

Addition Prior Learning Assessment Question 8 and 9:


Objective: I can solve problems involving addition.

I can solve word problems.



NC NAS 3 : solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

Assessment Questions:

Prior Learning :

 Addition + Subtraction	Question 8: I can solve addition missing number sums.	I feel
Fill in the boxes to make each sum correct.		
a)	$\begin{array}{r} 3 \quad \square \quad 5 \\ + \\ \square \quad 7 \quad \square \\ \hline 8 \quad 9 \quad 6 \end{array}$	b)
	$\begin{array}{r} \square \quad \square \quad 3 \\ + \\ 2 \quad 8 \quad \square \\ \hline 5 \quad 2 \quad 0 \end{array}$	

Prior Learning:

 Addition + Subtraction	Question 9 : I can solve word problems.	I feel:
<p>Charlie saves football cards each year and places them into a large album. In 2016 he saved 218 cards and in 2017 he saved 351 cards. At the end of 2018, he will have saved ten less cards than in 2016. How many cards will he have altogether?</p>		
		
<input type="text"/>		

Problem Solving Tasks:

Mastery 1: Most suited for children who made errors in Question 8 or will benefit from exploring missing box type questions further.

For this activity the children are presented with addition sums already laid out. This time, the children are presented with the answer and need to use their knowledge of number bonds and addition facts to help them to work out the missing digits in the amounts that have been added together. The children are also presented with trickier questions towards the end of the task, where tens and ones have been carried so encourage the children to spot when this has happened.

Key Questions:

- What strategies can we use? How are we going to find out the missing boxes?
- What information do we have? How can this help us?
- How many more is needed to make the digit 8? How did you work this out?
- Why is this question a little trickier to work out?
- Will the inverse (subtraction) help us here?
- Are you happy with all of the boxes you have filled in? Can you suggest a way of checking your answers?

Mastery 2: Most suited for children who demonstrate errors in Question 9 of the prior learning assessment and will benefit from being presented with word problems.

The children are presented with a selection of word problems. Question 1a and 2 encourage the children to apply solely addition methods. Encourage the children to use a range of mental and written methods where appropriate.

Question 1b and 3 require the children to use basic subtraction skills as well as addition skills. Encourage the children to pick out what they are required to do.

Key Questions:

- Which parts of the text give you this information?
- Which parts should I underline or highlight as these are the most important?
- What amounts have I got that will help me? What do I need to do with these amounts?
- Can you explain the methods/ strategies are you are using to add? Why? Is there a more efficient strategy you can use?
- How can you check that you are correct?

NOTE: These word problems involve simple multistep problems. More multistep problems can be found in subtraction, multiplication and division mastery once the children have secured other calculation methods.

Mastery 3: Most suited for children ready to apply a range of addition methods and explore fluency and efficiency.

Over this unit of lessons, the children have been exploring a range of mental and written strategies to use when presented with addition sums. This task encourages the children to work through a variety of different addition questions, selecting the most efficient method to use. The children should use a variety of strategies so that they can move along the track as quickly as possible. Before the children start the task, you may want to recap/remind the children of the following strategies:

- Written formal method
- Partitioning
- Place value knowledge
- Using number bonds
- Doubling and near doubles
- Rounding

Answers:

Mastery 1:

The image shows six addition problems arranged in a 3x2 grid. Each problem has a horizontal line under the second number, and a horizontal line under the result. Missing digits are enclosed in boxes.

$\begin{array}{r} 3 \quad 6 \quad \boxed{2} \\ + \quad 3 \quad \boxed{2} \quad 7 \\ \hline 6 \quad 8 \quad 9 \end{array}$	$\begin{array}{r} \quad \quad \boxed{2} \quad \boxed{8} \\ + \quad \boxed{2} \quad 3 \quad 1 \\ \hline \quad 2 \quad 5 \quad 9 \end{array}$
$\begin{array}{r} 1 \quad 0 \quad \boxed{5} \quad 3 \\ + \quad \boxed{0} \quad \boxed{9} \quad 1 \quad \boxed{2} \\ \hline 1 \quad 9 \quad 6 \quad 5 \end{array}$	$\begin{array}{r} 2 \quad \boxed{2} \quad 5 \\ + \quad \boxed{6} \quad 6 \quad 5 \\ \hline 8 \quad 9 \quad 0 \end{array}$
$\begin{array}{r} 2 \quad 3 \quad \boxed{3} \\ + \quad \boxed{9} \quad \boxed{3} \quad 4 \\ \hline 1 \quad 1 \quad 6 \quad 7 \end{array}$	$\begin{array}{r} 8 \quad \boxed{3} \quad 7 \\ + \quad \boxed{4} \quad 4 \quad \boxed{5} \\ \hline 1 \quad 2 \quad 8 \quad 2 \end{array}$

Mastery 2:

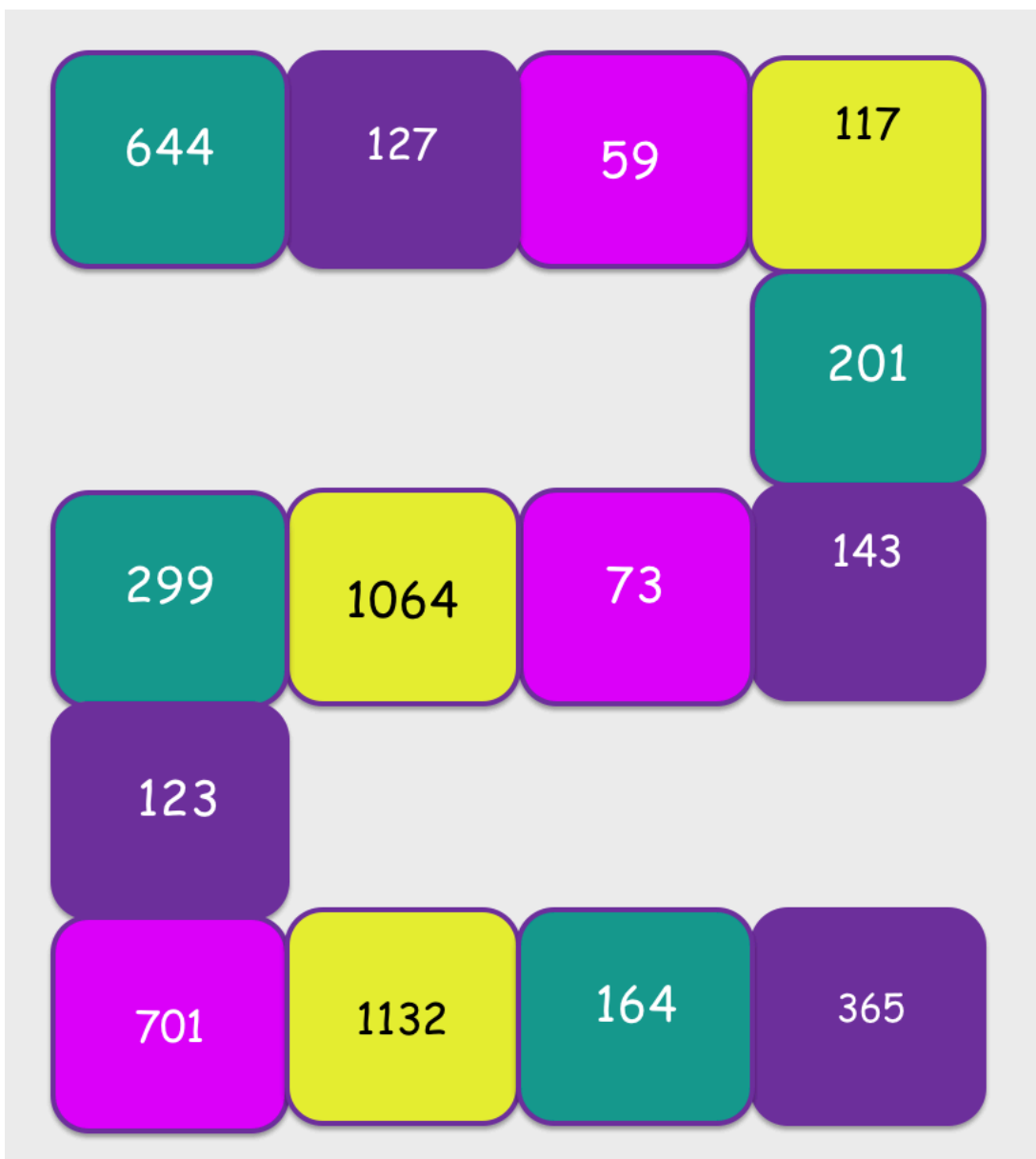
1a) 64

b) 11

2) £1483

3) 737

Mastery 3:



Place a digit in each box to make the sum correct.

$$\begin{array}{r}
 3 \quad 6 \quad \square \\
 + \quad 3 \quad \square \quad 7 \\
 \hline
 6 \quad 8 \quad 9
 \end{array}$$

$$\begin{array}{r}
 \quad \square \quad \square \\
 + \quad \square \quad 3 \quad 1 \\
 \hline
 2 \quad 5 \quad 9
 \end{array}$$

$$\begin{array}{r}
 1 \quad 0 \quad \square \quad 3 \\
 + \quad \square \quad \square \quad 1 \quad \square \\
 \hline
 1 \quad 9 \quad 6 \quad 5
 \end{array}$$

$$\begin{array}{r}
 2 \quad \square \quad 5 \\
 + \quad \square \quad 6 \quad 5 \\
 \hline
 8 \quad 9 \quad 0
 \end{array}$$

$$\begin{array}{r}
 2 \quad 3 \quad \square \\
 + \quad \square \quad \square \quad 4 \\
 \hline
 1 \quad 1 \quad 6 \quad 7
 \end{array}$$

$$\begin{array}{r}
 8 \quad \square \quad 7 \\
 + \quad \square \quad 4 \quad \square \\
 \hline
 1 \quad 2 \quad 8 \quad 2
 \end{array}$$

1) Shona had 3 spelling tests in one week at school. Here are her scores:

Monday: 19

Thursday: 24

Friday: 21

a) What was her total score at the end of the week?

b) The maximum score in each test was 25. How many more marks does she need in total to get full marks?

2) Ethan bought three plane tickets for holidays over the year. His first journey cost £357, his second journey cost £891 and his last journey cost £235. How much did he spend altogether?



3) A shop had 782 sports bags in store at the start of December. They sold 210 in December. In January they had 165 more delivered. How many bags did they have in stock after their January delivery?



Work your way along the track, finding the answers. You will need to select a mental method or a written method to use.

$$\begin{array}{r} 99 \\ + 545 \end{array}$$

$$\begin{array}{r} 12 + 108 \\ + 7 \end{array}$$

$$\begin{array}{r} 19 \\ + 140 \end{array}$$

$$\begin{array}{r} 12 + 50 + \\ 55 \end{array}$$

$$\begin{array}{r} 123 + \\ 78 \end{array}$$

$$\begin{array}{r} 124 + \\ 67 + 108 \end{array}$$

$$\begin{array}{r} 999 + \\ 65 \end{array}$$

$$\begin{array}{r} 56 + 3 + \\ 14 \end{array}$$

$$76 + 67$$

$$62 + 61$$

$$\begin{array}{r} 350 + \\ 351 \end{array}$$

$$\begin{array}{r} 132 + \\ 700 + \\ 300 \end{array}$$

$$\begin{array}{r} 45 + 32 \\ + 87 \end{array}$$

$$\begin{array}{r} 120 + 130 \\ + 115 \end{array}$$

Finished?

Discuss with a friend how you worked out some of the sums.

- Did you use the same methods as each other?
- Did you use a variety of methods along your journey?
- Can you find a more efficient method for one of the sums?