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Year 4

Small Steps Guidance and Examples

Block 2 – Measurement: Money

White Rose Maths

Year 4 – Yearly Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number – Place Value				Number- Addition and Subtraction			Measurement - Length and Perimeter	Number- Multiplication and Division			Consolidation
Spring	Number- Multiplication and Division			Measurement - Area	Fractions				Decimals			Consolidation
Summer	Decimals		Measurement- Money		Time	Statistics		Geometry- Properties of Shape		Geometry- Position and Direction		Consolidation

Overview

Small Steps

- ▶ Pounds and pence
- ▶ Ordering amounts of money
- ▶ Using rounding to estimate 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. They write money as £.p for the first time as they are introduced to decimal notation for money. Once children are confident with this, they can move on to convert 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?
- How many pounds are in the purse? How many pence?
- What is the total in the purse?
- Why do we write a decimal point between the pounds and pence?
- If I had 343 p how would I write this as pounds?
- How can I partition my amounts in to pounds and pence?
- Is there only one way to complete the part whole model?
- How can I convert these amounts into pounds and pence?

Varied Fluency

- 1 How much money is in each purse?

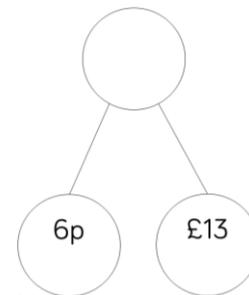
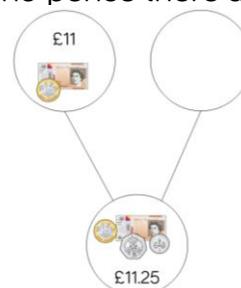


There is ___ pence
 There is ___ pounds
 There is £___ and ___ p
 There is £____

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



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



- 3 Convert these amounts to pounds and pence:

357p

307p

57p

370p

Pounds and Pence

Reasoning and Problem Solving

Some children are converting pence in to pounds.

$$708\text{p} = \text{£}7.80$$



Claudia

$$\text{£}6.50 = 65\text{p}$$



Ruby

$$1,260\text{p} = \text{£}1.26$$



Mason

Can you spot their mistakes?

Claudia = £7.08 she has not recognised the 0 as 0 ten pence
 Ruby = 650 p she has ignored the 0 and not recognised it is 0 pence
 Mason = £12.60 he has done the same as Ruby.

Jenny 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

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

- Never – she can have a total with £2 but not one that ends in 2 as there is no 2p
- Sometimes e.g. £3.05
- Never – she can only choose three coins so the largest amount she can make is £5
- Always

Ordering Money

Notes and Guidance

Children use their knowledge of £1 = 100p to compare prices. Children begin by ordering prices represented in the same format e.g. 4,562p and 4,652p or £45.62 and £46.52 and relate this to place value knowledge.

Once children understand this they look at totals that include mixed pounds and pence and also totals represented as £.p

Mathematical Talk

What does the digit ___ represent in money?

What place value does it have? 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?

Varied Fluency

- 1 Identify which amount is the largest in each pair.

3,589p

3,598p

£53.89

£53.98

4,056p

4,506p

£54.04

£54.06

What's the same? What's different?

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

6,209p ○ £60.09

£0.54 ○ 54p

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

62p ○ £6.02

£5,010 ○ 5,010p

What's the same? What's different?

- 3 Order the amounts in ascending order.

130p

£0.32

132p

£13.20

Order the amounts in descending order.

257p

£2.50

2,057p

£25.07

Ordering Money

Reasoning and Problem Solving

Josh, Marta and Vlad are buying toys.

I have £5.43



Josh



I have 534p

Marta

I have more money than Marta but less than Josh.



Vlad

How much money could Vlad have?
Explain your answer.

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



Vlad could have anything from £5.35 to £5.42
Children may record this as 535p to 54 p

I would rather have five 50 pence because
 $50 \times 5 = 250p$
 $20 \times 12 = 240p$

Jamal has these digits cards.



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

How many prices can he make?

Can you order your prices in ascending or descending 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

Reverse order for descending order.

Estimating Money

Notes and Guidance

Children round decimals to the nearest pound. They approximate a total of two amounts and move on to approximating more than two amounts..

Children discuss under estimating and over estimating 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 I 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 approximately mean?

How can we complete the number line to make it accurate?

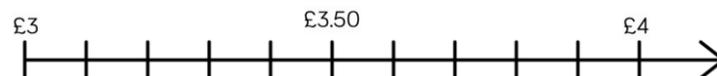
What will each item round to? How much will they total altogether?

If I had ___ amount would I have enough to buy the items?

Varied Fluency

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

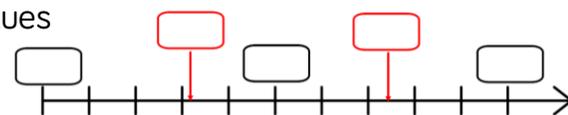
- £3.67
- £3.21
- £3.87



- £7.54
- £7.45
- 701p



Choose your own values to make the number line accurate.



- 2 Complete the estimate by rounding each amount and adding the rounded amounts.

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

- 3 Jenny has £15 to spend at the theme park. She rides on the roller coaster which costs £4.34 She rides on the big wheel which costs £3.85 How much change will she approximately have?

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

Amira buys two toys which total approximately £25

Eve's toy costs £0.05 more than what it rounds to.

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

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

Various answers

Tamzin buys a hat and gloves.
She estimates how much she'll spend.

$$£4 + £5 = £9$$

What could the actual price of the hat and gloves been?

Tamzin has £12.

She says she has enough money to buy three hats.

Do you agree?

Explain why.

Hat
£3.50 - £4.49
Gloves
£4.50 - £5.49

It depends. If the hat costs less than £4 she will but if the hat could cost more e.g. £4.49 still rounds to £4 but this will be more than £12 if she buys three.

Four Operations

Notes and Guidance

Children solve simple problems, involving all four operations, with money.

Children are not expected to formally add with decimals in Year 4 but could explore methods, such as partitioning and recombining to add money. They should use prior knowledge of converting as well to help them.

Children could explore different strategies for solving problems.

Mathematical Talk

Can we represent this problem with a bar model?

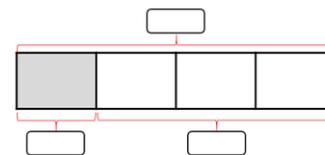
What operation will we use?

Is there an alternative way to answer this question?

What key information do we know?

Varied Fluency

- 1 Emma has £48. She spends one quarter of her money. How much does she have left?
Use the bar model to help.



- 2 In the sale, I bought some clothes for half price.
- Jumper £14
 - Scarf £7
 - Hat £2.50
 - T-shirt £6.50

How much would the clothes have been full price?

How much would have I paid altogether full price?

How much do I pay in the sale? How much have I saved?

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

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

How much does it cost for 1 adult, 2 children off peak?

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 you find to do this?

Hazel 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. She has some discount vouchers. She can either get £10.00 off or half price on her items. Which voucher would save her more? Explain your thinking.

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 paperback) etc.

Total = £18
 $18 - 10 = 8$
 $1/2$ of 18 = 9
 $18 - 9 = 9$
£10 would save more.

Kim bought a chocolate bar and a drink. The cost of them both together is in one of the boxes below.

£1.85	75p	£1.56	£1.27	£1.60
£1.74	£2.25	£1.00	90p	£1.25
£1.80	80p	£2.10	£1.45	£1.20
£1.44	£3.06	£1.50		

Using the clues can you work out which price in the boxes is correct?

1. You need more than three coins to make this amount.
2. If they paid using a coin with the highest value, they would get change.
3. The chocolate bar cost more than 50p
4. You could pay without using any copper coins
5. The chocolate bar cost exactly half the amount of the drink.

£1.80
Chocolate bar 60p
Drink £1.20
Using clues 2, 3 & 5 we can work out the total cost would be between £1.50 and £2.00, then we can use the other clues to eliminate other values e.g. clue 4 allows us to eliminate values that are not a multiple of 5.