

Dr Fog Presents

**Partitioning large
number to make
multiplying easier.**

Year 4 (National Numeracy Strategy)
(Based on DFEE Sample Lessons)



Resources

- Multiplication squares.
- [Worksheet](#)



Mental Learning Objective

- I can develop and use a partitioning strategy to multiply larger numbers.



Mental Learning Task

- Today we are going to focus on a strategy for making multiplying easier.



Mental Learning Task

21, 28, 35, 42

- Look at these numbers.
- What number sequence are they part of?
- The seven times table



Mental Learning Task

15, 20, 25, 30

- Look at these numbers.
- What number sequence are they part of?
- The five times table



Mental Learning Task

28, 35, 42, 49

- Look at these numbers.
- What number sequence are they part of?
- The seven times table



Mental Learning Task

2	4	6	8	10
3	6	9	12	15

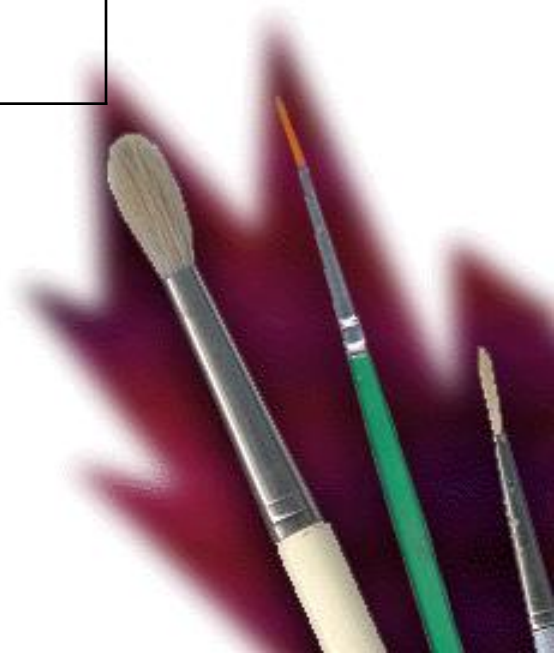
- What number series are these?



Mental Learning Task

2	4	6	8	10
3	6	9	12	15

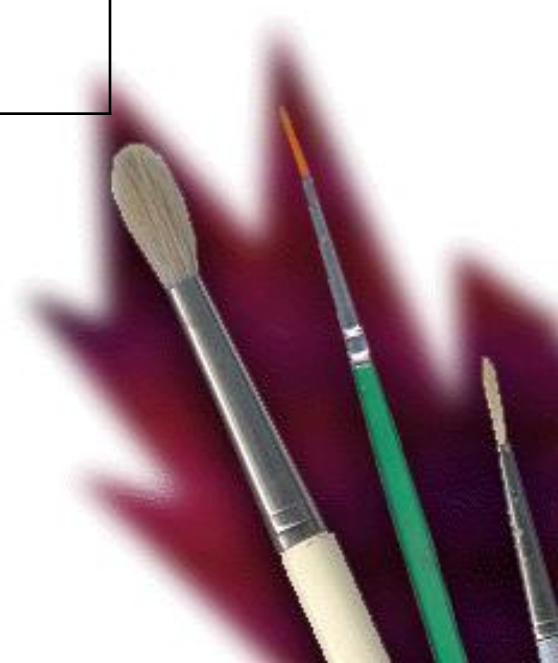
- What number series do we get when we add together the numbers in the columns?



Mental Learning Task

2	4	6	8	10
3	6	9	12	15

- The five times table



Mental Learning Task

- Suppose we wanted to work out the 15 times table.
- Which two tables might we write out in this way?



Mental Learning Task

- One answer is the 10 and 5 times table.
- Any two tables which add to 15 would work.



Mental Learning Objective

- I can develop and use a partitioning strategy to multiply larger numbers.



Main Learning Objective

- Today we are going to continue on the same objective? Can anyone name it?
- I can develop and use a partitioning strategy to multiply larger numbers.



Key idea

Working out a multiplication fact is sometimes easier if you break up the bigger number.



Main Learning Task

- Now suppose you want to work out one multiplication fact?
- How would we solve 13×7 ?
- How might what you have learnt help you to do that?



Main Learning Task

- If you can't remember what 3×7 is....
- How might you work that out?



Main Learning Task

- Suppose you want to work out 7×15 ?
- You could do 7×10 and 7×5 .
- Suppose you can't remember what 7×5 makes? How might you work you work it out?



Main Learning Task

- One easy way is to halve 7×10 .
- Which is half 70.
- What would this be?
- 35.



Main Learning Task

- Now solve these problems.
- Say if you just knew it, or used a multiplication square.

17 lots of 4

The product of 13 and 6

14 times 8

13 multiplied by 6

$$17 \times 5 \quad 13 \times 8 \quad 5 \times 18$$

$$23 \times 6 \quad 11 \times 9 \quad 21 \times 8$$

Challenge:-

What are the hardest problems they can solve?

Main Learning Task

- Can you show the class how you solved the problem 17 lots of 4?
- Write your working on the board?
- Who did it differently?
- Did anyone multiply it by 10 and divide it by two?



Main Learning Task

- Now take the four in a row game home to play.



Main Learning Objective

- I can develop and use a partitioning strategy to multiply larger numbers.



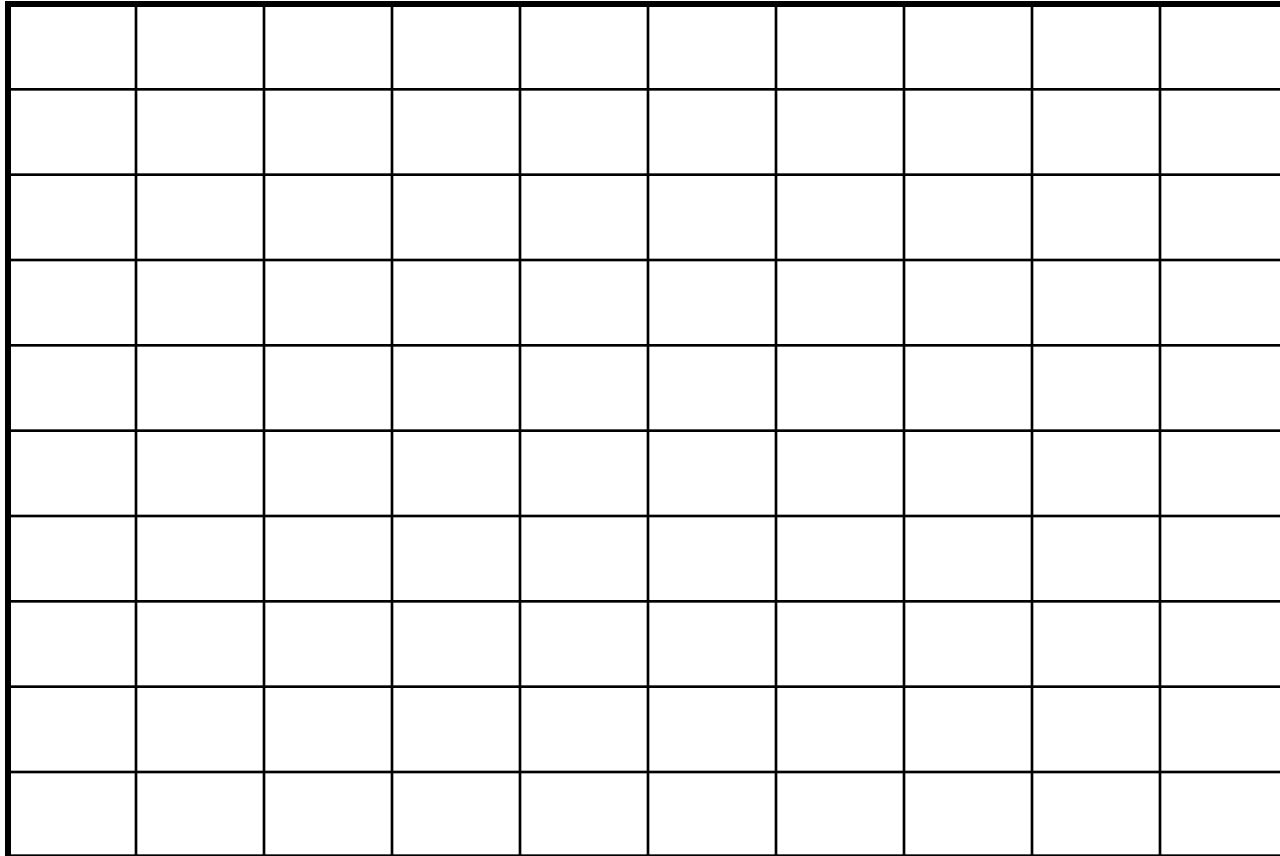
Review of Key Idea

- Working out a multiplication fact is sometimes easier if you break up the bigger number.
- Have you learnt this in this lesson?



Worksheet - Four in a row.

- This is a game for two players.
- Each player needs some counters in their own colour.
- They share the 10 x 10 grid and write in each square a number between 0 and 100. They then take turns to toss two dice and multiply the numbers together. They then cover the number showing that number. The first person to cover four squares in a row is the winner.



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