

### **Addition Prior Learning Assessment Question 1:**

**Objective:** I use rounding to perform addition calculations mentally.

**NC NAS 2:** add and subtract numbers mentally with increasingly large numbers

#### **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.

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. Ask the children to explain their choices. Introduce to the children to 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?

Look back through the mental questions on the prior learning assessment (Q 1 to Q3). Ask the children to tell others how they found the answers. What strategies did they use? Talk partners to share strategies and children to discuss which are the most efficient methods.

Place a few sums on the board such as  $201 + 565$ ,  $3002 + 143$ ,  $214 + 899$ . 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 the children have? How can it help you?

**Introducing rounding with money:** Create a shop with amounts that can be rounded with ease. Encourage the children to be under pressure such as a queue at the supermarket. They need to check that they have enough money before they get to the till. How can they add the items in their basket quickly? How can rounding be used to approximate? How can we then use this to work out the exact amount?

#### **Practice Activities**

**Purple Practice:** Most suited for children who made errors in Q1 of the prior learning assessment.

In the top section the children have 6 boxes to help with rounding and statements that they have to fill in. Such as 2999 is ? less than 3000. Children to use knowledge of place value & rounding to help them see how this can be used with mental calculations. Then in the second section the children have sums such as 299 and 256 to add

together. The children to use knowledge of rounding to help them to add amounts together.

**Green Practice:** Most suited for children who were unable to select efficient methods in Question 1 of the prior learning assessment.

For the green activity, the children are presented with a variety of pyramids where they are to mentally add the amounts in the bottom boxes to find the answer for the top box. The children are presented with calculations where they are asked to add 2 or 3 amounts. Children to explore the use of rounding to help them to do this quickly and mentally.

**Yellow Practice:** most suitable for children who used efficient mental strategies such as rounding in Question 1 of the prior learning assessment.

For this activity the children are encouraged to use rounding to add amounts of money. The children are asked to select different price tags to add to different baskets of shopping and calculate the answers mentally. The children are also presented with a challenge at the end of the task to use rounding and approximation to help them to select which baskets of shopping they could buy with a budget they are given. (More support can be found in the answer section.)

**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:**

**purple:**

1 a) 2999 is 1 less than

b) is 1 less than

c) 100 less than

d) 10 more than

e) 5000

f) 1100

2a) 10001

b) 555

c) 925

d) 4427

e) 874

f) 7642

**green :**

1a) 652

b) 7251

c) 2565

d) 1190

e) 1098

f) 6685

2) a ) 254

b) 6002

c) 2997

**yellow:**

There are many different answers to these questions, dependent on the combinations of the shopping baskets and tags

examples:  $\pounds 12.64 + 2.99 = 15.63$   
27.04

$\pounds 34.53 + 10.10 = 44.63$

$21.05 + 5.99 =$

challenge:

The children should show understanding of rounding the items to estimate how much the total of all of the items will be. Then this can be added to each basket.

Approximately with rounding, all the items cost  $\pounds 38$

So the baskets that can be possible are:

1)  $\pounds 12.64$

2) 34.53

4)  $\pounds 15.25$

5)  $\pounds 21.05$

1) Fill in the missing boxes to help you understand place value.

a)

2999  
is \_\_\_\_\_  
less than  
3000

b)

9999  
is \_\_\_\_\_  
less than  
10,000

c)

900  
is \_\_\_\_\_  
less than  
1,000

d)

3010  
is \_\_\_\_\_  
more than  
3000

e)

5001  
is one  
more than  
\_\_\_\_\_

f)

1099  
is one  
less than  
\_\_\_\_\_

2) Use rounding to help you to add these different amounts.

a)  $7000 + 3001 =$

b)  $299 + 256 =$

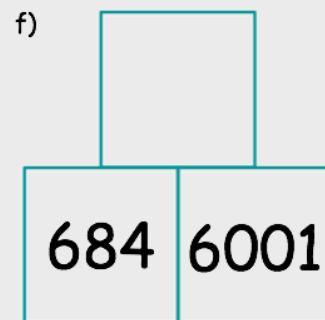
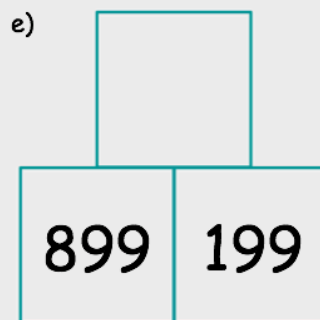
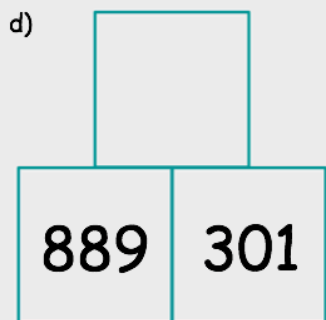
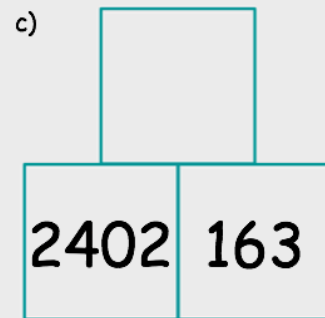
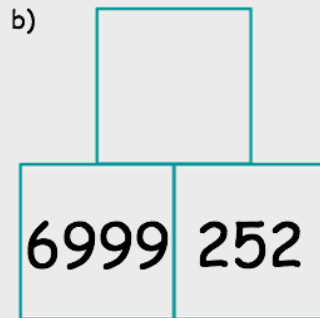
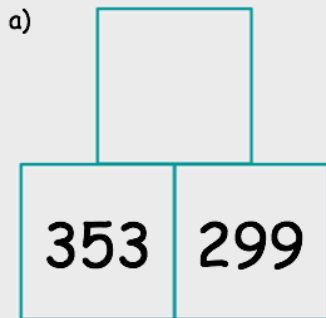
c)  $601 + 324 =$

d)  $4326 + 101 =$

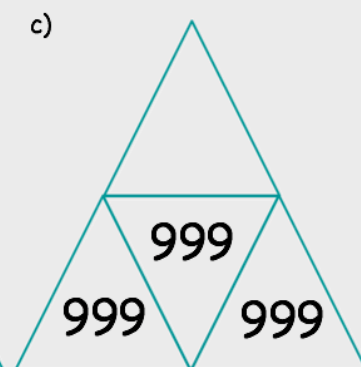
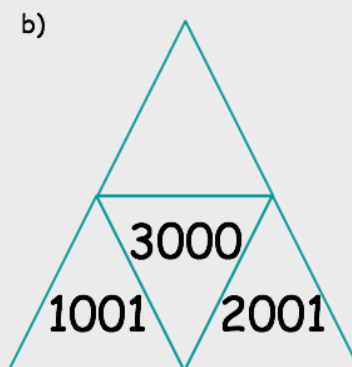
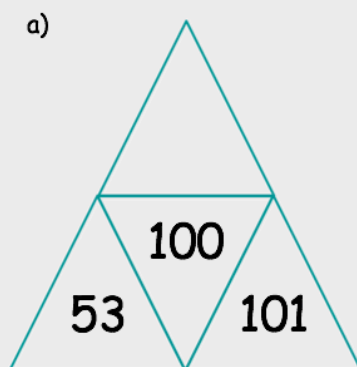
e)  $510 + 364 =$

f)  $1999 + 5643 =$

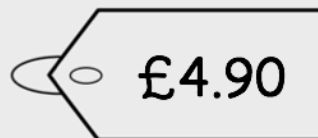
1) The bottom 2 boxes are added together to find the answer in the top box. Fill in the missing boxes.



2)



Select different items to add to each basket. Use rounding to mentally work out the answer.

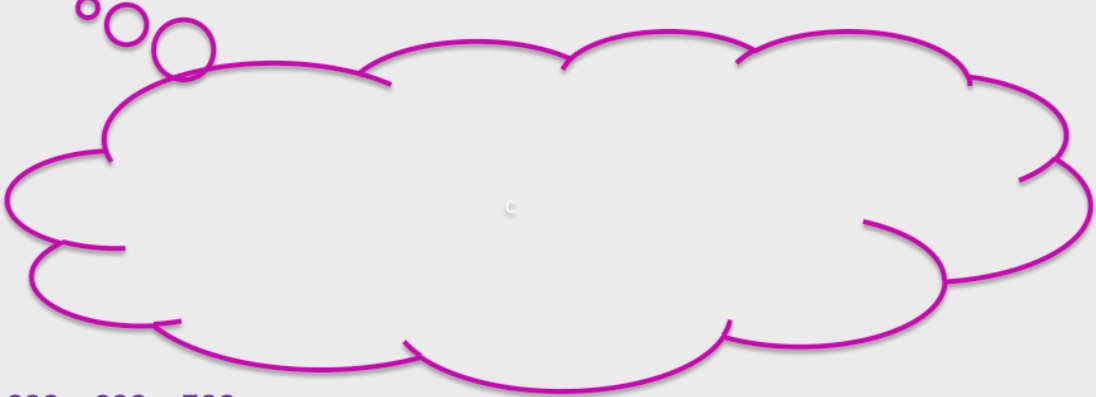


**Challenge:**

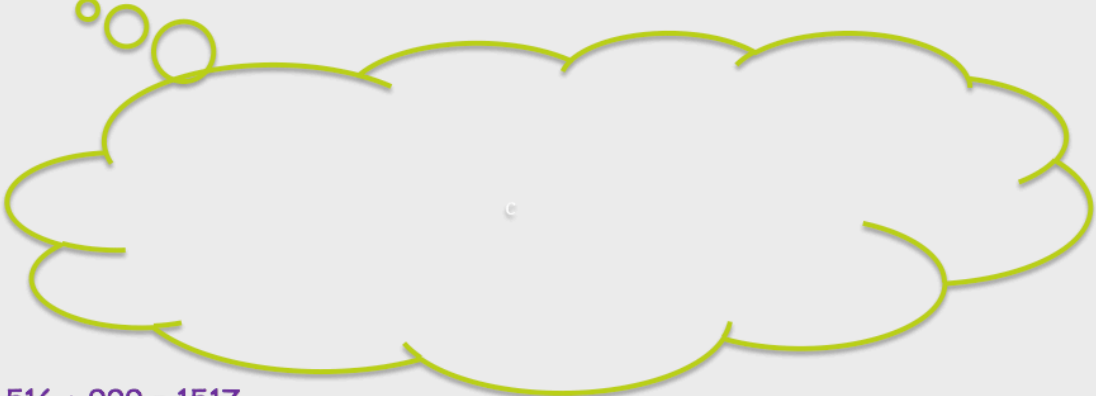
Harry has £80 to spend. Estimate which baskets of shopping he can buy, if he adds every item to the basket.

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.

$$345 + 301 = 645$$



$$299 + 299 = 599$$



$$516 + 999 = 1517$$

