<u>Multiplication Prior Learning Assessment Question 5:</u> Objective: I can multiply numbers by 10 and 100.

NC NMD2: use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together

Assessment Question:

Prior Learning:

| Multiplication & Division | Question 5: I can multiply amounts by 10 and 100. | | I feel |
|---------------------------|---|-------------|--------|
| a) 10 x 3 | | d))7 x 10 = | |
| b) 100 x 5 | | e) 4 x 30 = | |
| c) 6 × 100 | | f) 60 x 6 = | |

<u>Teacher Input Ideas:</u>

Show the children objects or sweets organised in ones, tens and hundreds. Ask the children to work out questions such a 4×100 , 5×10 , 12×10 . Ask the children how they can work this out? What did they do? How can you work this out quickly. How do the resources help you?

Using the children's ideas, model multiplying 1 digit and 2 digit amounts by 10and 100. Model what is happening to the place value and how we can use a place value chart to help.

Key Questions:

- What do you notice when 4 is multiplied by 10? What about 6? What about 12? What about 26?
- What is happening to the digits? Why? Why has the digit moved a column when it is multiplied by ten? What do we know about our number system? How can this help us to x things by 10?

Repeat for 100 and explore what happens to the digits this time.

Model that the digits move 1 place to the left when multiplied by 10 and 2 places to the left when multiplied by 100. Some children may notice that we can add a zero or 2 zeroes. Discuss that a zero has been added as a place holder because the digit has moved one place to the left or 2 zeroes as it has moved 2 places to the left when multiplied by 100.

| thousands | hundreds | tens | ones |
|-----------|----------|------|------|
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Practice Activities

<u>Purple Practice</u>: purple is most suited for children who made errors in question 5 a and b and will benefit exploring multiply 10 and 100 by one digit number using practical resources.

For this activity the children may want to use objects such as base ten or objects arranged in tens, hundred or there are 2 practical resources sheet provided for the children to cut out images arranged in tens and hundreds.

The children are also provided with a task sheet with one digit amounts to multiply by 10 and 100 to spot a pattern.

<u>Green Practice</u>: Most suited for children who made errors in Question 5 c and d and will benefit from exploring place value to multiply by 10 and 100.

For green activity, the children are provided with one digit amounts to multiply by 1, 10 and 100. The children are also provided with a place value chart to help them to spot what happens to amounts when they are multiplied by 1, 10 and 100 and to begin to understand that when a number is multiplied by 10 the digit can move one place to the left and the importance of using a zero as a place holder. Once the children are confident with the examples provided on the green sheet, encourage the children to begin to multiply 2 digit amounts by 1, 10, 100 to explore place value using a place value chart.

<u>Yellow Practice</u>: Most suited for children who demonstrate misconceptions in Question 5 e and f of the prior learning assessment and will benefit from securing multiplication facts and multiplying these by multiples of ten and hundred.

The children are provided with simple times table sums. Once they have calculated the answer to each sum, they are to explore the relationship with the next sum, where they are to multiply by a multiple of ten. For example $2 \times 4 = 8 2 \times 40 = 80$. Children to use their knowledge of x by 10 and 100 to help to work out the answers.

<u>Mastery</u>:Reasoning

The children are provided with a concept cartoon. The children are to explore the answers of each child and to reason who has the correct answer. The children should also discuss where the errors have been made by other children. Encourage the children to use vocabulary such as place value, multiplying by ten , hundred, multiple of to explain how they have calculated the answer, and who is correct.

Answers :

<u>Purple and Green :</u>

| 1 | 10 | 100 |
|---|----|-----|
| 2 | 20 | 200 |
| 3 | 30 | 300 |
| 4 | 40 | 400 |
| 5 | 50 | 500 |
| 6 | 60 | 600 |
| 7 | 70 | 700 |

<u>Yellow:</u>

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Purple Activity

LO: I am beginning to notice a pattern when multiplying with 1, 10 and 100.









Green Activity

LO: I am beginning to notice a pattern when multiplying with 1, 10 and 100.





Green Activity

Resource sheet

| ones | | | |
|-----------|----------------------------|-------------|--|
| tens | | | |
| hundreds | | | |
| thousands | | | |
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Yellow Practice

Lo: I am beginning to notice a pattern when multiplying with 1, 10 and 100.





Mastery

Reasoning

Look at each child's answer to the sum presented in the star. Who do you agree with? Who cannot be correct? Why?

