Reasoning and Problem Solving
Step 3: Adding Money

National Curriculum Objectives:

Mathematics Year 3: (3M9a) Add and subtract amounts of money to give change, using both £ and p in practical contexts

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Find three possible combinations that total less or more than a given amount. Additions include no exchanges. Pictorial support used alongside values. Pence less than £1 does not total more than 100p. Scaffolding for the answer is provided.
Expected Find three possible combinations that total less or more than a given amount. Additions include some exchanges.
Greater Depth Find at least four possible combinations that total less or more than a given amount. Additions include multiple values and exchanges. Conversion between £ and p used within the same question. No scaffolding provided.

Questions 2, 5 and 8 (Problem Solving)
Developing Find alternate ways of adding two amounts, using a specific amount of coins, which total a given amount. Additions include no exchanges. Pictorial support used alongside values. Pence less than £1 does not total more than 100p.
Expected Find alternate ways of adding two amounts, using a specific amount of coins, which total a given amount. Additions include some exchanges.
Greater Depth Find a way of adding two amounts, using an amount of coins that fits given criteria, which totals a given amount. No scaffolding provided.

Questions 3, 6 and 9 (Reasoning)
Developing Determine whether there is a missing coin from the total given when adding two amounts. Additions include no exchanges. Pictorial support used alongside values. Pence less than £1 does not total more than 100p. Scaffolding for the answer is provided.
Expected Determine whether there are two missing coins from the total given when adding two amounts. Additions include some exchanges.
Greater Depth Determine whether there are more than two missing coins from the total given when adding two amounts. Additions include multiple values and exchanges. Conversion between £ and p used within the same question. No scaffolding provided.

More Year 3 Money resources.

Did you like this resource? Don't forget to review it on our website.

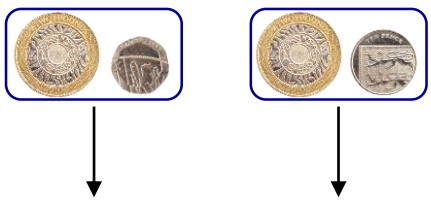
Adding Money

1a. Add any two amounts shown below, together to make a total less than £4.

£__ and __ p + £__ and __ p = £3 and __ p

D Find three possibilities. PS

2a. Tim has made £4 and 30p below by adding two amounts of money together. He has used four coins in total.



£2 and 20p + £2 and 10p = £4 and 30p

Help Tim find two other ways of making £4 and 30p by adding two amounts together, using six coins in total.

D PS

3a. Kyle has used this bar model to represent an addition.

£___ and ___p	
£3 and 20p	£2 and 60p

£3 and 20p + £2 and 60p = £___and ___p

He thinks he has lost a silver coin.
Do you agree? Explain your reasoning.

D R

Adding Money

1b. Add any two amounts shown below, together to make a total more than £5.

£__ and __ p + £__ and __ p = £5 and __ p

D Find three possibilities. PS

2b. Tabitha has made £3 and 70p below by adding two amounts of money together. She has used six coins in total.

£1 and 20p + £2 and 50p = £3 and 70p

Help Tabitha find two other ways of making £3 and 70p by adding two amounts together, using five coins in total.

D PS

3b. Paula has used this bar model to represent an addition.

£___ and ___p	
£2 and 60p	£2 and 10p

£2 and 60p + £2 and 10p = £___and ___p

She thinks she has lost two bronze coins.
Do you agree? Explain your reasoning.

D R

Adding Money

4a. Add any two amounts shown below, together to make a total less than £7.

£6 and 80p	£2 and 65p
£5 and 20p	£3 and 45p
£4 and 30p	£1 and 20p

E

Find three possibilities.

PS

5a. Fiona has made £6 and 65p below by adding two amounts of money together.

£3 and 70p + 295p = £6 and 65p

I used nine coins in total.

Help Fiona find two other ways of making £6 and 65p by adding two amounts together, using six coins in total.

E

PS

6a. Tristan has used this bar model to represent an addition.

£1 and 85p	£3 and 60p

He thinks he has lost two silver coins.
Do you agree? Explain your reasoning.

E

R

Adding Money

4b. Add any two amounts shown below, together to make a total more than £8.

£2 and 10p	£3 and 5p
£5 and 20p	£1 and 75p
£3 and 85p	£2 and 85p

E

Find three possibilities.

PS

5b. Julius has made £9 and 5p below by adding two amounts of money together.

540p + £3 and 65p = £9 and 5p

I used thirteen coins in total.

Help Julius find two other ways of making £9 and 5p by adding two amounts together, using nine coins in total.

E

PS

6b. Michelle has used this bar model to represent an addition.

£4 and 35p	£1 and 90p

She thinks she has lost a bronze coin.
Do you agree? Explain your reasoning.

E

R

Adding Money

7a. Add two amounts together to make a total less than £13.

A. Three 50p coins, Seven 1p coins, Three £1 coins, One 2p coin

B. 794p

C. Twenty-four 2p coins, One £5 note, Nine 20p coins

D. £10 and 82p

E. Eight 20p coins, One 50p coin, Nine 1p coins

F. £6 and 51p

GD Find at least four possibilities. PS

8a. Hugo has made £15 and 15p below by adding two amounts of money together.

577p + £9 and 38p = £15 and 15p

I used 16 coins and 2 notes.

Find another way he could make £15 and 15p by adding two amounts together, using an even amount of coins between 10 and 20 and an odd amount of notes.

GD PS

9a. Xander has used this bar model to represent an addition.

Eight £1 coins, Seven 1p coins, Fifteen 20p coins	
£3 and 73p	754p

He thinks he has lost three coins which all have the same value.
Do you agree? Explain your reasoning.

GD R

Adding Money

7b. Add two amounts together to make a total more than £17.

A. 803p

B. Four £1 coins, Nine 1p coins, Six 20p coins, Three 50p coins

C. £12 and 68p

D. Seven 5p coins, One 2p coin, Eighteen 50p coins, Two £2 coins

E. £9 and 37p

F. 211p

GD Find at least four possibilities. PS

8b. Jasmine has made £18 and 73p below by adding two amounts of money together.

£12 and 94p + 579p = £18 and 73p

I used 14 coins and 2 notes.

Find another way she could make £18 and 73p by adding two amounts together, using five times as many coins as notes.

GD PS

9b. Zoe has used this bar model to represent an addition.

Three 1p coins, Two 2p coins, Eight £2 coins	
£12 and 64p	398p

She thinks she has lost a coin with an even value and a coin with an odd value.
Do you agree? Explain your reasoning.

GD R

Reasoning and Problem Solving Adding Money

Developing

1a. £1 and 20p + £2 = £3 and 20, £1 and 20p + £2 and 10p = £3 and 30p and £1 and 20p + £2 and 30p = £3 and 50p

2a. Various answers, for example: (£1 + 50p + 20p) + (£2 + 50p + 10p) = £4 and 30p; (£2 + 10p + £1) + (£1 + 10p + 10p) = £4 and 30p

3a. Yes, this is possible as the difference is 20p and 20p is a silver coin.

Expected

4a. Various answers, for example: £2 and 65p + £1 and 20p = £3 and 85p, £5 and 20p + £1 and 20p = £6 and 40p and £3 and 45p + £2 and 65p = £6 and 10p

5a. Various answers, for example: (£2 + £2 + 10p) + (£2 + 50p + 5p) = £6 and 65p; (£2 + £2 + 5p) + (£2 + 50p + 10p) = £6 and 65p

6a. Yes, this is possible as the difference is 30p which can be made with a 10p and a 20p coin.

Greater Depth

7a. A + B = £12 and 53p; A + C = £11 and 87p; A + E = £6 and 78p; A + F = £11 and 10p; B + E = £10 and 13p; E + F = £8 and 70p

8a. Various answers, for example: £5 and 21p (made up of: one £5 note, four 5p coins and one 1p coin) + £9 and 94p (made up of four £2 coins, three 50p coins, two 20p coins and two 2p coins) = £15 and 15p. 1 (odd) note and 16 (even) coins have been used.

9a. No, this is not possible as the difference is 20p. This can't be made with three identical coins.

Reasoning and Problem Solving Adding Money

Developing

1b. £2 and 30p + £3 = £5 and 30p, £2 and 10p + £3 = £5 and 10p and £2 and 20p + £3 = £5 and 20p.

2b. Various answers, for example: (£2 + 10p + 10p) + (£1 + 50p) = £3 and 70p; (£1 + 50p + £1 + 20p) + £1 = £3 and 70p

3b. No, this is not possible as the difference is 10p and you cannot make 10p using two bronze coins.

Expected

4b. Various answers, for example: £5 and 20p + £3 and 85p = £9 and 5p, £5 and 20p + £2 and 85p = £8 and 5p and £5 and 20p + £3 and 5p = £8 and 25p

5b. Various answers, for example: (£2 + 1p) + (£1 + £1 + £1 + £2 + £2 + 2p + 2p) = £9 and 5p; (£1 + £1 + 1p) + (£2 + £2 + £2 + £1 + 2p + 2p) = £9 and 5p

6b. No, this is not possible as the difference is 5p which is a silver coin.

Greater Depth

7b. A + C = £20 and 71p; A + D = £21 and 40p; B + C = £19 and 37p; B + D = £20 and 16p; C + D = £26 and 5p; C + E = £22 and 5p; D + E = £22 and 74p

8b. Various answers, for example: £12 and 94p (made up of: two £5 notes, two £1 coins, four 20p coins, one 10p coin and two 2p coins) + £5 and 79p (made up of: one £5 note, one 50p coin, two 10p coins, one 5p coin and two 2p coins) = £18 and 73p. 15 coins and 3 notes have been used. 15 is three times greater than 3.

9b. Yes, this is possible as the difference is 55p. This can be made with a 50p coin which is even and a 5p coin which is odd.