Year ③

Small Steps Guidance and Examples

Block 2 – Money

WhiteRoseMaths

Year 3 – 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					Number – Multiplication and Division			Consolidation
Spring	Number - Multiplication and Division			Measurement: Money	Statistics		Measurement: length and perimeter			Number - Fractions		Consolidation
Summer	Number – fractions			Measurement: Time			Geometry – Properties of Shapes		Measurement: Mass and Capacity			Consolidation

Overview

Small Steps

- Pounds and pence
- Converting pounds and pence
- Adding money
- Subtracting money
- Giving change

NC Objectives

Add and subtract amounts of money to give change, using both £ and p in practical contexts.

Pounds & Pence

Notes and Guidance

Children need to know the value of each coin and note and understand what these values represent.

They should understand that money can be represented in different ways but still have the same value.

Children will need to be able to add coin values together to find the total amount.

Mathematical Talk

What is the value of the coin/note?

What does p mean?

Why do we have different values of coins and notes?

Varied Fluency

1. How much money does the jar contain?

   The jar contains £_____ and ____ p

2. Complete the statements using < , > or =

   £_____ and _____ p   £_____ and _____ p

   £_____ and _____ p   £_____ and _____ p
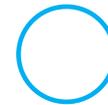
3. What amount of money is represented on the number line? Give your answer in £ and p.

   0 p   £3
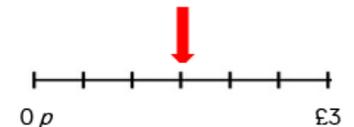
Pounds & Pence

Reasoning and Problem Solving

Charlotte has 85 p in her purse.

Which coins could Charlotte have in her purse?

Possible solutions:
- 50 p, 20 p, 10 p, 5 p
- 20 p, 20 p, 20 p, 20 p, 5 p
- 50 p, 10 p, 10 p, 10 p, 5 p

Roma had 5 **different** coins in his wallet.

What is the greatest amount of money he could have in his wallet?
What is the least?

£2 + £1 + 50 p + 20 p +10 p = £3 and 80p

1 p + 2 p + 5 p + 10 p + 20 p = 38 p

Converting Pounds & Pence

Notes and Guidance

Children convert between pounds and pence using the knowledge that £1 = 100 p

Children group pence to make pounds when counting money. They apply their place value knowledge and use their number bonds to 100

Mathematical Talk

How many pennies are there in £1?
How can this fact help us to convert between pounds and pence?

Explain what you need to do to convert pounds to pence.
Explain how you convert pence to pounds.

Varied Fluency

1. What is the total of the coins shown?

   There is ☐ p.

   We know that there are 100 p in £1

   110 − 100 = ☐

   So there is £ ☐ and ☐ p

2. Here is a money-converting machine.
   Money in pence goes in the top and comes out in pounds and pence.

   Insert pence
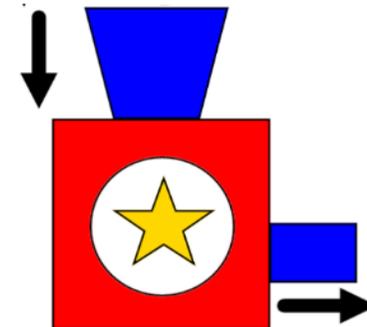
   - If 147 p went in, what would come out?
   - If £9 and 62 p came out, what went in?

   £___ and ___p

Converting Pounds & Pence

Reasoning and Problem Solving

Zaveun has 202 p.
Show all the possible combinations of coins he may have.

£2 and 2 p
£2, and 1 p and 1 p
£1 and £1 and 2 p
£1 and £1 and 1 p
and 1 p
Children may work
systematically to
find more solutions.

Ajay thinks that he has £10 and 3p.
Is he correct?

Explain it.

Ajay is incorrect
because he has
£12 and 1 p. Ajay
has counted 3
coins and thought
they were worth
the same value.
They are not worth
the same, all are
worth 1 but two are
£ and 1 is p.

Daisy thinks there is more than £5 but less than £6. Is she correct?

Convince me.

She is incorrect.
There is £6 and 30
p. A sensible way
to group this would
be to group 50, 20,
20 10 to make £1.
£5 + £1 = £6, 20 +
10 = 30 so we have
£6 and 30 p.

Adding Money

Notes and Guidance

Children build on their understanding of different coins and their knowledge of converting.

Children use their understanding of the value of each coin before they start to add across a pound boundary. When adding across a pound boundary children should be encouraged to look for number bonds (E.g. 70 p and 30 p), or ways to partition numbers differently to make a pound.

Mathematical Talk

What number facts could you use to calculate mentally?

What would be the most efficient way to group the coins? (E.g. 20 p + 20 p + 10 p = 50) Can you group any of the coins to make a pound?

Can you partition any of the amounts to help you? Do we need to think of a different way to partition?

How many different ways can you make a pound?

Varied Fluency

1 Find the total of: £10 and 35 p and £4 and 25 p.
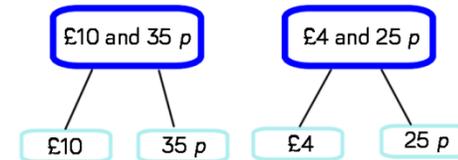
Add the pounds then add the pence.

2 Complete the part-whole model.
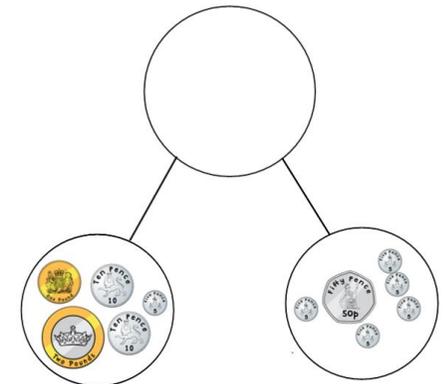
3 Represent the bar model with a calculation and solve it.
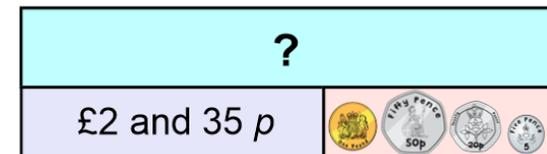
Adding Money

Reasoning and Problem Solving

Emma and Kate bought these muffins. Muffins cost 35 p each. Emma bought three times as many muffins as Kate.

How much did they each spend?
How much did they spend altogether?
How much more did Emma spend than Kate?

Emma spent 105 p
£1 and 5 pence
Kate spent 35 p
Altogether they spent £1 and 40 p
Emma spent 70 p more.

Which 4 items could Penny buy if she only had £5 and wanted to spend all of her money?
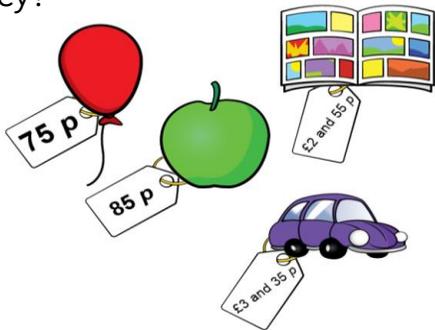
Magazine, 2 apples and a balloon = £5

Ross used the following method to find the total of £10 and 70 p and £3 and 90 p.

Can you spot and explain his mistake?

Ross has added the original amount of £3 and 90 p but he partitioned 90 p to use the 30 p when making a pound. Therefore, he would only have £3 and 60 p left.

Subtracting Money

Notes and Guidance

Children develop their knowledge of the value of coins from Year 2 and use number lines to solve subtraction problems involving money.

They continue to make connections between place value and money.

Children use a number line to count on to help finding change. They may also explore other methods and compare which is most efficient.

Mathematical Talk

How many more to the next ten?

When is the partitioning method not efficient?

Which number should I place on the number line first?

Shall we count on or back on the number line?

Varied Fluency

1 Calculate £3 and 50 p subtract £2 and 10 p

£3 - £2 = £1
50 p – 10 p = 40 p
£1 + 40 p = £1 and 40 p

$$
\begin{array}{r}
£3 \text{ and } 50\text{ p} \\
- £2 \text{ and } 10\text{ p} \\
\hline
£1 \text{ and } 40\text{ p}
\end{array}
$$

Use this method to calculate:

£4 and 20 p - £2 and 10 p   £6 and 35 p - £4 and 20 p

£21 and 40 p - £14 and 15 p

2 George has £1 and 72 p. Hannah has £2.
How much more money does Hannah have?

Use this method to find the difference between £4 and 20p and £1 and 60 p

3 In a sale, a t-shirt is £1 and 90 p cheaper than usual. How much does it cost during the sale?

£5 and 30 *p*

$$
\begin{array}{r}
£4 \\
\cancel{£5} \text{ and } {}^{1}30\text{ p} \\
- £1 \text{ and } 90\text{ p} \\
\hline
£ \quad\quad \text{ and } \quad\quad \text{ p}
\end{array}
$$

Subtracting Money

Reasoning and Problem Solving

Dan saved £342 in his bank account.
He spent £282.
Does the subtraction below show how much he has left?

£42 + £10 + £8 = £58
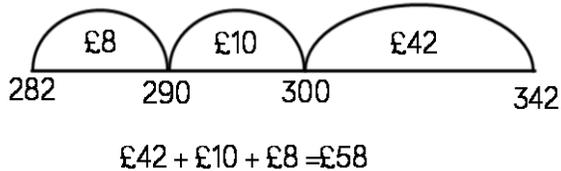
Explain your answer.

The subtraction does not show the amount he has left because he has incorrectly calculated the final addition sentence.

Three children are calculating a subtraction.

£4 and 20p minus £2 and 50p

Aisha

£4 - £2 = £2
20 p – 50 p = 30 p
£2 + 30 p = £2 and 30 p

Leila
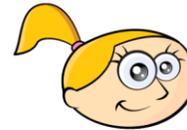
£3
~~£4~~ and ^{1}20 p
- £1 and 50 p
_____
£2 and 70 p

Simon

Whose method is the most efficient?
Whose method is the least efficient?
Explain why.

Children should see that Aisha's method is the least efficient as she has calculated the subtraction incorrectly. They can then give their own opinion on which of the other methods is the most efficient.

Giving Change

Notes and Guidance

Children use their subtraction skills with money to calculate change. They continue to use a number line and a part whole model to support their calculations.

Children apply previous skills and knowledge to contextual problems.

Mathematical Talk

What do we mean by 'change' in the context of money?

Why do we partition to give change?

Which method do you find most effective?

Varied Fluency

1. Gayle buys a chocolate bar for 37 p, she pays with a 50 p coin. What change will she receive?
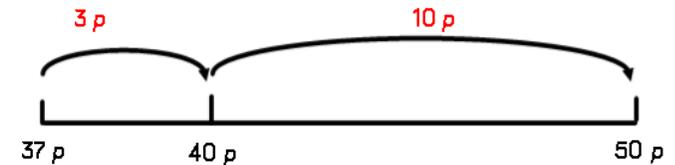
Use this method to calculate:
- Sam has £1. He buys a lollipop for 55 p. How much change does he receive?
- Daniel has a five pound note. He buys a magazine for £3 and 60 p. How much change does he get?

2. Jo buys a teddy which costs £3 and 25 p. He pays using a £5 note. What change will he receive?
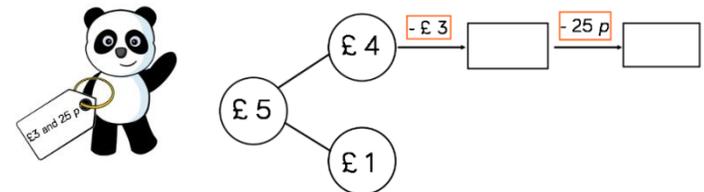
3. Neil buys a bike for £339 and 78 p. He hands the cashier £400. What change will he receive?

Giving Change

Reasoning and Problem Solving

Jill spends £2 and 76 p on a cake in the shop.

She pays with a £5 note. How much change does she get?

If the shopkeeper gives her 6 coins in her change, what coins might they be?

Possible Answers:
£2 and 24p
£1.00 £1.00, 10p, 10p, 2p, 2p
£1.00, £1.00, 10p, 10, 5p, 1p
Etc.

Sam goes to the shop with £4
He buys a book for £1 and 20 p and a pencil that costs £1 and 45 p.
How much change does he get?
Which bar model represents the problem?

£4

| £1 and 20 p | £1 and 45 p | ? |

?

| £4 | £1 and 20 p | £1 and 45 p |
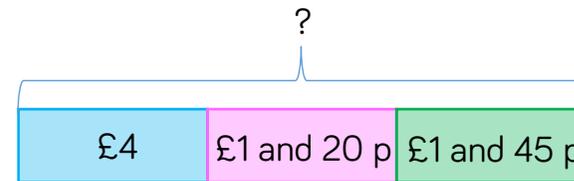
The first bar model as the whole is £4 and the change forms the part.