White Rose Maths

Summer - Block 2

Money

Year 4

Overview

Small Steps

- Pounds and pence
- Ordering money
- Estimating money
- Four operations

NC Objectives

Estimate, compare and calculate different measures, including money in pounds and pence.

Solve simple measure and money problems involving fractions and decimals to two decimal places.

Pounds and Pence

Notes and Guidance

Children develop their understanding of pounds and pence. This is the first time they are introduced to decimal notation for money. Once children are confident with this, they can move on to convert between different units of money.

Children can use models, such as the part-whole model, to recognise the total of an amount being partitioned in pounds and pence.

Mathematical Talk

How many pence make a pound?

Why do we write a decimal point between the pounds and pence?

How would we write 343 p using a pound sign?

How can the amounts be partitioned in to pounds and pence?

Is there only one way to complete the part-whole model?

How can these amounts be converted into pounds and pence?

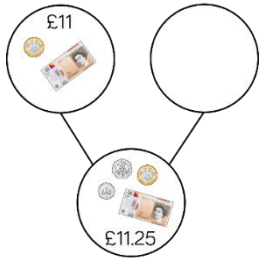
Varied Fluency

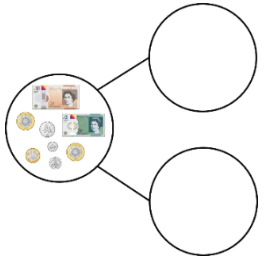
- How much money is in each purse?

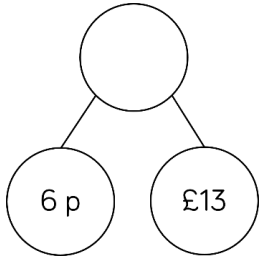
There is ____ pence.
There is ____ pounds.
There is £____ and ____ p
There is £___.____

There is ____ pence.
There is ____ pounds.
There is £____ and ____ p
There is £___.____

- Complete the part-whole models to show how many pounds and pence there are.







- Convert these amounts to pounds and pence:

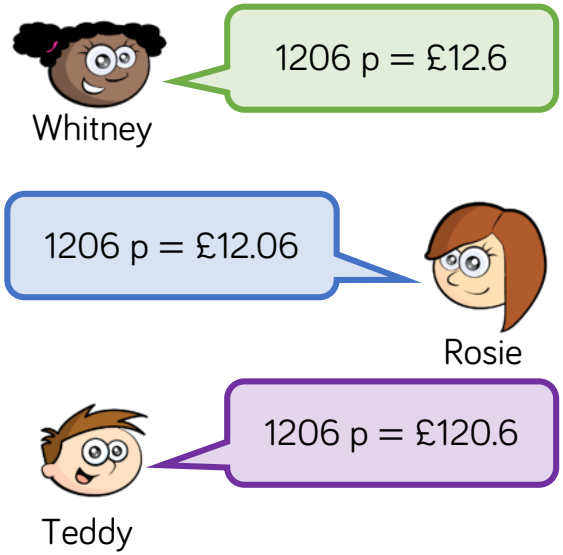
357 p 307 p 57 p 370 p

Pounds and Pence

Reasoning and Problem Solving

Some children are converting 1206 p into pounds.

Who is correct?



What have the others done wrong?

Rosie is correct.
Whitney has not written the 6 p in the correct column.
Teddy has not understood how many pence there are in a pound, therefore his place value is incorrect.

Eva has these coins:

She picks three coins at a time.
Decide whether the statements will be always, sometimes or never true.

- She can make a total which ends in 2
- She can make an odd amount.
- She can make an amount greater than £6
- She can make a total which is a multiple of 5 pence

Can you think of your own always, sometimes, never statements?

- Never
- Sometimes e.g. £3.05
- Never – she can only choose three coins so the largest amount she can make is £5
- Always, because every coin is a multiple of 5 pence

Ordering Money

Notes and Guidance

Children use their knowledge of £1 = 100 p to compare amounts. Children begin by ordering amounts represented in the same format e.g. 4,562 p and 4,652 p, or £45.62 and £46.52 and relate this to their place value knowledge.
Once children understand this, they look at totals that include mixed pounds and pence and also totals represented in decimal notation. Using real notes and coins could support some children.

Mathematical Talk

What does the digit ___ represent?

What place value column is the digit in? How many pounds/pence is it equivalent to?

How can this help us decide which amount is larger/smaller?

Can we think of an amount which could go in between these amounts?

What does ascending/descending mean?

What's the same? What's different?

Varied Fluency

Two classes save their pennies for a year.

Class A saves 3,589 pennies.
Class B saves 3,859 pennies.

Which class saves the most money?

Write the amounts as pence, then compare using < , > or =

6,209 p ◯ £60.09 £0.54 ◯ 54 p

Write the amounts as pounds, then compare using < , > or =

62 p ◯ £6.02 £5,010 ◯ 5,010 p

Order the amounts in ascending order.

130 p £0.32 132 p £13.20

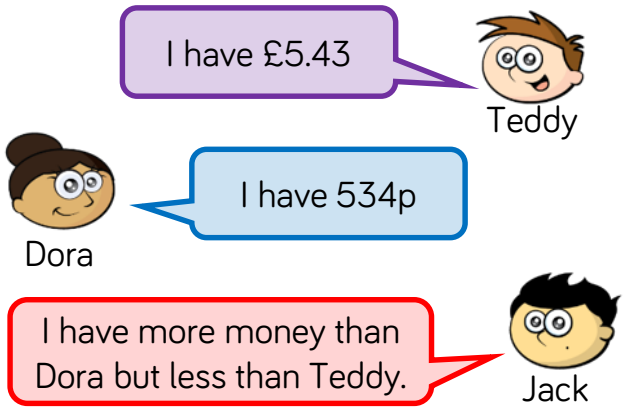
Order the amounts in descending order.

257 p £2.50 2,057 p £25.07

Ordering Money

Reasoning and Problem Solving

Teddy, Dora and Jack are buying toys.



How much money could Jack have?
Is there only one answer?

Jack could have anything from £5.35 to £5.42
Children may record this as 535 p to 542 p

What would you rather have, five 50p coins or twelve 20p coins?
Explain your answer fully.

I would rather have five 50 p coins because
50 × 5 = 250p
but
20 × 12 = 240p

Amir has these digits cards.

He uses them to fill the frame below:

He makes a total that is more than three pounds but less than six pounds.

How many amounts can he make?

Order your amounts in ascending order.

£3.24, £3.26
£3.42, £3.46
£3.62, £3.64
£4.23, £4.26
£4.32, £4.36
£4.62, £4.63

Estimating Money

Notes and Guidance

Children round amounts of money written in decimal notation to the nearest pound. They estimate the total of two amounts and move on to estimating with more than two amounts.

Children discuss underestimating and overestimating and link this to rounding down or up and apply it to real life scenarios such as buying food in the supermarket.

Mathematical Talk

If we have ____ , what whole numbers/pounds does this come in between? Where will it go on the number line? Which pound is it nearer to?

What does estimate mean? What does approximately mean?

Where would be a sensible place to start labelling the number line?

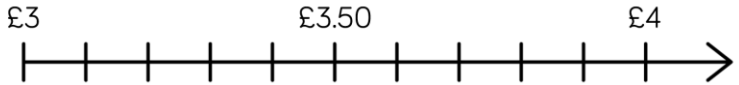
What will each amount round to? How much will they total altogether?

If you had ___ , would you have enough to buy the items?

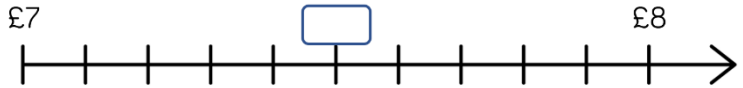
Varied Fluency

Place the amounts on the number line and round to the nearest pound.

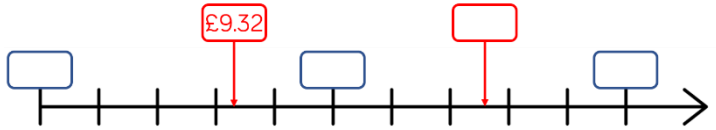
- £3.67
- £3.21
- £3.87



- £7.54
- £7.45
- 701 p



Complete this number line.



Complete the table by rounding each amount and finding the total.

Item 1	Item 2	Approximate Total
 £5.63	 £1.76	
 £3.05	 £11.54	

Annie has £15 to spend at the theme park.
She rides on the roller coaster which costs £4.34
Then she rides on the big wheel which costs £3.85
Approximately how much money will she have left?

Estimating Money

Reasoning and Problem Solving

Three children buy toys.
Can you work out who buys what?
Tommy buys a toy which rounds to £5 but gets change from £5
Amir buys two toys which total approximately £25
Eva's toy costs 5 p more than the number the cost rounds to.

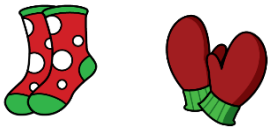
Tommy – car
Amira – computer game and rugby ball
Eve – panda

If you had £30, what combinations could you buy and what change would you approximately get?

Various answers

Mo buys some socks and gloves.
He estimates how much he'll spend.

£4 + £5 = £9



What could the actual price of the socks and gloves have been?

Mo has £12
He says he has enough money to buy three pairs of socks.

Do you agree?
Explain why.

The socks could cost between £3.50 and £4.49
The gloves could cost between £4.50 and £5.49

It depends. If the socks costs £3.50 to £4, he will.
If the socks cost £4.01 to £4.49, he will not.

Four Operations

Notes and Guidance

Children solve simple problems with money, involving all four operations. Children are not expected to formally add with decimals in Year 4 but could explore other methods, such as partitioning and recombining to add money. They could use prior knowledge of converting, as well as number bonds, to help them.
Bar modelling could also be used as a strategy when solving problems.

Mathematical Talk

How can we label the bar model?

What other questions could we ask?

What operation will we use?

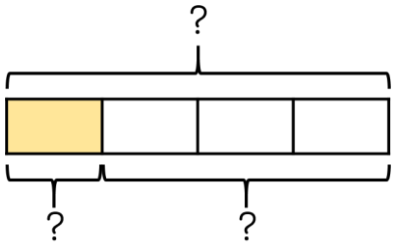
How can we partition pounds and pence to help add two amounts?

Is there an alternative way to answer this question?

Varied Fluency

- Ron has £48. He spends one quarter of his money.

  How much does he have left?
  Use the bar model to help.



- A family is going bowling.
  How much does it cost for 1 child and 1 adult at peak time?
  How much does it cost for 1 adult and 2 children off peak?

Tickets	Peak	Off Peak
Adult	£8	£6
Child	£4.20	£5.30

- Amir buys some clothes in a half price sale.
  - Jumper £14
  - Scarf £7
  - Hat £2.50
  - T-shirt £6.50

  What would the full price of each item be?
  How much would he have paid altogether if they were full price?
  How much does he pay in the sale?
  How much does he save?

Four Operations

Reasoning and Problem Solving

A class has £100 to spend on books.

Book Prices

Hardback = £8
Paperback = £4

How many books could they buy for £100?
How many different ways can this be done?

Children may explore this systematically e.g.
$8 \times 12 = 96$
(12 hardbacks)
$4 \times 1 = 4$
(1 paperback) etc.
Or they may start with paperback
$4 \times 25 = 100$
(25 paperbacks)
etc.

Dexter buys a teddy bear for £6.00, a board game for £4.00, a CD for £5.50 and a box of chocolates for £2.50
He has some discount vouchers.
He can either get £10.00 off or pay half price for his items. Which voucher would save him more?
Explain your thinking.

Total = £18
$18 - 10 = 8$
$\frac{1}{2}$ of $18 = 9$
$18 - 9 = 9$

The £10 voucher would save more.

Here is Dora's receipt.

Receipt	
Sandwich	
Orange juice	
Crisps	60 p
Banana	
TOTAL	

Use the information to complete the receipt:

- The sandwich costs £2.15 more than the crisps.
- The orange juice is the same price as the crisps and banana together.
- The banana is half the price of the crisps.

Receipt	
Sandwich	£2.75
Orange juice	90 p
Crisps	60 p
Banana	30 p
TOTAL	£4.55