Year 5: Week 3, Day 3
Short multiplication (money)

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. Start by reading through the Learning Reminders. They come from our PowerPoint slides.

2. Tackle the questions on the Practice Sheet. There might be a choice of either Mild (easier) or Hot (harder)! Check the answers.

3. Finding it tricky? That’s OK... have a go with a grown-up at A Bit Stuck?

4. Have I mastered the topic? A few questions to Check your understanding. Fold the page to hide the answers!
Learning Reminders

Use short multiplication to multiply 4-digit amounts of money by 1-digit numbers.

A shop sells 6 hoodies, each priced £25.79. We are going to find the total amount.

\[ 6 \times £25.79 \]

<table>
<thead>
<tr>
<th></th>
<th>£20</th>
<th>£5</th>
<th>70p</th>
<th>9p</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>120</td>
<td>30</td>
<td>4.20</td>
<td>54p</td>
<td>154.74</td>
</tr>
</tbody>
</table>

\[ \begin{array}{c|c}
  \text{£25.79} & \times \\
  \hline
  \text{6} & \text{345} \\
  \hline
  \text{£154.74} & \end{array} \]

Add the pounds, then the pence.

Take special care with place value when multiplying with money. It is particularly helpful to estimate first...

\[ (6 \times 70p) + 50p = £4.70 \]
Use short multiplication to multiply 4-digit amounts of money by 1-digit numbers.

A shop sells 7 pairs of jeans, each priced £34.45. We are going to find the total amount.

\[ 7 \times £34.45 \]

<table>
<thead>
<tr>
<th></th>
<th>£30</th>
<th>£4</th>
<th>40p</th>
<th>5p</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>£210</td>
<td>£28</td>
<td>£2.80</td>
<td>35p</td>
</tr>
</tbody>
</table>

7 x 40p = £2.80

Add the pounds, and then the pence.

\[ £34.45 \times 7 \]

\[ 333 \]

\[ £241.15 \]

7 x 40p + 30p = £3.10

Does this answer look about right?
1. Which of these multiplications do you think will have the greatest answer?

\[ 3 \times £4.28 \quad 5 \times £5.17 \quad 4 \times £8.32 \quad 6 \times £2.51 \]

Calculate each to check.

2. A shop sells the following items. Calculate how much they take for each item:

- 4 beanies at £7.24 each
- 6 water bottles at £3.65 each
- 8 wristbands at £2.78 each
1. Which of these would cost more than £200? Estimate each then calculate the costs.
   a) 5 pairs of trainers
   b) 4 tracksuits
   c) 7 footballs
   d) 8 sports bags
   e) 7 tennis rackets

2. Which do you think would cost more?
   Estimate each then calculate the costs.
   a) 6 pairs of trainers or 7 tracksuits?
   b) 9 sports bags or 6 footballs?
   c) 6 tennis rackets, 4 tracksuits or 3 pairs of trainers?

**Challenge**

Five children each buy a sports bag, a tennis racket and pair of trainers. How much do they spend altogether?
Practice Sheet Answers

Multiplying money (mild)

Which of these multiplications do you think will have the greatest answer?

4 x £8.32
Rounding each amount to the nearest pound helps children to see which will have the greatest answer
3 x £4.28 = £12.84
5 x £5.17 = £25.85
4 x £8.32 = £33.28
6 x £2.51 = £15.06

A shop sells the following items. Calculate how much they take for each item:

4 beanies at £7.24 each £28.96
6 water bottles at £3.65 each £21.90
8 wristbands at £2.78 each £22.24

Multiplying money (hot)

1. a) £232.75
   b) £155
   c) £221.62
   d) £155.92
   e) £172.20

2. a) 6 pairs of trainers = £279.30
     tracksuits = £271.25
     
     b) 9 sports bags = £175.41
     6 footballs = £189.96
     
     c) 6 tennis rackets = £147.60
     tracksuits = £155
     3 pairs of trainers = £139.65

Challenge

Sports bag + tennis racket + trainers = £19.49 + £24.60 + £46.55 = £90.64

If 5 children all buy the same 3 items total cost = £453.20
Try this activity with a partner, but record your calculations on your own sheet.

What to do:

• Use the grid method to work out the answers to these multiplications.

\[
\begin{array}{c|c|c|c|c}
& \£3 & 20p & 5p \\
\hline
3 & 3 & & \\
5 & & & 3p \\
4 & & 30p & 5p \\
\end{array}
\]

3 x £3.25
5 x £4.23
4 x £6.35

• Next choose at least two multiplications and draw your own grids to keep track of your steps.

7 x £1.32
6 x £2.17
8 x £1.31
5 x £4.18

S-t-r-e-t-c-h:
Which of these multiplications will have the biggest answer?
Which will have the smallest answer?
8 x £2.36
6 x £5.21
2 x £6.33

Learning outcomes:
• I can use the grid method to multiply 3-digit amounts of money by 1-digit numbers.
• I am beginning to estimate the answers.
Check your understanding

Questions

A shop sells 6 boxes of chocolates at £12.79 a box and 8 chocolate bunnies at £5.38 each. How much did they take in total?

Which of these multiplications will have an answer greater than £100? How do you know?

4 x £24.78  6 x £18.45  5 x £16.48  7 x £15.27

Write three multiplications with answers between £150 and £200.

Fold here to hide answers

Check your understanding

Answers

A shop sells 6 boxes of chocolates at £12.79 a box and 8 chocolate bunnies at £5.38 each. How much did they take in total?

£76.74 + £ 43.04 = £119.78

Which of these multiplications will have an answer greater than £100? How do you know?

4 x £24.78 (£99.12)  6 x £18.45 (£110.70)  5 x £16.48 (£82.40)  7 x £15.27 (£106.89)

Does children’s reasoning make sense? E.g.
4 x £24.78 is less than 4 x £25, which is £100. Therefore 4 x £24.78 < £100.
6 x £18 is £108, therefore 6 x £18.45 > £100.
Rounding up, 5 x £17 = £85, so 5 x £16.48 < £100
7 x £15 = £105, so 7 x £15.27 > £100.

Write three multiplications with answers between £150 and £200.

Any multiplications with answers in this range. Did children use rounding to help?