Multiplication Prior Assessment Question 1 (d and e)

Objective: I can use x table facts and place value understanding to multiply mentally.

NC NMD5: multiply and divide numbers mentally drawing upon known facts

Teacher Input Ideas:

Review questions 1 d and e of the prior assessment. As there are only two questions in this section to assess the children's understanding of using multiplication knowledge, you may want to ask a few questions at the start of the lesson. For example: 8 x 7, 9 x 6, 90 x 5, 6 x 80, 70 x 20, 600 x 300.

Recap x table facts. If children are finding particular ones tricky, such as 7 x 8, look at ways the children can try to remember this or find quicker ways to find the answer without having to count in 7's from zero. For example: "I know 5 x 8 is 40, so 2 more lots to make 7 x 8 is 16. So, the answer must be 56." Alternatively, children may count on in eights from 40. Provide partner talk time so that children can share their different strategies.

Model using x table facts for multiplying multiples of ten. For example, 5 x 60, 40 x 50, 600 x 50. Model that we could use 5 x 6 first to make 30, however we then need to make our number 100 x bigger so that we have worked out 600 x 5, move the numbers two places for x by 100 and then 10 x bigger so that we have x by 50. This could be modelled with a place value chart to help show this. DO NOT SAY PUT THE ZEROES BACK ON as children will have misconceptions when multiplying decimals.

Practice Activities

Purple Practice: Most suited for children who made errors in Question 1 due to lack of knowing x table facts. They need to practise and secure these to enable them to do any mental and written calculation.

This activity asks simple times table facts that are commonly answered incorrectly by primary aged children. The activity encourages the children to work out the answer and to think of shortcuts and ways to find the answer quickly/ retain.

You may want to start with testing the x table facts to identify which ones the children have difficulty with. Sticky labels can be stuck over the suggested ones on the purple sheet so that children can write own based on their gaps.

<u>Green Practice:</u> Most suited for children who made errors in Question 1 d and e as they have little understanding of using place value knowledge.

This activity consists of two sheets. The first sheet has the sums where the children are required to use times table facts and knowledge of place value. For instant feedback and assessment, these can be cut out and stuck onto the bottom of strips of paper. Then the strip can be folded in half so that the sum is displayed on the outside of the card. On the inside or reverse of the card the answer (sheet two) can be cut out and stuck on so that the children can lift the flap or turn over the card to see instantly if they are correct. The children can then review if they have made progress towards the objective and they can be easily regrouped and given more support during the lesson if children are making errors.

Y**<u>ellow Practice:</u> Most suited for children who demonstrated good understanding of using mental methods in Q1 and are ready to independently create own sums.**

This activity requires the children to create own multiplication sums by selecting amounts from the 10 blocks provided. If the children need to secure certain x table facts, you could select the most relevant blocks for the children. If the children need to secure place value understanding when a zero is created in the multiplication they are doing, guide the children in multiplying different amounts by 50. For example, 60 x 50 =3000.

The children can then be further challenged to use the answers that they have just created to make their own number sentences using < > x ÷ and =.

<u>Mastery</u>: Encourage the children to work their way along the track, working out the answers as quickly and efficiently as possible. The children will need to use a variety of mental methods (from this lesson and the prior lesson) to enable them to answer the questions in the time challenged. Encourage the children to share the methods they used so they can begin to identify which methods were more efficient for different types of questions.

<u>Answers:</u>

Purple:

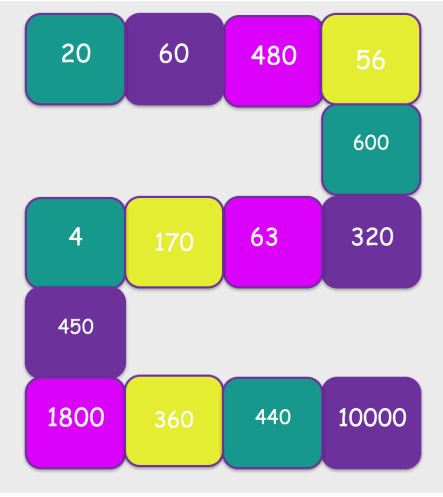
1) a) 48 b) 56 c) 96 d) 63
e) 132 f) 42

2) 8 x **6** **8** x 6 **4** x 12 2 x **24**

Green: The answers on the second green task sheet.

Yellow: Encourage the children to share their answers using the different combinations of sums that they have created, ensure the children can explain how they have used their knowledge of place value and show accuracy here.

Mastery:



BRICKWORK Mathematics

Purple Practice

Lo: I can explore ways to help me to remember tricky x table facts

1. Look at each multiplication sum. Work out the answer. In the clouds write how you can remember this or the shortcut you can use to get to the answer quickly.

For example: I know that 5 x 8 = 40, so for 6x 8, I need to add one more group of 8. 40 + 8 = 48

6 x 8 =

7x 8 =

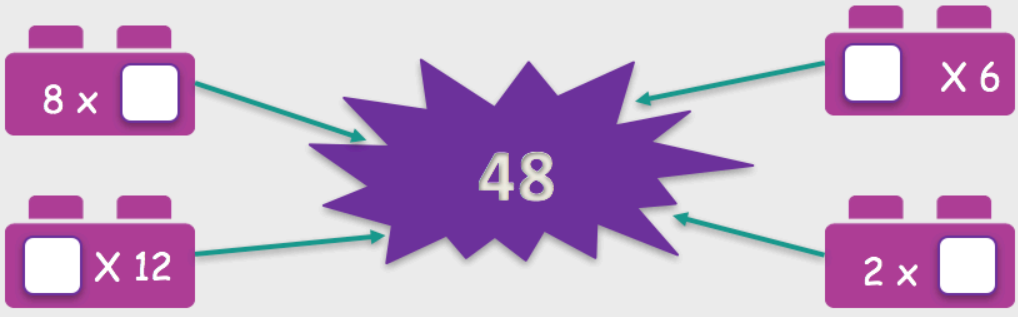
8 x 12 =

9 x 7=

11x12 =

6 x 7 =

2. Use your x table facts to work out the missing amounts.



BRICKWORK
Mathematics

Green Practice

Lo: I use my knowledge of times table facts and place value to multiply mentally

Work out the sums below.

30 x 4	20 x 8	300 x 5
30 x 8	40 x 30	12 x 20
700 x 6	500 x 9	30 x 80
40 x 50	500 x 60	70 x 200
200 x 800	800 x80	13 x 40

BRICKWORK
Mathematics

Green Practice

Lo: I use my knowledge of times table facts and place value to multiply mentally

Check your answers below:

120	160	1500
240	1200	240
4200	4500	2400
2000	30000	14000
160000	64000	520

BRICKWORK Mathematics

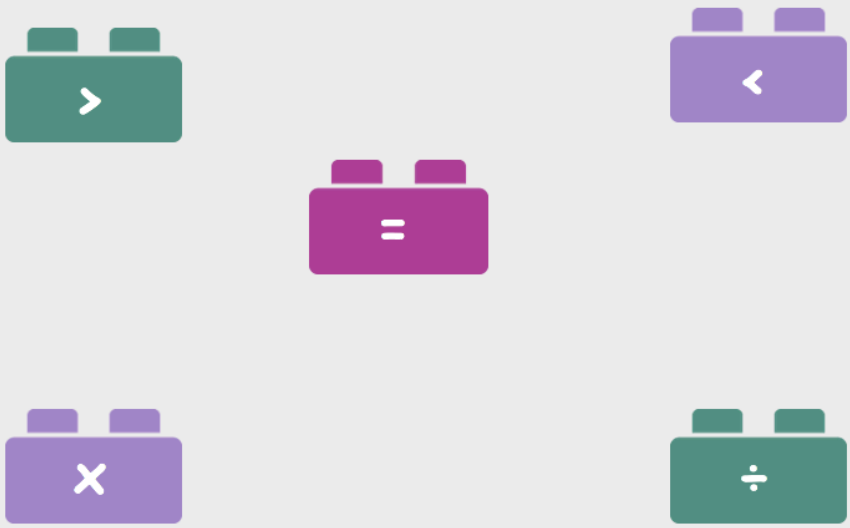
Yellow Activity

Lo: I can use x table facts and place value understanding to multiply mentally.

Pick 2 blocks at a time and multiply them.

Challenge: In words, write the answers to the sums you have created.

2) Use these symbols to create different number sentences:



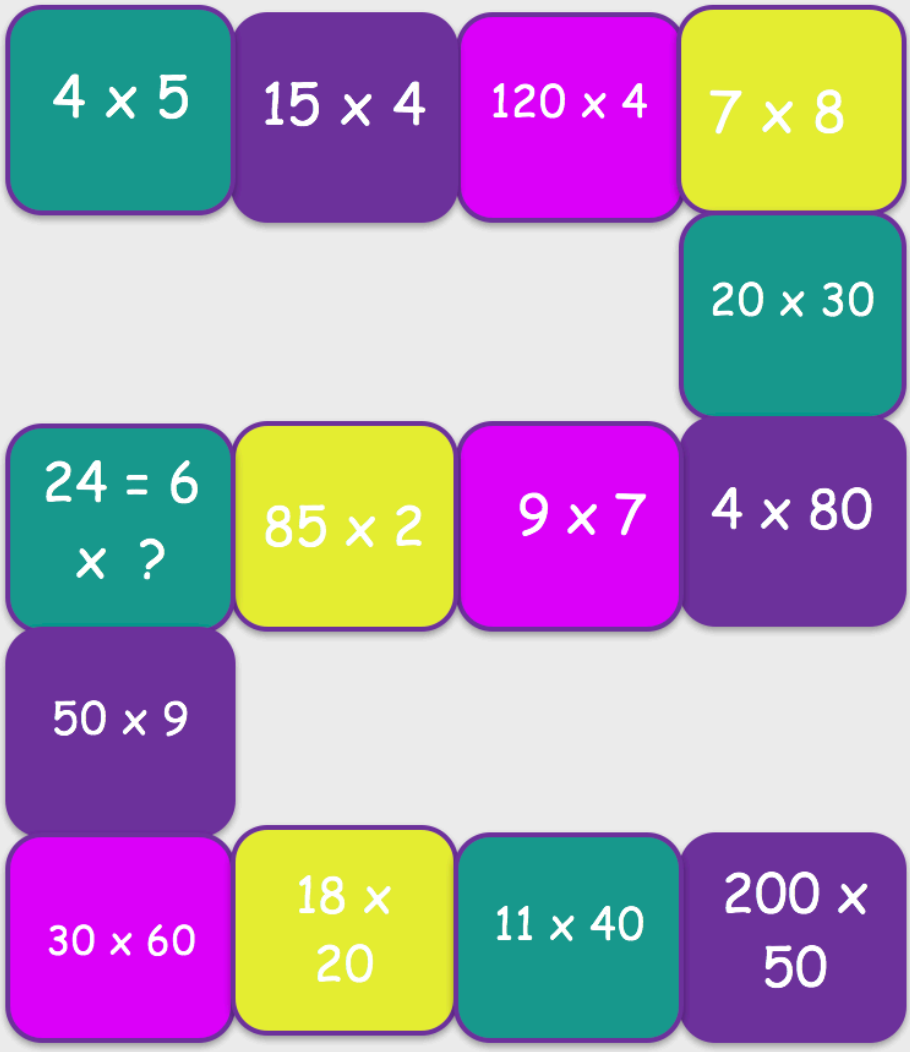
For example: 90 x 400 > 4200 ÷ 7

BRICKWORK Mathematics

Mastery

Fluency

Work your way along the track finding the answers mentally. You may want to challenge yourself by timing how long it takes. Can you complete the whole track in under 2 minutes? Can you complete the track in 90 seconds?



Finished?

Discuss with a friend how you worked out some of the sums.

- Did you use the same methods as each other?
- Did you use a variety of methods along your journey?
- Can you find a more efficient method for one of the sums?