Multiplication Prior Assessment Questions 2 and 3

Objective: I can use a written method to multiply a 1 digit number by a 3 or 4 digit number. (short multiplication)

NC NASDM 8: solve problems involving addition, subtraction, multiplication and division

Teacher Input Ideas:

Although the children should be able to use the short method by the end of year 5, questions 2 and 3 in the prior learning assessment have been included to ensure that they have secure understanding of how to use it. Children are expected to be able to use the short method for the athematic test and you want to ensure that this is strong before moving onto x by a 2 digit (long method).

Place 239 x 6 on the board and allow the children time to see if they think they can work it out mentally. Children could estimate what the answer will be. For example, 300 x 6 = 1800 and 200 x 6 = 1200. Establish that for some sums we need to write things down to help us. Allow children to model how they may work it out. Together look at how the short multiplication method can be used. For children who are finding it extremely difficult, labelling the columns may help and using the expanded method first may help children to then later secure the short method.

th h t o

2 3 9

6

5 4

1 8 0

1 2 0 0

1 4 3 4

1

Expanded method: ensure that when this is being modelled that vocabulary such as thirty x 6 and two hundred x 6 is being used so that the children understand the value of the amounts they are multiplying.

When ready, move on to compare with showing the short method alongside to show that we can make this method quicker and more efficient by adding as we go along.

th h t o

2 3 9

6

1 4 3 4

1 2 5

Short multiplication method:

Ensure that the children understand why amounts are being carried across and why we add them as we go along.

Practice Activities

Purple Practice (Practical): most suited for children who made errors with Q2 as they do not have a successful written method.

Adult support for these children may be beneficial to ensure that they understand the expanded method and begin to use the short method.

You may want to collect this data during a PE lesson or conduct this activity during the maths session. Set up some practical activities for the children to get points, such as throwing, star jumps, long jump and an obstacle course. Split children into groups of 4,5,6,7,8. Children to collect points individually and then x by how many people are in the team. Such as 235 x 6. Or could add every team members score together then x by how many people are in the group. Could use other groups data too so that children explore multiplying by different 1 digit amounts. This group could be given 3 digit amounts first and then 4 digit amounts. They could begin with using the expanded method and then move on to using the short method.

Green Practice: most suited for children who made some errors in Q2 or Q3 and would benefit from consolidating using the short multiplication method.

As above, however the children should be encouraged to use the short method straight away for a 1 digit amount x a 3 digit amount. Larger amounts of points could be acquired/ gained or alternatively all the player's amounts could be added up first and then multiplied by how many members in the team to provide opportunity for the children to multiply a 1 digit number by a 4 digit number.

Yellow Practice: Most suited for children who show understanding in Q2 and 3 of the prior assessment but would benefit from securing the short method before moving on to the long method.

These children could be given a question to investigate alongside the practical activity to support them with applying the short method and provide them the opportunity to independently collect data, use the data and present it. For example: 'Mrs Roberts believes that if you have more children in your group your total will always be more.' Children to collect the data and prove.

Mastery: This activity encourages the children to apply the use of a written method for multiplication, however they need to work out what the sum is. Some children may suggest using the inverse but will find this difficult as they will be required to complete a tricky division sum. Some children may work systematically, starting from 1 x 478, 2 x 478 etc.

If needed, prompt the children to think about:

What information have I got? Is there a relationship between the amount I have and the total? Can I use approximating to help me? If I round 478 to 500 this may help. So how many lots of 500 would give me an answer near to the total?

Answers: share answers together regularly to check if there are any children that still have misconceptions and require extra support during the lesson.

Mastery

1) 478 x **5**	**2)** **5** x 846	3) **9** x512
4) 985 x **6**	**5)** 2984 x **4**	6) **2** x3499

BRICKWORK Mathematics

Mastery

Problem solving and fluency

Hint : the yellow block is only ever a one digit number.

Work out the missing numbers for the yellow blocks:

478 × ☐ = 2390

☐ × 846 = 4230

☐ × 512 = 4608

985 × ☐ = 5910

2984 × ☐ = 11936

☐ × 3499 = 6998