

Subtraction Prior Test: Question 2:

LO: I can use mental subtraction strategies (rounding)

NC NASMD4: I can perform mental calculations.

Teacher Input Ideas:

Refer to question 2 in the prior assessment. Encourage the children to suggest that this question could be answered mentally and a written strategy is not needed, therefore you may not have been given the mark because of this. Additionally, you may find that many children may have made an error in this question due to their understanding of rounding when completing subtraction calculations. You may need to provide time to discuss the question with individual children to establish the method they used and where the error is. A common error is made as often children have self-taught rules when rounding with addition such as :

$$63 - 9 =$$

some may say I'll round the 9 to 10 and take this away mentally.

So $63 - 10 = 53$. I added 1 to round it up so I will then I must take the 1 away.

So, the answer will be 52. Can the children spot why this is wrong? Where is the error?

Model to the children the error they are making, using objects that are grouped in 10. For example, sweets that come in a pack of ten or base ten. Show 63 by using 6 groups of ten and 3 ones. Take away a pack of ten to show that we can quickly take ten away mentally to make 53. Discuss that I only wanted to take away nine, so I have taken one too many away. I need to give this back, and open the sweets to show this by taking 9 away and giving one back. So, we are taking one too many away so I must + 1 more.

This could be explored with other sums

What would you do here ?

$$1489 - 399$$

* $1489 - 400 = 1089$

* (we've taken away 1 too many)

* $1089 + 1 = 1090$

Also discuss that for 11, I have not taken enough so I must take one more. By showing this practically this will help children to fully understand how rounding works for addition and subtraction.

What would you do here ?

$$7983 - 2001$$

- * $7983 - 2000 =$
- * (we've taken 1 less away)

- * $5983 - 1 = 5982$

Some children will spot their error quickly and some may need to use the objects or base ten to help in the activities.

Practice Activities

Purple Practice: Most suited for children that made errors in **Question 2** due to lack of understanding of using mental methods such as rounding.

The task encourages children to use rounding to subtract numbers ending in one and nine from 3 and 4 digit numbers. The children may need to use base ten or packets of sweets to secure their understanding of rounding for the first few questions.

Fluency opportunity: q3 - children should spot that this can be done without rounding and they should use knowledge of place value/ number bonds.

Green Practice: most suited for children who made errors in **Question 2** or would benefit from **securing the use of rounding to mentally subtract amounts**.

The task encourages children to use rounding to subtract a variety of numbers ending in one and nine from 3 and 4 digit numbers. The children should be able to explain how they are using this strategy and may need practical resources to support their explanation.

Yellow Practice Most suited for children who demonstrated a **good understanding in 2** in the Prior Assessment and would benefit from applying rounding skills to calculate subtraction sums containing decimals.

This activity additionally requires the children to apply their knowledge of the relationship between pounds and pence and kilometres and metres in order to calculate the sums.

Mastery: This activity is a word problem for the children to identify the calculation they need to complete. Encourage the children to pick out the key information and amounts they need: such as 1.87 Km and 67 m. What are you being asked to do? Encourage the children to spot that one amount is in KM and the other in M. What can I do to help me? Children should convert 1.87 Km to 1870 m to be able to subtract mentally 69 from 1870. Encourage the children to use the space for any jottings such as converting 1.87KM to M but ensure the children calculate the subtraction sum mentally.

Answers

Purple:

- | | | | |
|--------|--------|---------|--------|
| 1) 52 | 2) 68 | 3) 180 | 4) 751 |
| 5) 577 | 6) 719 | 7) 7101 | 8) 799 |

Green:

- | | | | |
|---------|---------|---------|---------|
| 1) 554 | 2) 84 | 3) 1939 | 4) 3566 |
| 5) 2135 | 6) 4821 | 7) 1691 | 8) 4797 |

Yellow:

- | | | | |
|--------------------|-------------------|-----------|-----------|
| 1) £15.01 | 2) £9.01 | 3) £2.98 | 4) £6.89 |
| 5) 1001m / 1.001km | 6) 878m / 0.878km | 7) £36.88 | 8) £68.55 |

Mastery

1801 m or 1.801 km

challenge

accept 5km is approximately 3 miles

Look at each set of calculations and use mental methods such as rounding to help work out the answers.

Tip: use base ten to help explain how you are working these out.

1) $61 - 9 = \boxed{}$

2) $87 - 19 = \boxed{}$

3) $189 - 9 = \boxed{}$

4) $762 - 11 = \boxed{}$

5) $678 - 101 = \boxed{}$

6) $818 - 99 = \boxed{}$

7) $7300 - 199 = \boxed{}$

8) $2800 - 2001 = \boxed{}$

Look at each set of calculations and use mental methods such as rounding to help work out the answers.

1)  £20 -  £4.99 = 

2)  £12 -  £2.99 = 

3)  £4.99 -  £2.01 = 

4)  £7.20 -  31p = 

5)  1.5 KM -  499 m = 

6)  0.899 KM -  21m = 

7)  £56.89 -  £20.01 = 

8)  £78.54 -  £9.99 = 

Sarah set herself a target to run 5km by the end of the week. On the 6th day she had 1.87Km left to run but only managed to run 69m as she hurt her ankle. How far will she need to run on the 7th day to meet her target?

Sarah needs to run

on the 7th day.

Record the answer in metres and in kilometres.

Can you work out in miles how far she ran after a week? You may need to approximate.