Multiplication Prior Learning Assessment Question 7:

Objective: I can multiply 1 digit amounts by 2 digit amounts mentally.

Recap of Year 3 mental objective: NDM2: write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods

Assessment Question:

Prior Learning:

Multiplication + Division	**Question 7:** I can multiply 1 digit amounts by 2 digit amounts mentally	I feel

Complete these sums :

a) 15 x 4 =

c) 21 x 4 =

b) 17 x 3 =

d) 26 x 3 =

Teacher Input Ideas: (mental calculation)

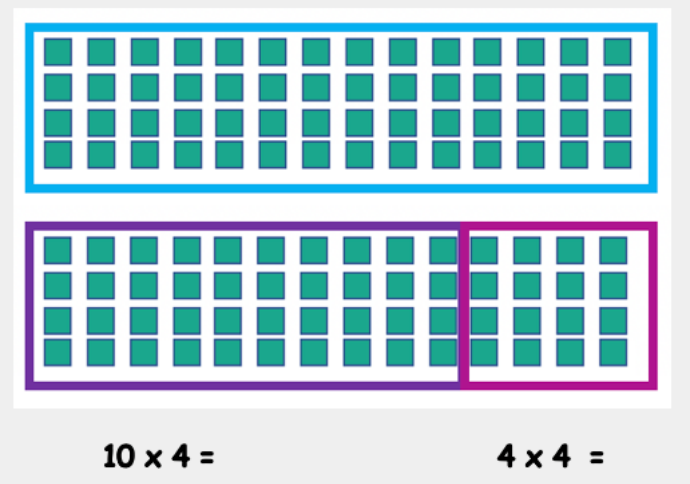
Although this is a year 3 objective, this assessment question has been presented to the children to ensure that they fully understand how amounts can be partitioned and that they have strong mental calculation before moving on to written methods.

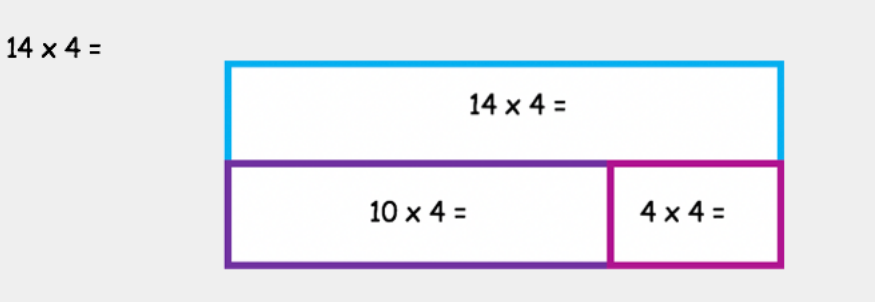
Review some of the sums presented in the prior learning assessment. Ask the children for suggestions as to how to work out these.

Encourage the children to use their knowledge of partitioning and x by 10. The children should have already explored multiplying by ten and what happens to the digits when this is done. The children should apply these skills to support with mental multiplication above multiplying by 12 mentally.

Encourage the children to work out 10 x 4 first and then 4 x 4 for 14 x 4 and combine this back together. Presenting this as the bar model may help the children to see this visually and understand why we can use our knowledge of x by ten, to workout ten lots quickly rather than counting in 4s 14 times.

Model counting in 4 s , 14 times, and then finding ten lots and then 4 lots and combine these back together to find 14 lots.





Discuss how these models support mental methods and the use of partitioning and jotting the amounts down to help.

Practice Activities

Purple Practice: Most suited for children who were unable to work out the answers to Question 7a and b and relied on counting up in 4s and 3s from zero.

For this activity the children are provided with images to help the children to visually see how the amounts can be partitioned using their knowledge of x by 10. The children are presented with an image of the number of objects in the sum and then underneath they are partitioned to support with finding ten lots first. Once the children show confidence using this method, you may want the children to use the bar model support in the green activity.

Green Practice: Green: most suited for children who made errors in in Question 7c and d of the prior learning and will benefit from using the bar model to help partition the amounts in the multiplication sum.

For this activity the children are provided with an image of the bar model. The children are presented with the sum and then 2 bars to partition the amounts. This activity provides the opportunity to apply their knowledge of x by ten and multiples of ten using their knowledge of place value to mentally multiply. The second sheet provides less support with partitioning the amounts.

Yellow Practice: Most suited for children who show understanding in Question7 of using partitioning and will benefit from creating their own bar model to represent the partitioning taking place in their heads.

For this activity the children are provided with blank bar models to secure partitioning amounts to mentally multiply and to support with the discussion of how they are calculating this mentally. This also provides the first step into partitioning amounts for written methods.

Mastery : Solving problems

For this mastery the task, the children are given 3 word problems to solve. The children should discuss what they are being asked to do in each problem, selecting the key information and vocabulary. They should then suggest a way of working each question out. Some children may suggest using a bar model to help them to work out 3 times of an amount.

Answers :

Purple:

1) 56 2) 61 3) 45

4) 75 5)84 6)57

Green:

1) 45 2) 56 3)102

4) 90 5)76

Green 2:

1) 95 2) 80 3)88

4)92 5)81

Yellow:

1) 75 2) 96 3) 84

4) 155 5) 108

Mastery:

1) 72 2) 75 3) 5 weeks

BRICKWORK Mathematics

Purple Activity

LO: I can use partitioning to mentally multiply.

These multiplication sums have been partitioned to help you to find the answers.

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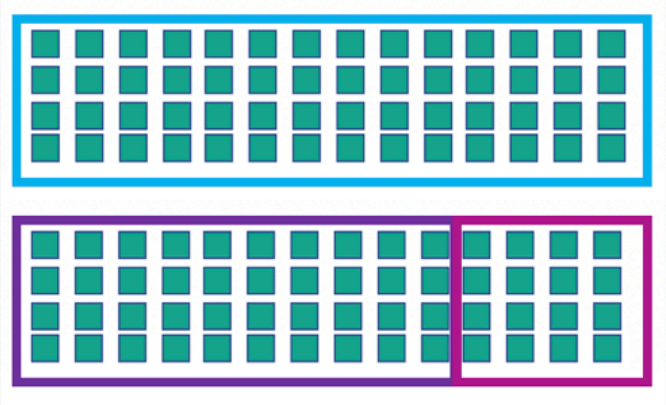
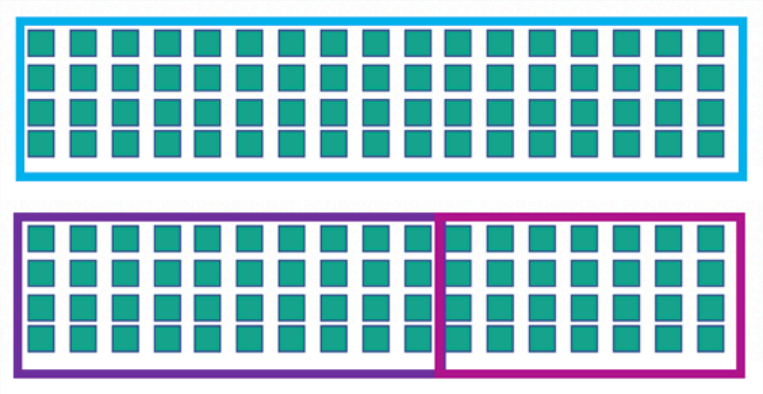
1) 4 x 14 =



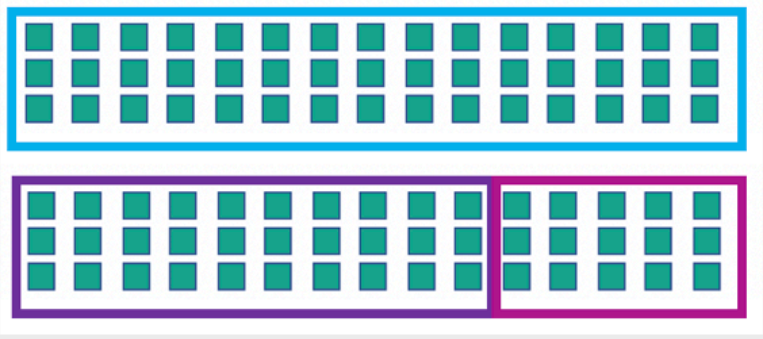
4 x 10 = 4 x 4 =

2) 4 x 17 =



4 x 10 = 7 x 4 =

3) 3 x 15 =



3 x 10 = 3 x 5 =

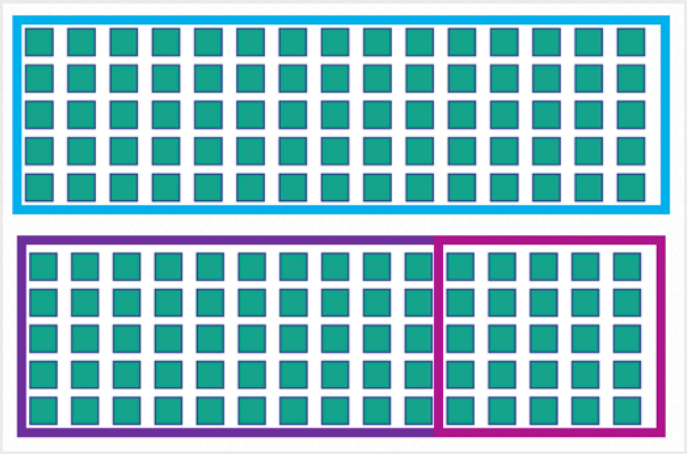
BRICKWORK Mathematics

Purple Activity

LO: I can use partitioning to mentally multiply.

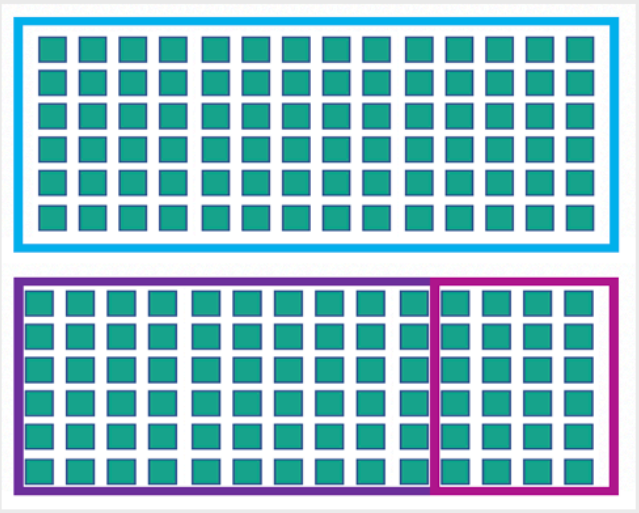
These multiplication sums have been partitioned to help you to find the answers.

4) 5 x 15 =



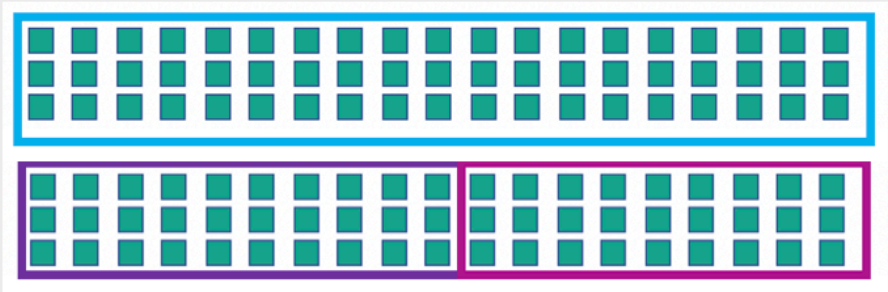
5 x 10 = 5 x 5 =

5) 6 x 14 =



6 x 10 = 6 x 4 =

6) 3 x 19 =



3 x 10 = 3 x 9 =

BRICKWORK Mathematics

Green Activity

LO: I can use partitioning to mentally multiply.

These multiplication sums have been partitioned to help you to find the answers.

1) 15 x 3 =

15 x 3 =	
10 x 3 =	5 x 3 =

2) 14 x 4 =

14 x 4 =	
10 x 4 =	4 x 4 =

3) 17 x 6 =

17 x 6 =	
10 x 6 =	7 x 6 =

4) 15 x 6 =

15 x 6 =	
10 x 6 =	5 x 6 =

5) 19 x 4 =

19 x 4 =	
10 x 4 =	9 x 4 =

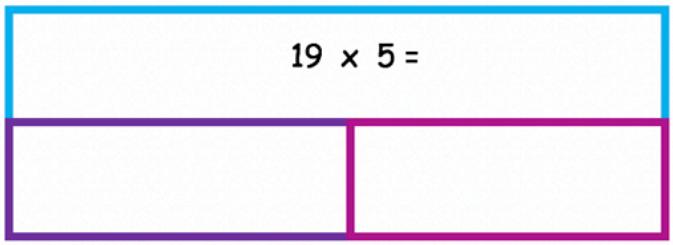
BRICKWORK Mathematics

Green Activity

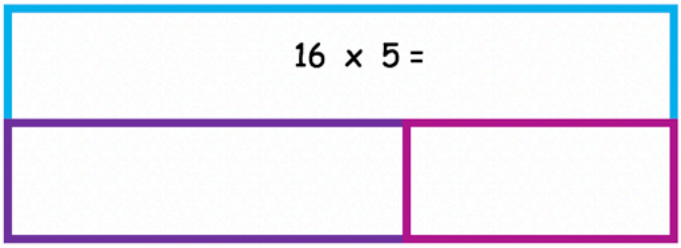
LO: I can use partitioning to mentally multiply.

These multiplication sums have been partitioned to help you to find the answers

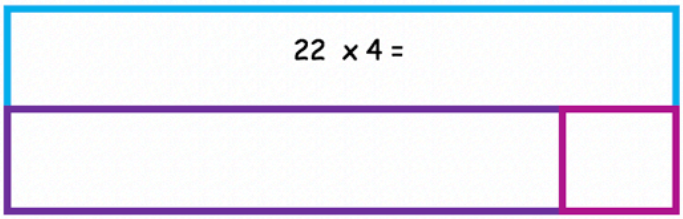
1) 19 x 5 =



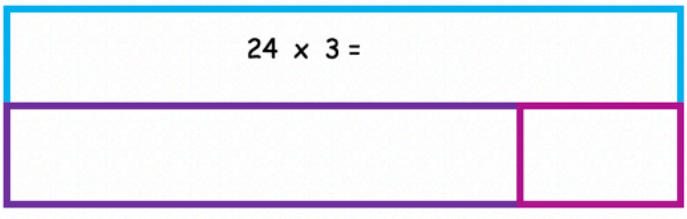
2) 16 x 5 =



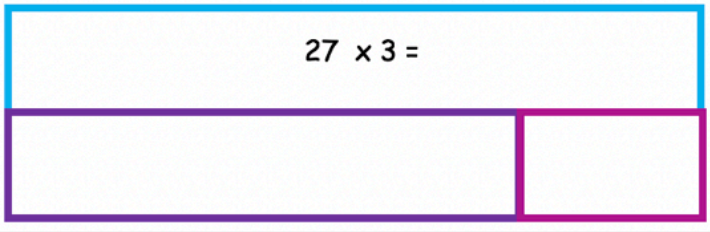
3) 22 x 4 =



4) 24 x 3 =



5) 27 x 3 =



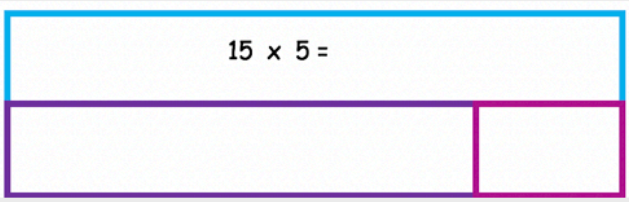
BRICKWORK Mathematics

Yellow Practice

I can use partitioning to mentally multiply.

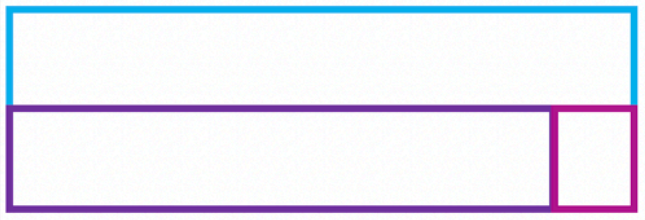
Use partitioning to help you to mentally multiply each amount.

1) 15 x 5 =



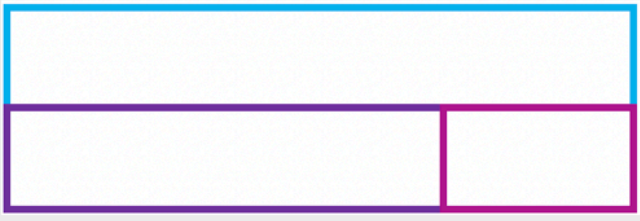
2) 16 x 6 =

3) 21 x 4 =



4) 31 x 5 =

5) 27 x 4 =



BRICKWORK Mathematics

Mastery

Solving Problems

1) Sara scored 24 in a game. James scored 3 times as many as her. How much has James scored?

2) Samia has be saving money each month. She saves £25 a month. How much has she save after 3 months?

£

3) Zoe has been saving her pocket money to buy some stickers. She has been saving 20 pence per week. She has saved £1. How many weeks has she been saving for?

weeks