

*Dr Fog Presents*

# Find the maximum sum

Year 6 (National Numeracy Strategy)  
(Based on DFEE Sample Lessons)



# Resources

- Calculators (Optional)



# Mental Learning Objective

- Use known number facts and place value to consolidate mental multiplication and division facts.



# Mental Learning Task

- Today we are going to spend a few minutes exploring methods for mental multiplication.



# Mental Learning Task

- Get into pairs.
- Pick two numbers off the board and discuss how you would multiply them.

13	12	25	49
45	21	30	54



# Mental Learning Task

- What numbers could you multiply together in your head?

13	12	25	49
45	21	30	54



# Mental Learning Task

- What numbers would you need to use pencil and paper for?

13	12	25	49
45	21	30	54



# Mental Learning Objective

- Use known number facts and place value to consolidate mental multiplication and division facts.





# Main Learning Objective

- Solving mathematical puzzles.
- Recognise and explain patterns and relationships, generalise and predict.



# Key idea

I can explore an idea by  
simplifying it and  
by making generalisations.



# Main Learning Task

- Today we are going to start by finding products mentally.
- We are also going to learn how to add a string of numbers together.



# Main Learning Task

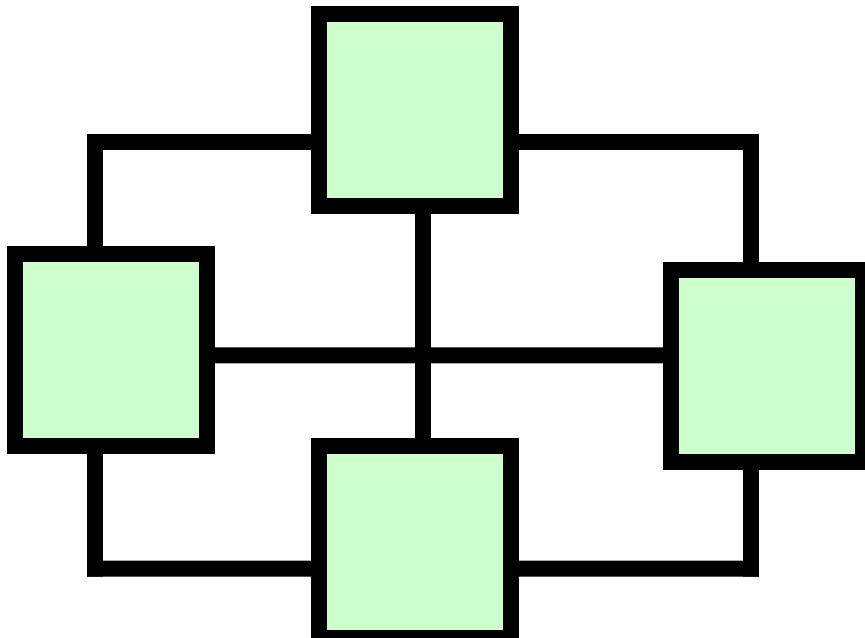
- I want you to write these four numbers in any order in the cells of the square.

20            25            30            35




# Main Learning Task

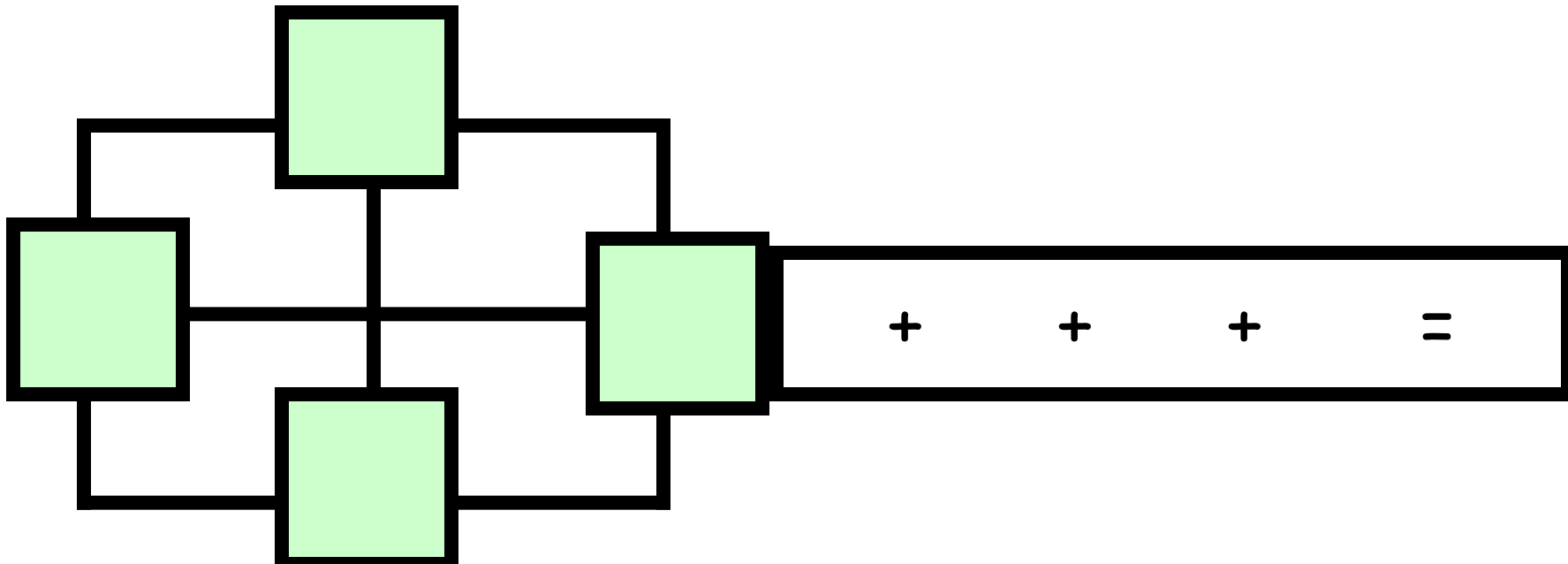
- Now in the green squares write what the product of the number is between each neighbouring number.





# Main Learning Task

- Write all the numbers in the green boxes in the white number box.



# Main Learning Task

- How should we do this?
- What do we add first?

+ + + =



# Main Learning Task

- Work out the answer.
- What is it?
- Does everyone agree?

+ + + =

# Main Learning Task

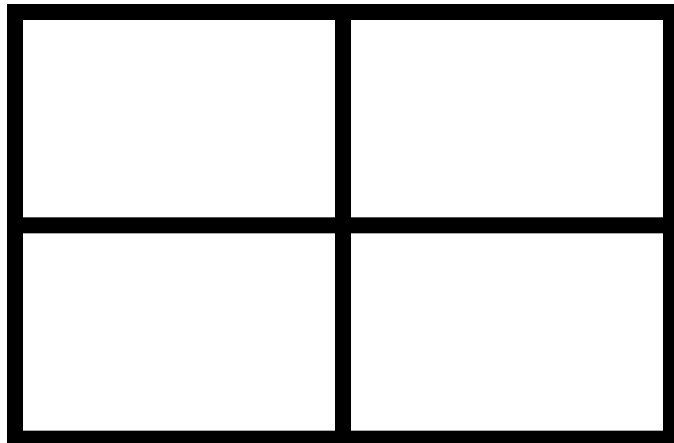
- Your task is to find a way to organise the numbers so you get the largest possible total.
- You must check your answers by using an inverse operation or by using different method.
- When you have finished, use the number 15, and complete a  $3 \times 3$  grid.



# Main Learning Task

- I want you now to find the largest possible total.

Simplification 4 8 2 6	Middle 20 30 25 35	Challenge 60 50 75 45
------------------------------	--------------------------	-----------------------------



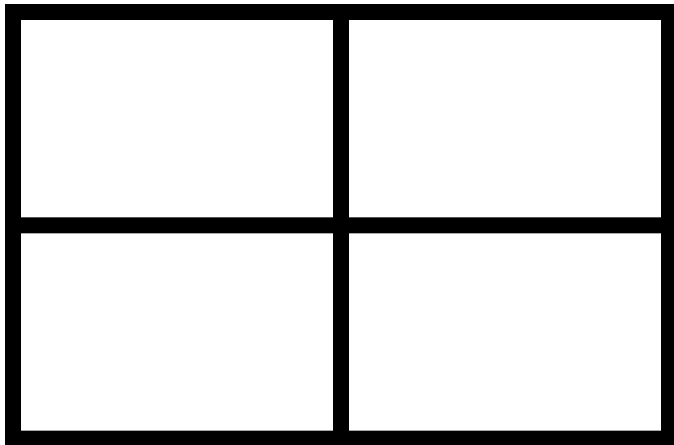
# Main Learning Objective

- Solving mathematical puzzles.
- Recognise and explain patterns and relationships, generalise and predict.



# Plenary

- We are going to use the numbers 2, 4, 6, 8.
- Which arrangements give the best totals?
- Should high numbers be next to high or low numbers to get the maximum sum?



# Plenary

- Homework:-
- Make a  $2 \times 3$  grid.
- Use the numbers 2, 2, 4, 4, and 6, 6
- Should high numbers be put next to high or low numbers for the biggest total.



# Review of Key Idea

- I can explore an idea by simplifying it and by making generalisations.
- Did you learn this today?



# Where Can I Find More Resources Like This?

- You can now visit my teaching resource website at <http://www.DrFog.co.uk>
- You can [click here](#) to search for more of my teaching resources.
- [Click here](#) to visit my **YES** shop!

