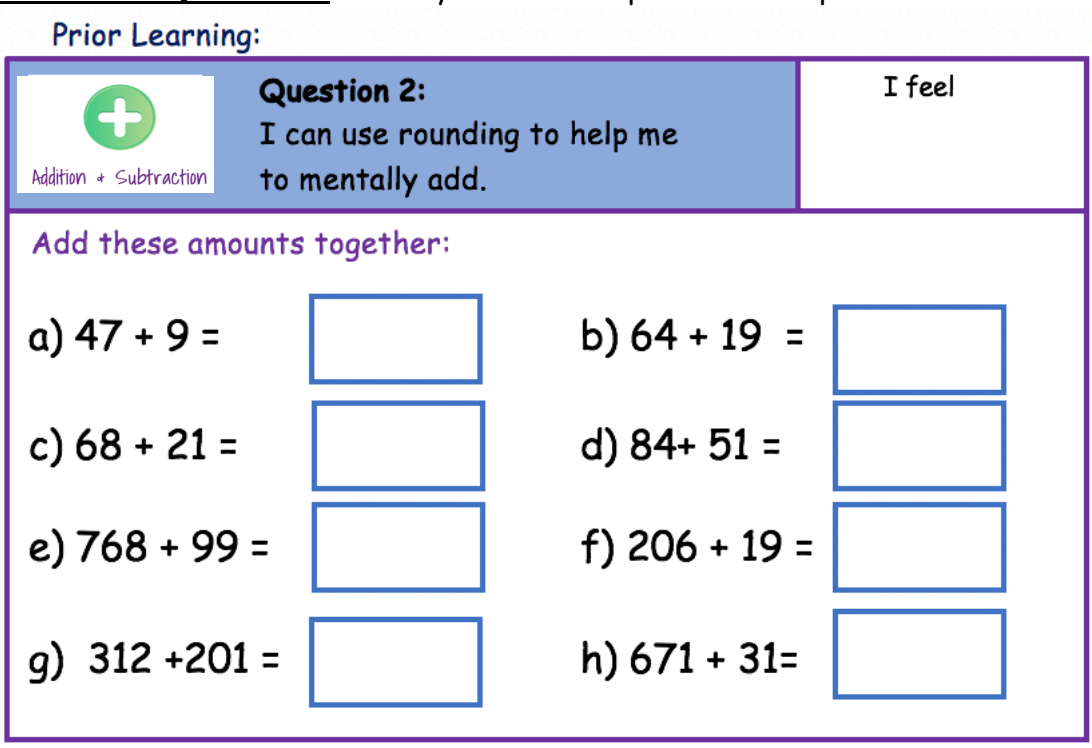
Addition Prior Learning Assessment Question 2:
Objective: I use rounding to perform addition calculations mentally.

NPV1: add and subtract numbers with up to 4 digits

Assessment Question 2: This may want to be split over multiple lessons.

Prior Learning:



Teacher Input Ideas:

(Starter) Play rounding games. Display numbers around the classroom and children to round to the nearest 10, 100, 1000 etc. This to remind the children of what rounding is and to apply previously taught skills from their learning of place value.

Place the sums 200 add 300 and 199 add 299 onto the board. Ask the children to select the sum they feel is easier and the quickest to answer and explain their choices. Introduce to the children how rounding can be used to mentally calculate quickly. If we know that a number is close to another number, discuss why this makes it easier. Why is it easier to add 200 and 300 than 199 and 299?

Place a few sums on the board such as 201 + 56, 35 + 19, 99 + 143, 501+406. Give the children time to answer these mentally and discuss what strategies they used to add these. Model the use of rounding and encourage the children to explain why this is an efficient method to use. How can it be used? What difficulties do you have? How can it help you? The use of practical equipment grouped in thousands, hundreds and tens may help to model.

Practice Activities

Purple Practice: Most suited for children who made errors in Q2 a, b and c of the prior learning assessment or show a lack of mental strategies such as rounding.

For this activity the children are provided with green and purple blocks. The children are to add a green and purple block together exploring different combinations and creating different sums. These are to be cut up into cards for the children to select when creating sums. The children are provided with 2 digit amounts only in the purple activity. Sheet 1 contains amounts where the children should round up the green blocks to help them to calculate. The second sheet contains green blocks where the children should round down to help to calculate.

Green Practice: Most suited for children who made errors with Questions 2 c, d and e or need to further explore the use of rounding as a mental addition method.

In the top section the children have 6 boxes to help with rounding and statements that they have to fill in. Children to use knowledge of place value & rounding to help them see how this can be used with mental calculations.

On the first sheet the children are provided with amounts where they will round up to help with calculating. They then need to show understanding that because they have rounded up to help them to calculate that they need to take away this amount. For the second sheet the children are required to use rounding down to calculate adding 3 digit and 2 digit amounts.

Yellow Practice: most suitable for children can use some mental strategies and will benefit from selecting where they should round up or down to help them to calculate mentally.

For this activity the children are encouraged to use rounding to add different 2 and 3 digit amounts. The children are provided with a variety of sums and they are to use rounding up or down to help them to work out the answer.

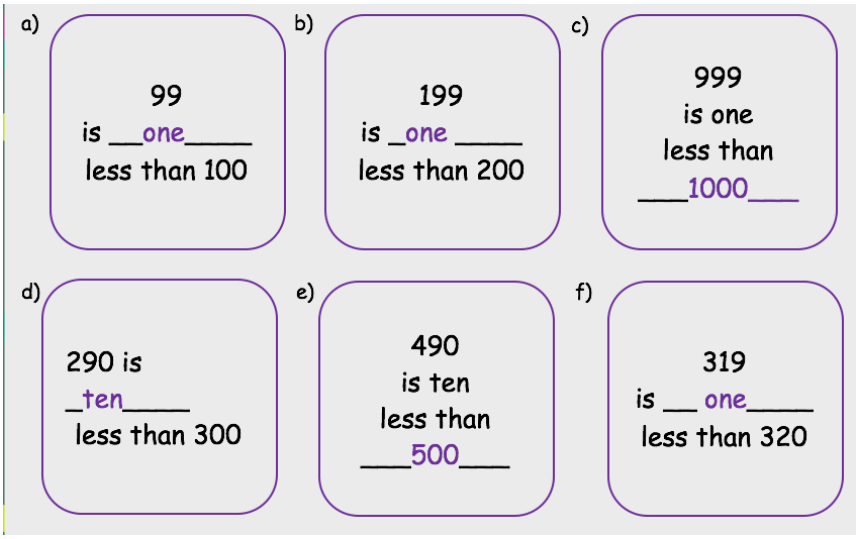
Mastery: This activity encourages the children to spot where errors have been made in calculations and to encourage the children to use vocabulary and modelling to explain what the errors are and how they can be improved.

Key questions:

Is this answer correct? Prove this is incorrect/correct? How do you know this? Where are the errors? Can you prove this? Can you demonstrate how this sum can be worked out accurately?

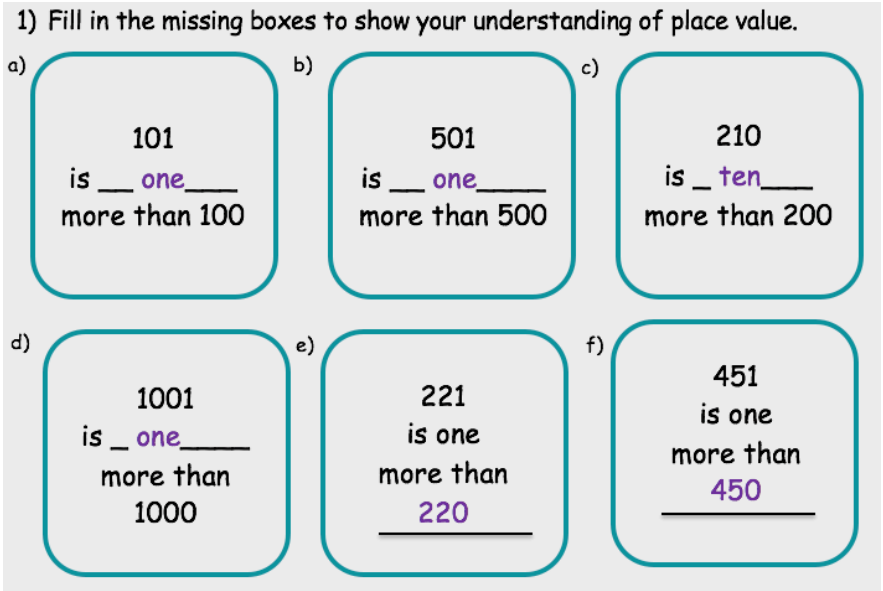
Answers:

Green sheet 1



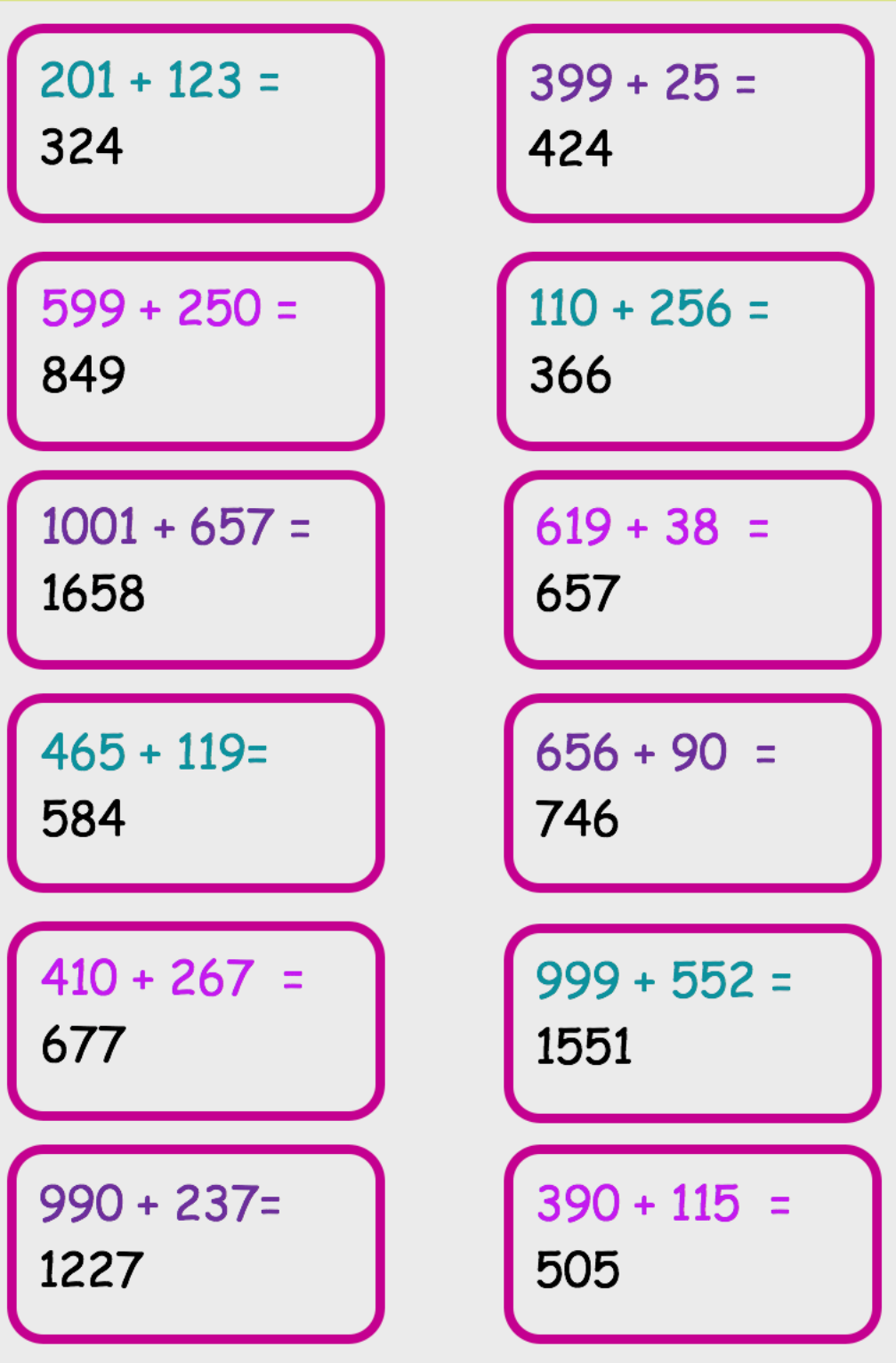
2 a) 605	2b) 742	2c) 224	2d) 504
2e) 1299	2f) 1233	2g) 790	2h) 640
2i) 990	2j) 690	2k) 333	2l) 569

Green sheet 2



2a) 143	2b) 651	2c) 557	2d) 736
2e) 510	2f) 715	2g) 1501	2h) 1440
2i) 238	2j) 266	2k) 651	l) 601

yellow:



BRICKWORK Mathematics

Purple Practice

I can round up to add 2 digit amounts together

Pick a purple block and a green block to add together mentally.

34	9
15	19
62	99
95	49
57	29

BRICKWORK Mathematics

Purple Practice

I can round down to add 2 digit amounts together

Pick a purple block and a green block to add together mentally.

34	11
15	21
18	51
63	101
57	31

BRICKWORK Mathematics

Green Activity

LO: I can round up to help with mental addition.

1) Fill in the missing boxes to show your understanding of place value.

a) 99 is _____ less than 100

b) 199 is _____ less than 200

c) 999 is one less than _____

d) 290 is _____ less than 300

e) 490 is ten less than _____

f) 319 is _____ less than 320

2) Use rounding to help add these different amounts.

a) 99 + 506 =

b) 643 + 99 =

c) 199 + 25 =

d) 305 + 199 =

e) 999 + 300 =

f) 234+ 999 =

g) 290 + 500 =

h) 350 + 290 =

i) 490 + 500 =

j) 490 + 200 =

k) 319 + 14 =

l) 250 + 319 =

BRICKWORK Mathematics

Green Activity

LO: I can round down to help with mental addition.

1) Fill in the missing boxes to show your understanding of place value.

a) 101 is __ ___ more than 100

b) 501 is _____ more than 500

c) 210 is _ ___ more than 200

d) 1001 is _ ____ more than 1000

e) 221 is one more than _____

f) 451 is one more than _____

2) Use rounding to help add these different amounts.

a) 101 + 42 =

b) 550 + 101 =

c) 501 + 56 =

d) 235+ 501 =

e) 210 + 300 =

f) 505 + 210 =

g) 1001 + 500 =

h) 1001 + 439 =

i) 221 + 17 =

j) 221 + 45 =

k) 451 + 200 =

l) 451 + 150 =

BRICKWORK Mathematics

Yellow Activity

LO: I use rounding to help me to mentally add.

201 + 123 =

399 + 25 =

599 + 250 =

110 + 256 =

1001 + 657 =

619 + 38 =

465 + 119 =

656 + 90 =

410 + 267 =

999 + 552 =

990 + 237 =

390 + 115 =

BRICKWORK Mathematics

Mastery

Reasoning

Shannon uses rounding to mentally work out the answer to each sum below. Look at her answer for each calculation and decide if her answer is correct or incorrect. If she has made any errors, explain where she has made an error and how to find the correct answer.

345 + 301 = 645

199 + 400 = 600

299 + 299 = 599