

# Reasoning and Problem Solving

## Step 1: Pounds and Pence

### National Curriculum Objectives:

Mathematics Year 4: (4M1) [Compare different measures including money in pounds and pence](#)

Mathematics Year 4: (4M2) [Estimate different measures including money in pounds and pence](#)

Mathematics Year 4: (4M9) [Calculate different measures including money in pounds and pence](#)

Mathematics Year 4: (4F10b) [Solve simple measure and money problems involving fractions and decimals to two decimal places](#)

### Differentiation:

Questions 1, 4 and 7 (Reasoning)

**Developing** Calculate the amount of money listed and if it is enough to buy an item at a set price. Explain your answer. Limited to three coins with no repetition of value.

**Expected** Calculate the amount of money listed and if it is enough to buy an item at a set price. Explain your answer. With repeated coins.

**Greater Depth** Calculate the amount of money listed and if it is enough to buy an item at a set price. Explain your answer. Including amounts that cross from p to £.

Questions 2, 5 and 8 (Problem Solving)

**Developing** Match the value in £ and p to the correct money pictured where the pence never goes over 100.

**Expected** Match the value in £ and p to the correct money pictured where the pence can go over 100.

**Greater Depth** Match the value in £ and p to the correct money pictured with multiple repeat coins and the pence can go over 1000.

Questions 3, 6 and 9 (Problem Solving)

**Developing** Work out coin combinations based on the amount of money in £ and p

**Expected** Work out coin combinations based on the amount of money in £ and p where there could be more than one correct answer.

**Greater Depth** Work out coin combinations based on the amount of money in £ and p where there are multiple correct answers.

More [Year 4 Money](#) resources.

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## Pounds and Pence

1a. Sam and Alex both want to buy an ice cream. An ice cream costs £1.25.

Sam says, "I have a £1 coin, a 20p coin and a 5p coin."

Alex says, "I have a £1 coin and a 5p coin."

Who can afford to buy an ice cream?  
Explain how you know.



R

## Pounds and Pence

1b. Max and Jay both want to buy a packet of crisps. A packet costs £1.10.

Max says, "I have a £1 coin, a 5p coin and a 2p coin."

Jay says, "I have a £1 coin and a 5p coin and a 10p coin."

Who can afford to buy the crisps?  
Explain how you know.



R

2a. Jon has £2.50. Annie has £1.25. Match each child to their correct money purse.

Jon



Annie



A



B



PS



2b. Sam has £1.50. Manon has £1.30. Match each child to their correct money purse.

Sam



Manon



A



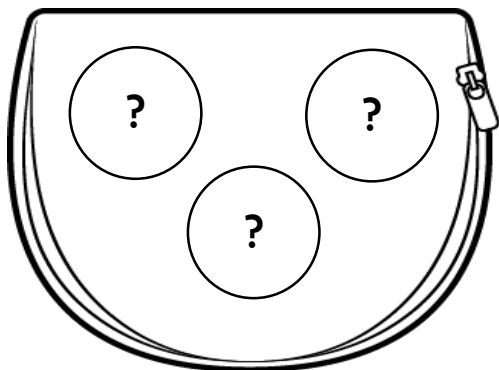
B



PS



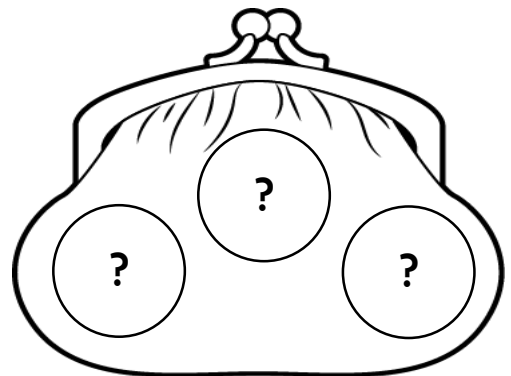
3a. Jack has £1.15 in his wallet. He has three coins.  
What are the three coins Jack has?



PS



3b. Sophie has £1.60 in her wallet. She has three coins.  
What are the three coins Sophie has?



PS



## Pounds and Pence

4a. Liam and Laura both want to buy a football. A football costs £3.75.

Liam says, "I have two £1 coins, three 50p coins a 20p coin and a 5p coin."

Laura says, "I have three £1 coins, two 20p and five 5p coins."

Who can afford to buy a football?  
Explain how you know.



R

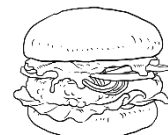
## Pounds and Pence

4b. Usman and Belle both want to buy a burger. A burger costs £2.20.

Usman says, "I have a £1 coin, two 20p coins, a 50p coin and three 5p coins."

Belle says, "I have a £1 coin and six 20p coins."

Who can afford to buy a burger?  
Explain how you know.



R

5a. Erin has 10p more than Zak. Match each child to their correct money purse. Write down how much they each have in pence and in decimals.

Erin



A



Zak



B



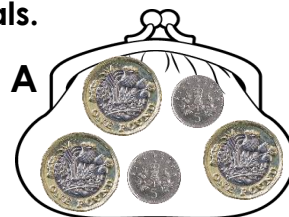
PS

5b. James has 15p less than Quinn. Match each child to their correct money purse. Write down how much they each have in pence and in decimals.

James



A



Quinn

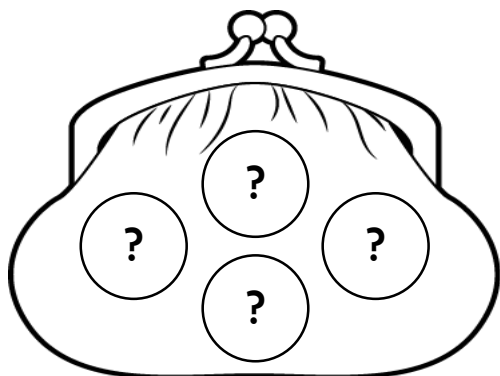


B



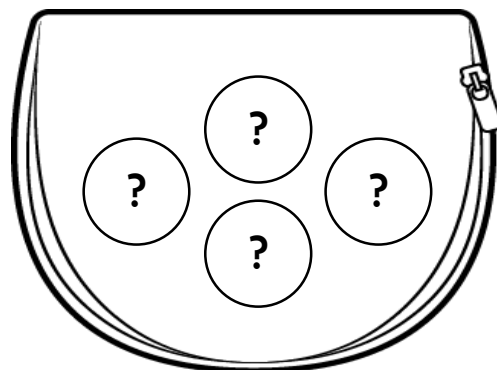
PS

6a. Awais has £2.20 in his wallet. He has four coins. Which coins could Awais have?



PS

6b. Amelia has £1.30 in her wallet. She has four coins. Which coins could Amelia have?



PS

## Pounds and Pence

7a. Kyle and Erin both want to buy a basketball. A basketball costs £4.50.

Kyle says, "I have three £1 coins, a 20p coin, two 50p coins and three 5p coins."

Erin says, "I have two £1 coins less and three 50p coins more than Kyle".

Who can afford to buy a basketball?  
Explain how you know.



R

## Pounds and Pence

7b. Jack and Tamina both want to buy a rubber duck. A rubber duck costs £2.80.

Tamina says, "I have a £1 coin, seven 20p coins and four 5p coins."

Jack says, "I have one more £1 coin and 4 less 20p coins than Tamina."

Who can afford to buy a rubber duck?  
Explain how you know.



R

8a. How much does each child have?  
Write your answer in pence and in decimals.



Kevin

I have six two pound coins, one fifty pence coin and two ten pence coins.

I have a ten pound note, one two pound coin and three twenty pence coins.



Leah



PS

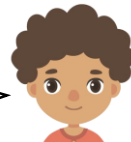
8b. How much does each child have?  
Write your answer in pence and in decimals.



Nell

I have a five pound note, four one pound coins and eight twenty pence coins.

I have a ten pound note, a five pound note and thirteen 50 pence coins.

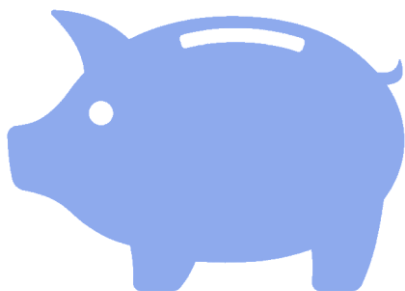


Lucas



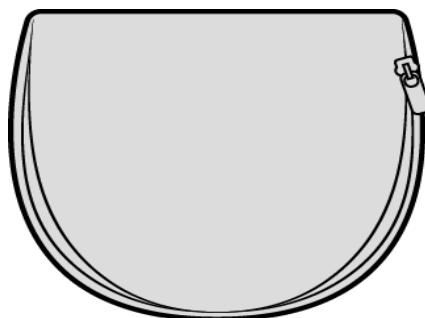
PS

9a. Alfie has £11.60 in his piggy bank. He has one note and five coins.  
What combinations could Alfie have?  
Find two different ways.



PS

9b. Ryan has £12.75 in his wallet. He has one note and six coins.  
What combinations could Alfie have?  
Find two different ways.



PS

## Reasoning and Problems Solving Pounds and Pence

### Developing

- 1a. Sam can afford it because he has £1.25. Alex only has £1.05.  
2a. Jon – B; Annie – A  
3a. £1, 10p, 5p

### Expected

- 4a. Liam can afford it because he has £3.75. Laura only has £3.65.  
5a. Erin – A, 250p or £2.50; Zak – B, 240p or £2.40.  
6a. Any combination making £2.20, e.g. 2 x £1, 2 x 10p or £2, 2 x 5p, 10p

### Greater Depth

- 7a. Neither can afford it. Kyle has £4.35 and Erin has £3.85.  
8a. Kevin has 1,270p or £12.70; Leah has 1,260p or £12.60.  
9a. Various possible answers, including: 1 x £10 note, 1 x £1, 2 x 20p and 2 x 10p; 1 x £5 note, 3 x £2, 1 x 50p, 1 x 10p.

## Reasoning and Problems Solving Pounds and Pence

### Developing

- 1b. Jay can afford it because he has £1.15. Max only has £1.07.  
2b. Sam – B; Manon – A  
3b. £1, 50p, 10p

### Expected

- 4b. Belle can afford it because she has £2.20. Usman only has £2.15.  
5b. James – A, 310p or £3.10; Quinn – B, 325p or £3.25.  
6b. Any combination making £1.30, e.g. 2 x 50p, 20p, 10p or £1, 20p, 2 x 5p

### Greater Depth

- 7b. Jack can afford it because he has £2.80. Tamina only has £2.60.  
8b. Nell has 1,060p or £10.60; Lucas has 2,150p or £21.50.  
9b. Various possible answers, including: 1 x £10 note, 2 x £1, 1 x 50p, 2 x 10p and 1 x 5p; 1 x £10 note, 1 x £2, 3 x 20p, 1 x 10p and 1 x 5p.