Summer Scheme of Learning

Year 3/4

#MathsEveryoneCan

2019-20
Notes and Guidance

How to use the mixed-age SOL

In this document, you will find suggestions of how you may structure a progression in learning for a mixed-age class.

Firstly, we have created a yearly overview.

For each block of learning, we have grouped the small steps into themes that have similar content. Within these themes, we list the corresponding small steps from one or both year groups. Teachers can then use the single-age schemes to access the guidance on each small step listed within each theme.

The themes are organised into common content (above the line) and year specific content (below the line). Moving from left to right, the arrows on the line suggest the order to teach the themes.

Each term has 12 weeks of learning. We are aware that some terms are longer and shorter than others, so teachers may adapt the overview to fit their term dates.

The overview shows how the content has been matched up over the year to support teachers in teaching similar concepts to both year groups. Where this is not possible, it is clearly indicated on the overview with 2 separate blocks.
Notes and Guidance

How to use the mixed-age SOL

Here is an example of one of the themes from the Year 1/2 mixed-age guidance.

Subtraction

Year 1 (Aut B2, Spr B1)
- How many left? (1)
- How many left? (2)
- Counting back
- Subtraction - not crossing 10
- Subtraction - crossing 10 (1)
- Subtraction - crossing 10 (2)

Year 2 (Aut B2, B3)
- Subtract 1-digit from 2-digits
- Subtract with 2-digits (1)
- Subtract with 2-digits (2)
- Find change - money

In order to create a more coherent journey for mixed-age classes, we have re-ordered some of the single-age steps and combined some blocks of learning e.g. Money is covered within Addition and Subtraction.

The bullet points are the names of the small steps from the single-age SOL. We have referenced where the steps are from at the top of each theme e.g. Aut B2 means Autumn term, Block 2. Teachers will need to access both of the single-age SOLs from our website together with this mixed-age guidance in order to plan their learning.

Points to consider

- Use the mixed-age schemes to see where similar skills from both year groups can be taught together. Learning can then be differentiated through the questions on the single-age small steps so both year groups are focusing on their year group content.
- When there is year group specific content, consider teaching in split inputs to classes. This will depend on support in class and may need to be done through focus groups.
- On each of the block overview pages, we have described the key learning in each block and have given suggestions as to how the themes could be approached for each year group.
- We are fully aware that every class is different and the logistics of mixed-age classes can be tricky. We hope that our mixed-age SOL can help teachers to start to draw learning together.
<table>
<thead>
<tr>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 5</th>
<th>Week 6</th>
<th>Week 7</th>
<th>Week 8</th>
<th>Week 9</th>
<th>Week 10</th>
<th>Week 11</th>
<th>Week 12</th>
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<tbody>
<tr>
<td><strong>Autumn</strong></td>
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<tr>
<td>Number: Place Value</td>
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<td>Number: Addition and Subtraction</td>
<td></td>
<td>Number: Multiplication and Division</td>
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<td></td>
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<td><strong>Spring</strong></td>
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</tr>
<tr>
<td>Number: Multiplication and Division</td>
<td>Measurement: Length, Perimeter and Area</td>
<td></td>
<td>Number: Fractions</td>
<td></td>
<td></td>
<td></td>
<td>Y3: Measurement: Mass and Capacity</td>
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<td></td>
<td>Y4: Number: Decimals</td>
<td></td>
<td></td>
<td></td>
<td>Consolidation</td>
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<tr>
<td><strong>Summer</strong></td>
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</tr>
</tbody>
</table>
In this section, content from single-age blocks are matched together to show teachers where there are clear links across the year groups. Teachers may decide to teach the lower year’s content to the whole class before moving the higher year on to their age-related expectations. The lower year group is not expected to cover the higher year group’s content as they should focus on their own age-related expectations.

In this section, content that is discrete to one year group is outlined. Teachers may need to consider a split input with lessons or working with children in focus groups to ensure they have full coverage of their year’s curriculum. Guidance is given on each page to support the planning of each block.

The themes should be taught in order from left to right.
Decimals (including Money)

Common Content

Writing and comparing money
Year 3 (Spr B2)
• Pounds and pence
• Convert pounds and pence
Year 4 (Sum B2)
• Pounds and pence
• Ordering money

Calculating with money
Year 3 (Spr B2)
• Add money
• Subtract money
• Give change
Year 4 (Sum B2)
• Four operations

Year 4 start with a focus on decimals, building on their learning from the Spring term. During this time, teachers may recap fractions and decimals learning with Year 3, filling any gaps in knowledge.

Both year groups then convert between pounds and pence.

Year 4 apply their rounding skills with decimals to money.

Both year groups add and subtract money, with Year 4 moving on to multiply and divide money.
Make a Whole

Children make a whole from any number of tenths and hundredths. They use their number bonds to ten and one hundred to support their calculations. Children use pictorial and concrete representations to support their understanding.

Notes and Guidance

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Varied Fluency

Here is a hundred square.
How many hundredths are shaded?
How many more hundredths do you need to shade so the whole hundred square is shaded?
___ hundredths + ___ hundredths = 1 whole

Here is a rekenrek with 100 beads. Each bead is one hundredth of the whole.
___ hundredths are on the left.
___ hundredths are on the right.
0.___ + 0.___ = 1

Complete the part-whole models.

Mathematical Talk

How many tenths make one whole?

How many hundredths make one tenth?

How many hundredths make one whole?

If I have ___ hundredths, how many more do I need to make one whole?
Which part-whole model does not match the hundred square?

0.03 + 0.07 does not equal one whole so this one does not match.

Three bead strings are 0.84 m long altogether.

Would four bead strings be longer or shorter than a metre?

Explain how you know.

Longer because each bead string is 28 cm (0.28 m) long, and $0.84 + 0.28 = 1.12$ which is greater than 1 metre.
Write Decimals

Notes and Guidance

Children use place value counters and a place value grid to make numbers with up to two decimal places. They read and write numbers with decimals and understand the value of each digit. They show their understanding of place value by partitioning numbers with decimals in different ways.

Mathematical Talk

How many ones/tenths/hundredths are in the number? How do we write this as a decimal? Why? What is the value of the ____ in the number _____? When do we need to use zero as a place holder? How can we partition decimal numbers in different ways?

Varied Fluency

What number is represented on the place value grid?

<table>
<thead>
<tr>
<th>Ones</th>
<th>Tenths</th>
<th>Hundredths</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

There are ____ ones, ____ tenths and ____ hundredths. The number is ____

Make the numbers on a place value chart and write down the value of the underlined digit.

3.47  2.15  0.6  25.03

Complete the part-whole model in two different ways and write a number sentence to go with each.

0.83  0.83

0.83 = ____ + 0.03

0.83 = 0.7 + ____
Mo is told that this bead string represents one whole. He thinks that each individual bead represents one tenth. Do you agree with Mo? Explain your answer.

No because Mo has not included the place holder. The number shown is 2.02.

Annie thinks the number shown is 2.2. Do you agree with Annie? Explain your answer.

Match each description to the correct number.

- Teddy: 40.46
- Amir: 46.2
- Rosie: 46.02
- Eva: 2.64

Teddy: My number has the same amount of tens as tenths.
Amir: My number has one decimal place.
Rosie: My number has two hundredths.
Eva: My number has six tenths.
Children apply their understanding of place value to compare numbers with decimals with up to two decimal places. They will consolidate and deepen their understanding of 0 as a place holder when making a comparison.

**How many tenths does it have?**

There are ___ tenths and ___ hundredths.

The number is ___ . ___ ___ ___ . ___ ___ is greater/less than ___ . ___ ___ because ...

### Varied Fluency

Write the numbers shown and compare using < or >

<table>
<thead>
<tr>
<th>Ones</th>
<th>Tenths</th>
<th>Hundredths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Draw counters in the place value chart to make the statement correct.

<table>
<thead>
<tr>
<th>Ones</th>
<th>Tenths</th>
<th>Hundredths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Complete.

<table>
<thead>
<tr>
<th>5.5</th>
<th>5.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.37</td>
<td>&lt;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>0.14</th>
<th>0.29</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.22</td>
<td>&gt;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>0.64</th>
</tr>
</thead>
<tbody>
<tr>
<td>1_1</td>
<td>&gt;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3.32</th>
<th>3.23</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.9_</td>
<td>&lt;</td>
</tr>
</tbody>
</table>
Use each digit card *once* to make the statement correct.

Use three digit cards to make the greatest possible number.

Use three digit cards to make the smallest possible number.

Can you find eight different possible solutions?

Some possible solutions:

- 3.12 > 0.45
- 3.24 > 1.05
- 3.45 > 1.02
- 3.01 > 2.45
- 3.42 > 2.01
- 3.45 > 0.12
- 3.02 > 1.45
- 3.24 > 1.05

The greatest:
7.54

The smallest:
0.45
Order Decimals

Notes and Guidance

Children apply their understanding of place value to order numbers with decimals with up to two decimal places. They will consolidate and deepen their understanding of 0 as a place holder, the inequality symbols and language such as ascending and descending.

Mathematical Talk

Which digit can we use to compare these decimals? Will this always be the case?

Do we always use the digit furthest left to compare decimals?

___ . ___ ___ is _________ than ___ . ___ ___ because …

Varied Fluency

Write down the decimals represented in the place value grid and then place them in ascending order.

Place the numbers in descending order.

Complete.

1.11 1.12 1.13 0.1_ < 0.1_ < 0.15
3.32 3.23 2.32 1.9_ < 1.9_ < 2.01
4.44 4.34 4.04 6.67 > 6__7 > 6.37
Spot the Mistake

Rosie is ordering some numbers in ascending order:

0.09 < 0.99 < 10.01 < 1.35 < 9.09

Can you explain her mistake?

Rosie hasn’t considered the place value of the digits in the numbers and has just ordered by comparing individual digits left to right.

Some children have planted sunflowers and have measured their heights.

<table>
<thead>
<tr>
<th>Child</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beth</td>
<td>1.23 m</td>
</tr>
<tr>
<td>Tony</td>
<td>0.95 m</td>
</tr>
<tr>
<td>Rachel</td>
<td>1.02 m</td>
</tr>
<tr>
<td>Kate</td>
<td>1.2 m</td>
</tr>
<tr>
<td>Faye</td>
<td>99 cm</td>
</tr>
<tr>
<td>Emma</td>
<td>0.97 m</td>
</tr>
</tbody>
</table>

Order the children based on the heights of their sunflowers in both ascending and descending order.

Ascending: Tony, Emma, Faye, Rachel, Kate, Beth

Descending: Beth, Kate, Rachel, Faye, Emma, Tony
Children round numbers with 1 decimal place to the nearest whole number. They look at the digit in the tenths column to understand whether to round a number up or not. It is best to avoid the phrase ‘round down’ as this can sometimes lead to misconceptions. Children need to be taught that if a number is exactly half-way, then by convention we round up to the next integer.

**Mathematical Talk**

Which whole numbers does the decimal lie between?
Which whole number is the decimal closer to on the number line?
Which column do we focus on when rounding to the nearest whole number?
Which digits in the tenths column do not round up to the nearest whole number?
Which digits in the tenths column round up to the nearest whole number?

<table>
<thead>
<tr>
<th>Which integers do the decimals lie between?</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1  5.2  5.3  5.4  5.5  5.6  5.7  5.8  5.9</td>
</tr>
<tr>
<td>2.1  2.2  2.3  2.4  2.5  2.6  2.7  2.8  2.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Complete the sentences to describe each decimal.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
</tr>
<tr>
<td>4.7</td>
</tr>
<tr>
<td>12.2</td>
</tr>
<tr>
<td>12.6</td>
</tr>
</tbody>
</table>

___ is closer to ____ than ___
____ rounds to ____ to the nearest whole number.

**Circle the numbers that round up to the nearest whole number.**

4.5  3.7  2.3  4.2  16.8  1.9
| Mo says 0.4 rounded to the nearest whole number is zero. |
| Whitney says 0.4 rounded to the nearest whole number is one. |
| Who is correct? Why? |
| Mo is correct. 0.4 lies between 0 and 1, as there are only four tenths, the number rounds to zero. |
| A number with one decimal place rounded to the nearest whole number is 45 |
| What could the number be? |
| The number could be: |
| 44.5, 44.6, 44.7, 44.8, 44.9, 45.1, 45.2, 45.3 or 45.4 |
The beads are split equally on each side of the rekenrek. There are 4 equal groups. 

1 out of 4 equal groups = ____ beads.
1 out of 4 equal groups = ____
$\frac{1}{4} = \frac{25}{100} = \frac{5}{20}$, so $\frac{1}{2}$ is ____ as a decimal.

Half of the beads are red, and half of the beads are white.

$\frac{1}{2} = \frac{50}{100} = \frac{5}{10}$, so $\frac{1}{2}$ is ____ as a decimal.

How would you write your answer as a decimal and a fraction?

Can you represent one quarter using decimal place value counters?

Can you represent three quarters using counters on a place value grid?

Year 4 | Summer Term | Week 1 to 3 – Decimals (including Money)

Varied Fluency

Here is a rekenrek with 100 beads.

___ out of 100 beads are red.
___ out of 100 beads are white.
□ are red, and □ are white.

There are 4 equal groups.

1 out of 4 equal groups = ____ beads.
1 out of 4 equal groups = ____
$\frac{1}{4} = \frac{25}{100} = \frac{5}{20}$, so $\frac{1}{2}$ is ____ as a decimal.

What fraction is represented by 3 out of the 4 groups?
Can you write this as a decimal?

$\frac{3}{4} = \frac{75}{100} = ____$
Alex says:

If I know \(\frac{1}{2}\) is 0.5 as a decimal, I also know \(\frac{3}{6}\), \(\frac{4}{8}\) and \(\frac{6}{12}\) are equivalent to 0.5 as a decimal.

Explain Alex’s thinking.

Alex has used her knowledge of equivalent fractions to find other fractions that are equivalent to 0.5.

Dexter has made a mistake when converting his fractions to decimals.

\[
\begin{align*}
\frac{1}{2} &= 1.2, \\
\frac{1}{4} &= 1.4 \text{ and } \\
\frac{3}{4} &= 3.4
\end{align*}
\]

What mistake has Dexter made?

Dexter has incorrectly placed the numerator in the ones column and the denominator in the tenths column. He should have used equivalent fractions with tenths and or hundredths to convert the fractions to decimals.
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.

What is the value of the coin/note?
What does p mean?
Why do we have different values of coins and notes?
What's the difference between £5 and 5p?

Match the amounts that are equal.

Fifteen pounds  Fifteen pence  Fifty pounds  Fifty pence

How much money does the jar contain?
The jar contains £____ and ____ p.

Use <, > or = to make the statements correct.
Rosie has 5 silver coins in her purse. She can make 40p with three coins. She can also make 75p with three coins. How much money does Rosie have in her purse?

Rosie has 95 pence in her purse. She has one 20p coin, one 50p coin, two 10p coins and one 5p coin.

Amir has 5 different coins in his wallet. What is the greatest amount of money he could have in his wallet? What is the least amount of money?

Greatest: £3 and 80p
Least: 38p
Convert Pounds and Pence

Notes and Guidance

Children convert between pounds and pence using the knowledge that £1 is 100 pence. They group 100 pennies into 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?

How could you convert 600p into pounds? How could you convert 620p into pounds?

Varied Fluency

What is the total of the coins shown?

Can you group any of the coins to make 100 pence?

How many whole pounds do you have? How many pence are left over? So there is £____ and ____ p.

Write the amounts in pounds and pence.

Write each amount in pounds and pence.

165p  234p  199p  112p  516p
# Convert Pounds and Pence

## Reasoning and Problem Solving

<table>
<thead>
<tr>
<th>Dexter has 202 pence. He has one pound coin.</th>
<th>Children may work systematically and look at combinations of coins that make £1 to help them.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Show five possible combinations of other coins he may have.</td>
<td></td>
</tr>
<tr>
<td>Whitney thinks that she has £10 and 3p. Is she correct?</td>
<td>Whitney is wrong, she has £12 and 1p. Whitney has not considered the value of the coins she has.</td>
</tr>
<tr>
<td>Explain your answer.</td>
<td>Dora thinks there is more than £5 but less than £6 Is Dora correct?</td>
</tr>
<tr>
<td></td>
<td>Dora is incorrect. There is £6 and 30p. This is greater than £6</td>
</tr>
</tbody>
</table>

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Dora is incorrect. There is £6 and 30p. This is greater than £6.
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 £_____

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
Some children are converting 1206 p into pounds.

Who is correct?

- Whitney: 1206 p = £12.6
- Rosie: 1206 p = £12.06
- Teddy: 1206 p = £120.6

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
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

Year 4 | Summer Term | Week 1 to 3 – Decimals (including Money)

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?
Teddy, Dora and Jack are buying toys.

I have £5.43

Teddy

I have 534p

Dora

I have more money than Dora but less than Teddy.

Jack

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

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

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

Jack could have anything from £5.35 to £5.42

Children may record this as 535p to 542p

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
Block 1 – Decimals

Theme 3 - Estimate money
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.

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?
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 5p more than the number the cost 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

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.
Block 1 - Decimals

Theme 4 - Calculating with money
Add Money

Notes and Guidance

Children add two amounts of money using pictorial representations to support them.

They are encouraged to add the pounds first and then add the pence. Children then exchange the pence for pounds to complete their calculations.

Mathematical Talk

Can you group any of the coins to make a pound?

Can you use estimation to support your calculation?

Why is adding 99p the same as adding £1 and taking away 1p?

Varied Fluency

Mo uses a part-whole model to add money.

£___ and ___ p + £___ and ___ p
There is £____ and 105p.
105p = £____ and ____p
Altogether there is £____ and ____p.

Use Mo’s method to find the total of:

£10 and 35p and £4 and 25p  £10 and 65p and £9 and 45p

What calculation does the bar model show?
Find the total amount of money.

A magazine costs £1 and 75p.
How much do the book and magazine cost altogether?
Add Money

Reasoning and Problem Solving

Dora bought these muffins.

Muffins cost 35p each.
How much did Dora spend?

Tommy bought three times as many muffins as Dora.
How many muffins did Tommy buy?
How much money did Tommy spend on muffins?

How much more money did Tommy spend than Dora?

Dora bought these muffins.

Dora spent 105p or £1 and 5p.

Tommy bought 9 muffins.
He spent 315p or £3 and 15p.

Tommy spent 210p or £2 and 10p more than Dora.

Rosie has £5
Has she got enough money to buy a car and two apples?

Rosie could buy
1 car and 2 balloons
1 car, 1 apple and 1 balloon
1 magazine and 2 apples

What combinations of items could Rosie buy with £5?

£3 and 35p + 85p + 85p = £5 and 5p
She does not have enough money.

£3 and 35p
£2 and 55p
85p
75p

Rosie has £5
Has she got enough money to buy a car and two apples?

What combinations of items could Rosie buy with £5?
Subtract Money

Notes and Guidance

Children use different methods to subtract money. They will see examples where they can physically remove the coins, and examples where they will need to use their knowledge of converting money to exchange £1 for 100 pence. Children also use number lines to count on or back to calculate the difference between two amounts.

Mathematical Talk

Can we make 50p in a different way to make it easier to subtract 10p physically? Which number should I place on the number line first? Could I count backwards on the number line? Does this change the difference? Do we need to exchange any pounds for pence?

Varied Fluency

Alex has £3 and 50p. She gives £2 and 10p to her sister. How much money does she have left?

\[ £3 - £2 = £____ \]
\[ 50p - 10p = ____ p \]

Alex has £____ and ____ p remaining.

Tommy has £1 and 72p. Rosie has £2. How much more money does Rosie have than Tommy?

\[ 8p \] and \[ 20p \]

\[ £1 and 72p \] \[ £1 and 80p \] \[ £2 \]

Rosie has ____ p more than Tommy.

A T-shirt costs £7 and 20p. In a sale, the T-shirt costs £5 and 40p. How much has the cost of the T-shirt been reduced by?
Jack has £2 and 90p.
Teddy has three times as much money as Jack.

How much more money does Teddy have than Jack?

Rosie has twice as much money as Teddy.

How much more money does Rosie have than Jack?

Jack: £2 & 90p
Teddy: £8 & 70p
Rosie: £17 & 40p

Teddy has £5 and 80p more than Jack.

Rosie has £14 and 50p more than Jack.

Use coins to support children in calculating.

Three children are calculating £4 and 20p subtract £1 and 50p.

£4 - £1 = £2
20p - 50p = 30p
£1 + 30p = £1 and 30p

£4 and 20p - £2 = £2 and 20p
£2 and 20p + 50p = £2 and 70p

The difference is £2 and 70p.

Who is correct? Who is incorrect?
Which method do you prefer?

Annie's second step of calculation is incorrect. Teddy and Eva both got the correct answer using different methods. Children may choose which method they prefer or discuss pros and cons of each.
Mo buys a chocolate bar for 37p. He pays with a 50p coin. How much change will he receive?

Mo will receive ____ p change.

Use a number line to solve the problems.

• Ron has £1. He buys a lollipop for 55p. How much change will he receive?
• Whitney has £5. She spends £3 and 60p. How much change will she receive?

Tommy buys a comic for £3 and 25p. He pays with a £5 note. How much change will he receive?

Use the part-whole model to help you.

• Eva buys a train for £6 and 55p. She pays with a £10 note. How much change will she receive?

Children use a number line and a part-whole model to subtract to find change.
Teachers use coins to practically model giving change.
Encourage role-play to give children a context of giving and receiving change.

What do we mean by ‘change’ in the context of money?
Which method do you find most effective?
How does the part-whole model help to solve the problem?

Year 3  |  Summer Term  |  Week 1 to 3 – Decimals (including Money)
Dora spends £7 and 76p on a birthday cake.

She pays with a £10 note. How much change does she get?

The shopkeeper gives her six coins for her change. What coins could they be?

She receives £2 and 24p change. There are various answers for which coins it could be, e.g. £1, £1, 10p, 10p, 2p, 2p.

Amir has £4. He buys a pencil for £1 and 20p and a book for £1 and 45p. Which bar model represents the question? Explain how you know.

The first bar model is correct as the whole is £4 and we are calculating a part as Amir has spent money. Amir receives £1 and 35p change.

Use the correct bar model to help you calculate how much change Amir receives.
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?

Amir buys some clothes in a half price sale. 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?

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.

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?
A class has £100 to spend on books.

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

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.

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.

Total = £18
$18 - 10 = 8$
$\frac{1}{2} \times 8 = 4$
$18 - 9 = 9$

The £10 voucher would save more.

Here is Dora’s receipt.

<table>
<thead>
<tr>
<th>Receipt</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandwich</td>
<td>£2.75</td>
</tr>
<tr>
<td>Orange juice</td>
<td>90 p</td>
</tr>
<tr>
<td>Crisps</td>
<td>60 p</td>
</tr>
<tr>
<td>Banana</td>
<td>30 p</td>
</tr>
<tr>
<td>TOTAL</td>
<td>£4.55</td>
</tr>
</tbody>
</table>

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.