Subtraction Prior Learning Assessment Questions 8 and 9:

LO: I can use inverse operations to solve problems.

I can solve word problems.

NC NS3: estimate the answer to a calculation and use inverse operations to check answers
NAS 4 : solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction..

Assessment Question 8 and 9:

Prior Learning :

123 Number + Place Value

Question 8:
I can use the inverse operation to solve a problem.

I feel:

Fill in the missing boxes in these sums.

a) ☐ + 26 = 89

b) 256 + ☐ = 388

Prior Learning:

123 Number + Place Value

Question 9 :
I can solve word problems

I feel:

Holywell Primary School has 298 pupils altogether. 12 pupils are absent and 61 pupils are on a school trip. How many pupils are at school?

☐ pupils

Practice Activities Below the children are presented with 3 different problems. You may want to spend a whole lesson on the problems or use these at the end of lessons to apply the children's calculation methods.
The children should be taught the skills to solve problems, therefore you may want to model or discuss the following points:

- Looking for any familiar symbols or information.
- Picking out the information you know in the problem.
- Working out what you are being asked to do.
- Looking for any patterns or additional information.
- Applying knowledge of using inverse operations.
- Suggesting a suitable method for solving the problem.
- Estimating the answer.
- Suggesting a method for checking the answer.

Mastery1: Most suited for children who demonstrate difficulty in Question 8 of the prior learning assessment and will benefit from investigating the link between addition and subtraction sums .

For this activity the children are presented with a sum in each box. The children are to explore other ways of writing the sum using their knowledge of addition and subtraction. Encourage the children to look at the examples in the first box demonstrating how one addition sum can be presented in different ways. Encourage the children to explore the link between addition and subtraction. If the children are finding it difficult to see the link, then model using a small amount of objects to show that when amounts are added, they can be added in any order and the total remains the same. Then model when we use this total amount we can subtract the same number we have just added. What do we notice? What if we decided to subtract the other number? What do I have left over? Can you present this as a sum?

Mastery 2: Most suited for children who made errors in Question 8 of the prior learning assessment and will benefit from exploring missing box problems with addition and subtraction.

For this mastery task the children are presented with missing box problems. The children are required to explore ways of solving the problems and decide when they may need to use the inverse operation.

Key questions

- How many more is needed to make 95? How can I work this out? What skills can you use? Can you count on to find the difference? What if I subtract 63 from 95? What do you notice? Can I use the same strategies for question 2?
- What information have I got for questions 3 and 4? What do I need to find out? Can I use the same strategies as I did for questions 1 and 2? Why?
- For question 5 and 6 what do I need to work out? What strategies can I use? Which calculation do I need to preform? Why? How can we check our answers ?

This activity leads on from mastery 1. The children should be able to apply their knowledge of how addition and subtraction sums link and begin to decide when they can use the inverse operation and when they need to use the same operation but the amounts in a different way. For example, in questions 3 and 4 the children are still required to subtract but need to use the amounts in a different order.

The children should be able to suggest methods they can use for calculating the answer using previous learning. This activity provides the opportunity for the children to secure their understanding of the link between addition and subtraction.

<u>Mastery3:</u> Most suited for children who need to further secure skills demonstrated in Question 9 of the prior learning assessment.

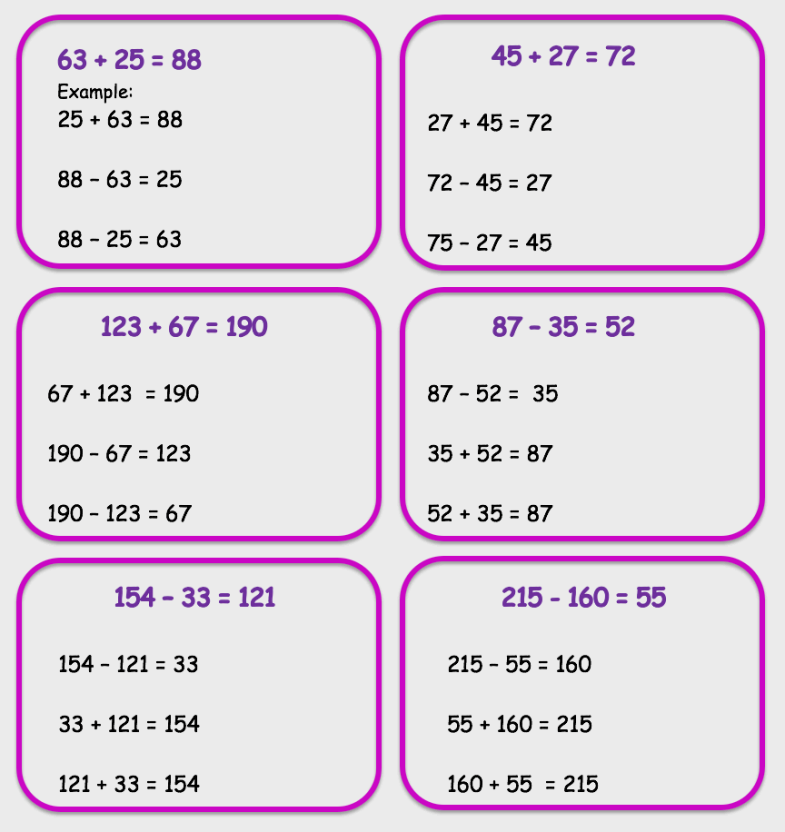
The children are presented with word problems that require the children to apply their subtraction methods. The children should carefully read the problem they are presented with and decide the calculation they need to use and which information is to be used. As the activity progress the children are also presented with multistep problems and are required to apply addition and subtraction methods.

Key questions:

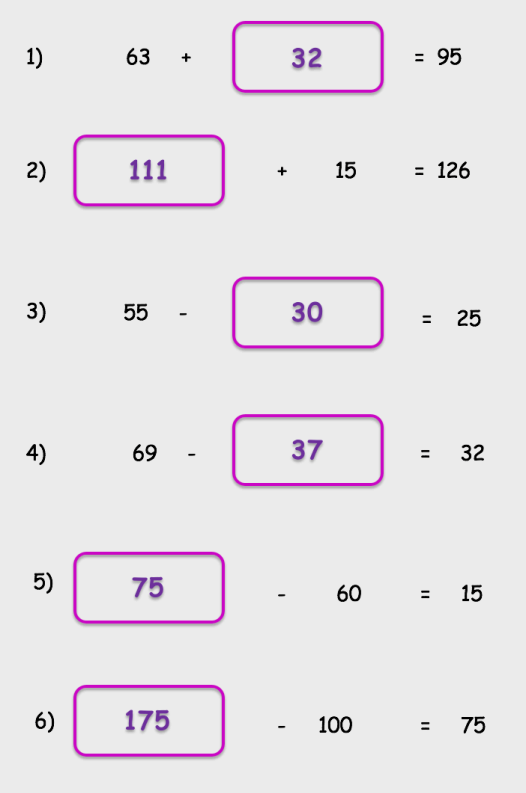
What is the question asking you to do? Explain how you will work this out? Can you find the key information you need? Which amounts will you use? Why? Have you worked out the answer? Do you need to work out anything else? Explain how you have checked your working out.

Answers

Mastery 1:



Mastery 2 :



Mastery 3:

1) 323cards
2) £47
3) 27 books
4) £3

For those children finding this activity difficult, demonstrate alongside practical equipment, such as pound coins, books, cards etc.

BRICKWORK Mathematics

Mastery 1

Look at each sum. Write 3 other sums using the same numbers.

63 + 25 = 88

Example:

25 + 63 = 88

88 – 63 = 25

88 – 25 = 63

45 + 27 = 72

123 + 67 = 190

87 – 35 = 52

154 – 33 = 121

215 - 160 = 55

Challenge: think of your own number sentence using the numbers 32 and 75.

BRICKWORK Mathematics

Mastery 2

problem solving

Fill in the missing boxes in each sum.

1) 63 + ☐ = 95

2) ☐ + 15 = 126

3) 55 - ☐ = 25

4) 69 - ☐ = 32

5) ☐ - 60 = 15

6) ☐ - 100 = 75

BRICKWORK Mathematics

Mastery 3

Word problems

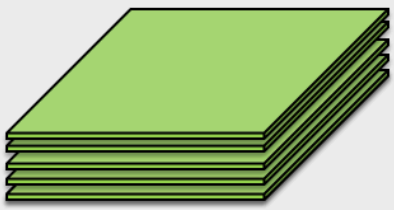
1) Sunil has 354 football cards in his collection. He gives 31 of the cards away to his friend as he already has the same card.
How many cards does he have left?

cards

2) Samia has £67 left from her birthday money. On Tuesday she buys a teddy for £8. On Friday she buys a new bag for £ 12.
How much birthday money does she have left?

£

3) Mrs Hill has 33 spare writing books in her class. Mr McAdam has 25 spare writing books in his class. They give out 31 spare books for children to use for homework.
How many spare books do they have left?



books

4) Simon has been saving his pocket money. He gets £2 each week. He has been saving for 3 weeks. He wants to buy a book that cost £9. How much more money does he need?

£