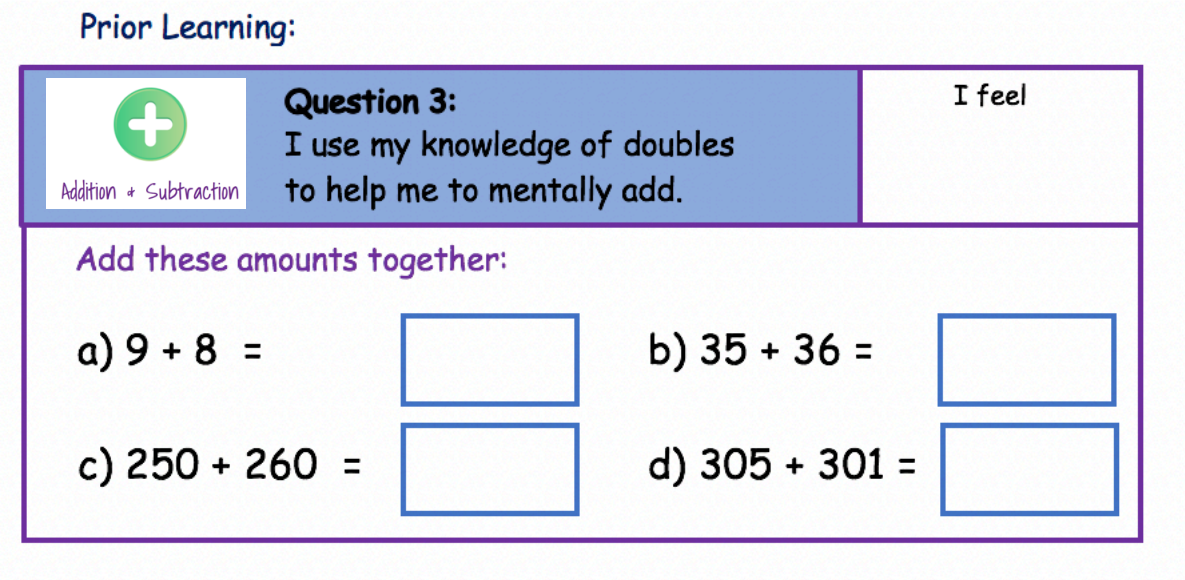
Addition Prior Learning Assessment Question 3:
Objective: I use my knowledge of doubling to mentally add.

NPV1: add and subtract numbers with up to 4 digits

Assessment Question 3



Teacher Input Ideas:

Recap with the children mental methods that they have learnt so far, such as rounding and partitioning. Place sums on the board such as:

67+ 15 123+ 120 201+ 145 199+ 203

Give the children time to work these out mentally and discuss the strategies that they have used. Which ones worked best for them? Which worked out the answer quickly?

Now put on the board 6 + 7 = ?

Ask the children to explain how they worked this out. Encourage children to share their different ways, some children may have used knowledge of number bounds, some may have doubled the 6 or 7 and then added or taken a way 1. Allow children to explore then focus in on using near doubles.

Such as

15+ 16 = 60 + 65 = 60+ 70= 56+ 53 =

26+ 27 = 305+ 302 = 156 + 152 =

Compare using knowledge of doubles with rounding and partitioning, which method do they children like. For these sums which one works best? Why? Discuss children's preferences and what they notice.

Practice Activities

Purple Practice: Most suited for children who made errors in Question 3 of the prior learning assessment and will benefit from exploring another mental strategy through a practical activity.

Practical: the children to be given different lengths of paper/ ribbon to measure with a metre stick. The amounts should be displayed on the back or covered so that the children are encouraged to measure with accuracy and then check they have done so when the measurement is revealed. Then the children can use these amounts to add different lengths together mentally. Ask the children to pick two ribbons at a time that are similar in length. Then to work out the total length of what they will be. This will encourage the children to use their knowledge of doubling. Some lengths will be the same size so that the children can secure their knowledge of doubling with amounts to 100. Some will be amounts near to each other so that they can use this knowledge of doubling and then add any remaining amounts such as 16 + 17 .

Suggested lengths of paper/ribbon:

Same lengths: , 75 cm (x 2) 36cm x 2 , 52cm x 2 , 65c, x2

15cm and 17 cm, 41 cm, and 42 cm, 80cm and 83cm, 25 cm and 27cm, 92 and 90 cm
Challenge: Can you add 2 or 3 strips together that will be longer than 2 m

(Fluency opportunity of applying knowledge of cm to metre conversion)

Green Practice: Most suited for children who will benefit from securing another mental addition strategy using their knowledge of near doubles.

The children are presented with 2 blocks in each question. The children should use their knowledge of doubles to 100 to help them to work out the answers. Such as the children should know 18 and 18 is 36 therefore 180 and 180 is 360. Children should explore using knowledge of doubling and secure another mental strategy.

Yellow Practice: Most suited for children who are ready to select independently a strategy for different mental addition sums.

Practical game: the number cards on the yellow task sheets can be cut up for the children to place in a pile or scatter over the table. With a partner, the children to select 2 or 3 cards at a time to add. Children to individually work out the answer.

Compare answers and then share how they worked it out. Children should draw on a range of strategies such as partitioning, rounding and using knowledge of doubles.

Mastery: Fluency and Problem Solving

For this activity the children are provided with a variety of different number blocks. The children are to use their knowledge of partitioning, near doubles and rounding to mentally add different amounts together. The children are also encouraged to apply problem solving skills such recording findings in a way to help them spot patterns and develop other combinations through trial and improvement to help them to find the total closest to 1000.

Answers

Green:

1) 145 2) 35 3) 131 4) 307
5) 207 6) 805 7) 363

Mastery:

255 + 415+ 330 = 1000

BRICKWORK Mathematics

Green Activity

LO: I can use my knowledge of doubles to add mentally.

Look at each sum. Use your knowledge of doubles to mentally add.

1) 72 + 73 = ☐

2) 18 + 17 = ☐

3) 66 + 65 = ☐

4) 155 + 152 = ☐

5) 103 + 104 = ☐

6) 401 + 404 = ☐

7) 181 + 182 = ☐

BRICKWORK Mathematics

Yellow Activity

LO: I can select strategies to use when adding mentally.

Pick 2 or 3 blocks to add at a time. Can you decide which method is best to use to add these mentally?

24	19	501
99	15	125
201	25	36
31	38	155
153	195	17

partitioning
doubling
rounding

BRICKWORK Mathematics

Mastery

Problem Solving

Explore mentally adding different amounts below to work out the closest answer to **1000 possible.**

299	520	415
219	255	499
330	401	250