be?

Lucy paid for a ride with a 20p piece. She was given two coins in her change. What could the ride have cost? Is this the only solution?

Find the Fiction

Four 5p coins make the same total as two 10p coins.

Ten 2p coins make the same total as two 10p coins.

Three 5p coins make the same total as five 2p coins.