Addition Question 1

Objective: I can add ones to three digit numbers.

NAS1: add and subtract numbers mentally, including:
a three-digit number and ones.

Assessment Question 1

Prior Learning:

Addition & Subtraction	Question 1: I can add ones to 3 digit numbers.	I feel

Add these amounts together:

a) 123 + 1 =

b) 245 + 4 =

c) 302 + 7 =

d) 108 + 4 =

e) 219 + 7 =

f) 196 + 5 =

Input ideas:

- Place a group of objects in to the middle of a class circle. Ask the children to estimate how many objects are there. Inform the children of the amounts (such as 134) Children to have an object each to add to the amount. Children to carry on counting on adding one each time as they count around the circle. Record down the different sums that have been created. Such as 156 + 3 = 159, then 159 + 6 = 165. Encourage the children to discuss what happens when one more is added. Which digit changes? What happens to the tens or hundreds digits? How many more have you added?
- Model on a place value chart and a hundreds square what happens when you add more and you need to cross a boundary of ten.
- Use a blank hundred square and ask the children to help to fill in the squares above 100 to 200 and 200 to 300. Children to fill in the missing numbers. How will this help us? Model counting on 6 for 132 + 6. What do we need to do? How does this help? Model using the hundreds square to work out 167 + 5 = 172.

Practice Activities

Purple Practice: most suited for children who show misconceptions in question 1 a, b and c of the prior learning assessment.

The purple activity will support children who are still securing counting beyond 100 and will encourage them to count on from different 3 digit numbers.   The children are provided with number grids from one hundred to two hundred and two hundred to three hundred to help secure the crossing of boundaries and counting. Once the children have completed these, they are presented with sums at the end of each sheet to answer based on counting on in ones from a 3 digit number below 400.

There are 3 sheets provided to encourage the children to explore 3 digit numbers up to 400. You may want to select the most appropriate sheet using the children's needs or split these over more than one lesson.

Green Practice: most suited for children who have demonstrated errors in Question 1 d, e and f and need to secure crossing a boundary of ten.

For this activity the children are provided with number grids from 100 to 200 and 200 to 300 to support them with working out the answers to the questions at the bottom of the task. . Firstly the children are asked to fill in the missing boxes in the hundreds square. Ensure the children can work out what the next number is and understand how the number squares are structured.

At the bottom of each sheet the children are provided with sums where they are to add ones. When the ones are added, the children are required to cross a boundary of ten. The children can use the hundreds square to help them to count on.

Yellow Practice most suited for children who can count on in ones and show accuracy in Question 1 of the prior learning.

The children are required to add 2 amounts together; a 3 digit number and a 1 digit number. The children are to do this using mental strategies. Encourage the children to count on in ones and also begin to understand that they can use their knowledge of number relationships to add chunks of numbers. For example: 205 + 6 = 211, the children may suggest 205 + 5 will make 210 and then add one more to make 211, using their knowledge of number bonds. Additionally the children may use their knowledge of doubles such as 108 + 8 = 116.

For this activity the children are provided with 2 sheets. On the first sheet, the children are to explore adding 3 numbers together to make the total an even number. Share the task with the children and encourage the children to suggest a starting point and numbers that they would like to add. Encourage the children to record any calculations that they have created to make an even number so that they can explore their answers and see if they can spot any patterns which may lead them to try other numbers to add. The children should notice once they have found 5 examples that in order for an even number to be created either 3 even numbers or 2 odd numbers and an even number must be added. Adding 3 odd numbers or 2 even and an odd will not give them an even total. The children should spot this and use this to think of 5 examples.

Once the children can spot the pattern, encourage the children to lead their own line of enquiry with the investigation on the second page. What can we find out about making an odd total with 3 numbers? What do we know? How will this help?

If children are finding this tricky, then you may want to start with adding 2 numbers to make even/odd and explore this. This is a larger investigation so will need a whole or half a lesson.

Key questions:

- What numbers have you added together? Why have you chosen these?
- Which digit will tell you if the number is odd or even? How do you know?
- What happens when you add 2 even numbers together? What about 2 odd?
- What type of numbers have you added here? Is the total even?
- What do you notice? How will this help you with your next choice of numbers?
- Is there another way to make an even total?
- What have you found out? What is your prediction about making an odd total with 3 numbers?

Answers :

Purple:

100- 200 grid

2 a) 108   b) 117   c)137   d) 120

e) 141   f) 170   g) 168   h) 189

200- 300 grid

2 a) 208   b) 219   c)228   d) 257

e) 230   f) 266   g) 290   h) 300

300 – 400 grid

2 a) 305   b) 315   c)327   d) 369

e) 357   f) 367   g) 371   h) 385

Green

100- 200 grid

2 a) 111   b) 111   c)116   d) 123

e) 135   f) 150   g) 174   h) 191

200- 300 grid

2 a) 210   b) 211   c)241   d) 243

e) 260   f) 264   g) 284   h) 292

300 – 400 grid

2 a) 316   b) 313   c)320   d) 324

e) 320   f) 392   g) 400   h) 388

Yellow:

   a) 112   b) 122   c)120

   d) 161   e) 172   f) 191

   g) 191   h) 212   i)232

   j)282   k)294   l|)324

Mastery:

The children should have noticed:

- In order to make an even total, 3 even numbers or 2 odd and an even number must be added.
- In order to make an odd total with 3 numbers, 3 odd numbers or 2 even and an odd number must be added

BRICKWORK Mathematics

1) Fill in the missing squares below on the hundred square for numbers between 100 and 200.

101								109	
				115					120
131									
	142								
								159	
									170
							188		
	192								

2) Use the grid to answer these questions:

a) 105 + 3 =

b) 115 + 2 =

c) 131 + 6 =

d) 119 + 1 =

e) 140 + 1 =

f) 168 + 2 =

g) 165 + 3 =

h) 182 + 7 =

1) Fill in the missing squares below on the hundred square for numbers between 200 and 300.

211									
									230
			245						
252									
271									
									290

2) Use the grid to answer these questions:

a)
206 + 2 =

b)
211 + 8 =

c)
225 + 3 =

d)
251 + 6 =

e)
226 + 4 =

f)
261 + 5 =

g)
285 + 5 =

h)
292 + 8 =

BRICKWORK
Mathematics

1) Fill in the missing squares below on the hundred square for numbers between 300 and 400.

				305					
311									
									350
								359	
				376					
	382								

2) Use the grid to answer these questions:

a) 301 + 4 =

b) 310 + 5 =

c) 321 + 6 =

d) 368 + 1 =

e) 354 + 3 =

f) 361 + 6 =

g) 367 + 4 =

h) 379 + 6 =

LO: I can count on in ones when crossing a ten.

1) Fill in the missing squares below on the hundred square for numbers between 100 and 200.

101									
			115						120
								139	
		145							
152									
									180
		184							
192									

2) Use the grid to answer these questions:

a) 109 + 2 =

b) 105 + 6 =

c) 112 + 4 =

d) 118 + 5 =

e) 127 + 8 =

f) 145 + 5 =

g) 169 + 5 =

h) 188 + 3 =

BRICKWORK
Mathematics

1) Fill in the missing squares below on the hundred square for numbers between 200 and 300.

		203							210
		224							
									250
			255						
								279	
		284							
								298	

2) Use the grid to answer these questions:

a) 205 + 5 =

b) 204 + 7 =

c) 234 + 7 =

d) 239 + 4 =

e) 253 + 7 =

f) 258 + 6 =

g) 277 + 7 =

h) 284 + 8 =

BRICKWORK
Mathematics

1) Fill in the missing squares below on the hundred square for numbers between 300 and 400.

		313							
									330
				335					
	362								
								379	
				386					
									400

2) Use the grid to answer these questions:

a) **308 + 8 =**

b) **206 + 7 =**

c) **312 + 8 =**

d) **315 + 9 =**

e) **318 + 2 =**

f) **388 + 4 =**

g) **397 + 3 =**

h) **379 + 9 =**

1) Answer the question on each block.

Tips
Can you add ones?
Can you add chunks of ones?
How can your knowledge of number bonds and doubles help?

a)
109 + 3 =

b)
118 + 4 =

c)
115 + 5 =

d)
155 + 6 =

e)
165 + 7 =

f)
185 + 6 =

g)
184 + 7 =

h)
204 + 8 =

i)
226 + 6 =

j)
276 + 6 =

k)
287 + 7 =

l)
317 + 7 =

2) Discuss how you have worked out each sum. What strategies have you used?

Model three ways to work out :
108 + 8 =

Pick 3 numbers to add together. The total must be an **even number.**

Challenge: Can you find 5 examples?

☐ + ☐ + ☐ = ☐

☐ + ☐ + ☐ = ☐

☐ + ☐ + ☐ = ☐

☐ + ☐ + ☐ = ☐

☐ + ☐ + ☐ = ☐

What do you notice about the numbers you have added?

BRICKWORK
Mathematics

Pick 3 numbers to add together. The total must be an **odd number.**

Challenge: Can you find 5 examples?

☐ + ☐ + ☐ = ☐

☐ + ☐ + ☐ = ☐

☐ + ☐ + ☐ = ☐

☐ + ☐ + ☐ = ☐

☐ + ☐ + ☐ = ☐

What do you notice about the numbers you have added?