

Dr Fog Presents

Finding pairs of factors

Year 5 (National Numeracy Strategy)
(Based on DFEE Sample Lessons)



Resources

- Counters in two colours
- Squared paper
- [Worksheet](#)
- Two 1 - 6 dice



Mental Learning Objective

- I know my multiplication facts.



Mental Learning Task

- Spend a few minutes asking the class facts from the multiplication tables.
- Every now and then stop and discuss how to work out any facts they have forgotten.



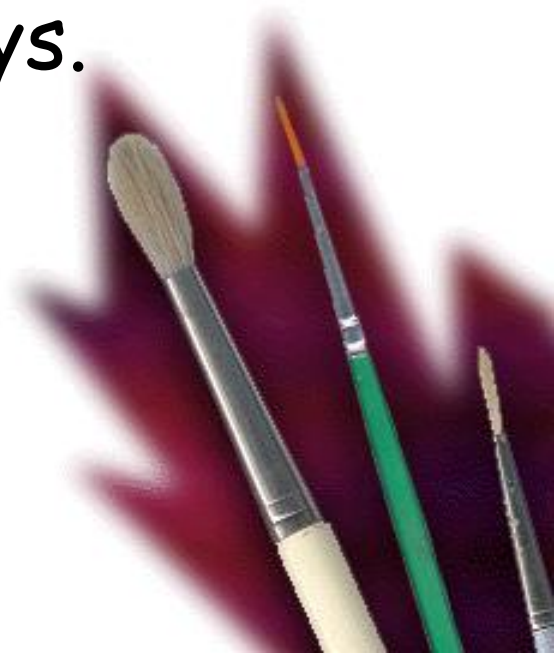
Mental Learning Objective

- I know my multiplication facts.



Main Learning Objective

- I know the relationship between multiplication and division.
- I can make rectangular arrays.
- I can write \times and \div



Key idea

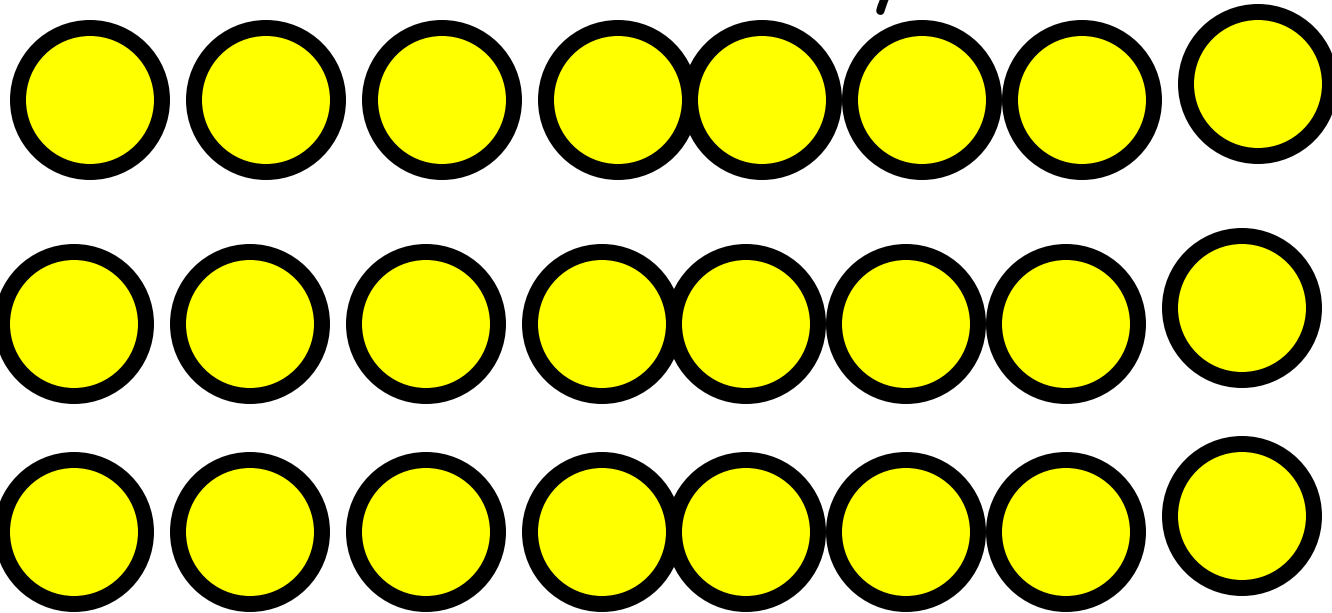
I can review work.

**I can establish pairs
of factors.**



Main Learning Task

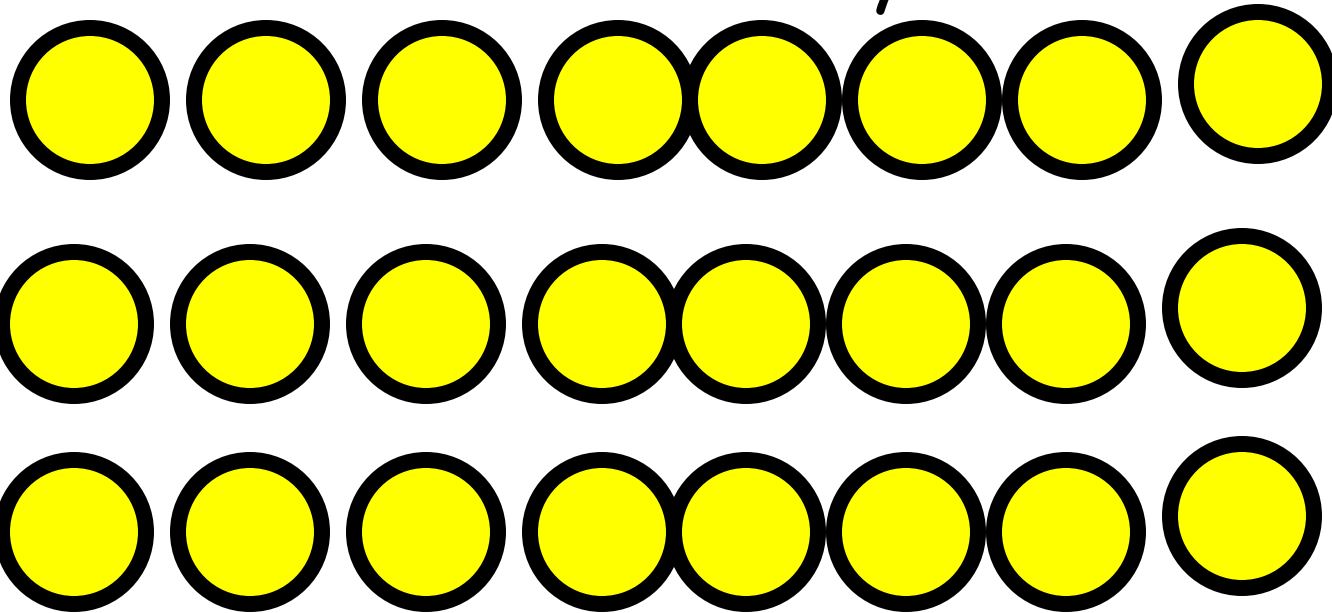
- Look at this array.



- Suggest the two multiplications that describe the array.

Main Learning Task

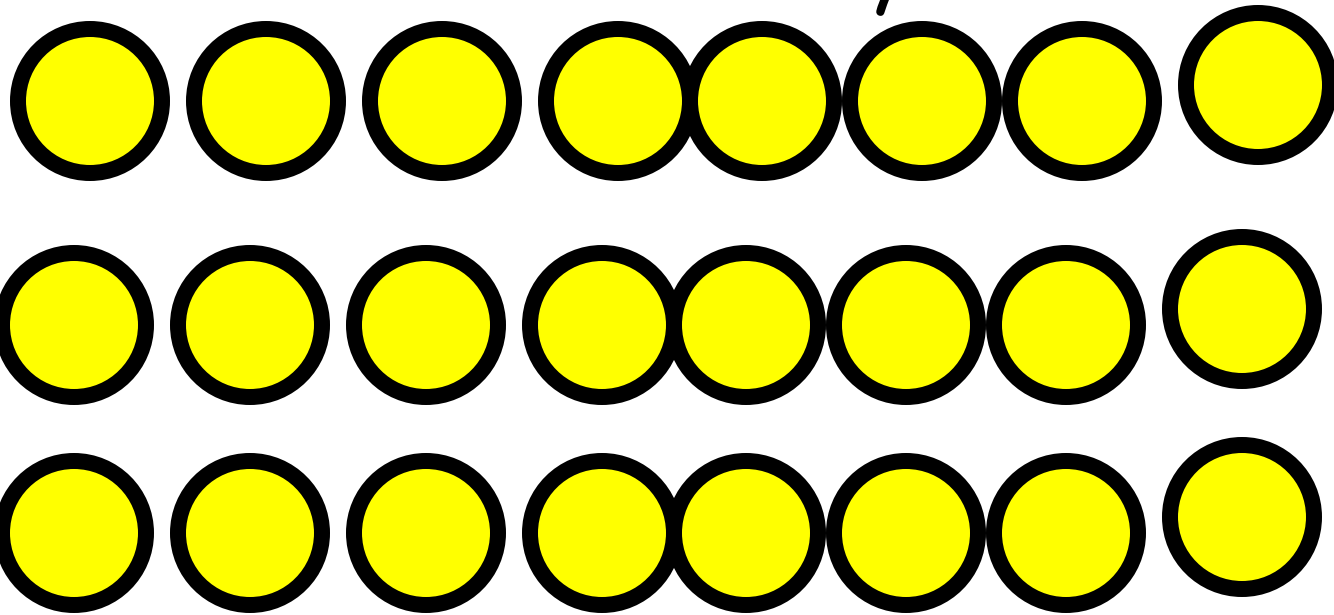
- Look at this array.



- How could we describe this?

Main Learning Task

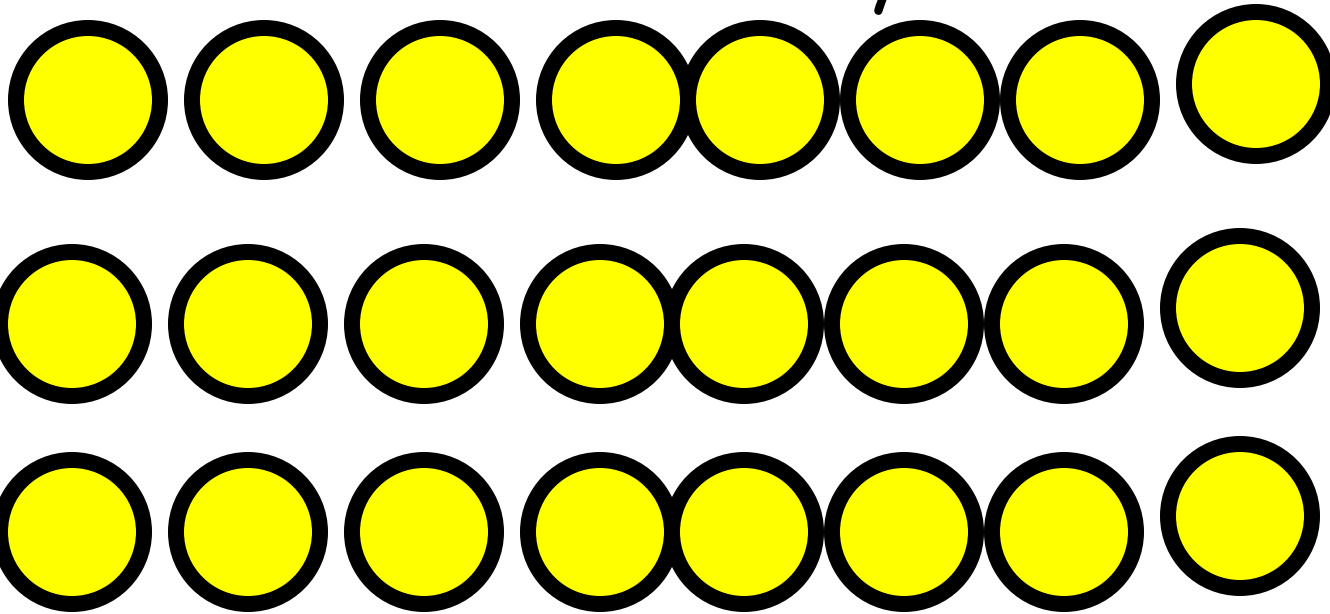
- Look at this array.



- What division sentences could I use?
- An example is 'How many 3s in 24?'

Main Learning Task

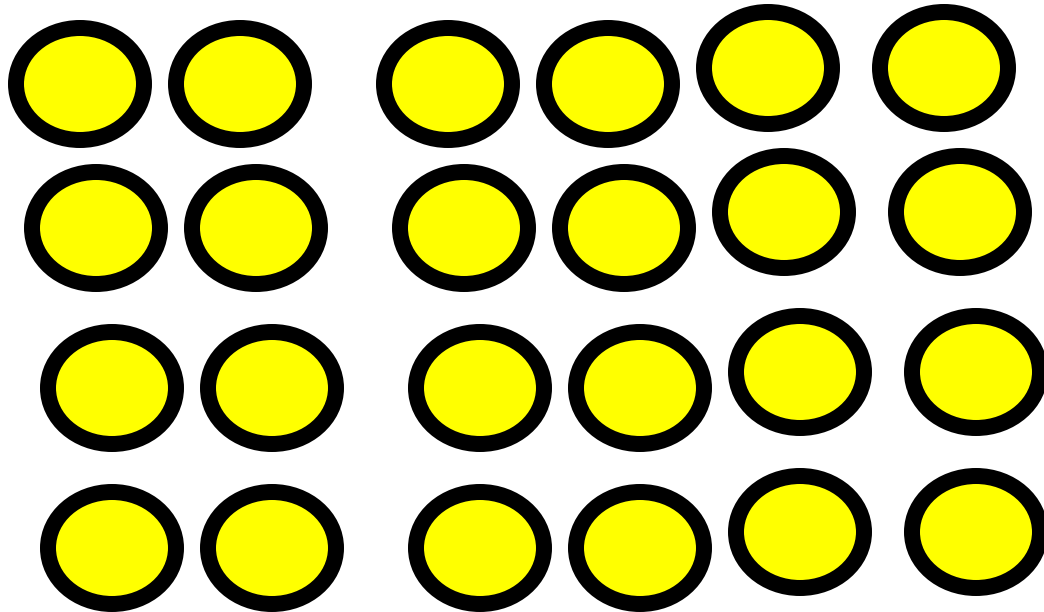
- Look at this array.



- How could the 24 counters be rearranged?

Main Learning Task

- We could write it as 4 rows of 6.

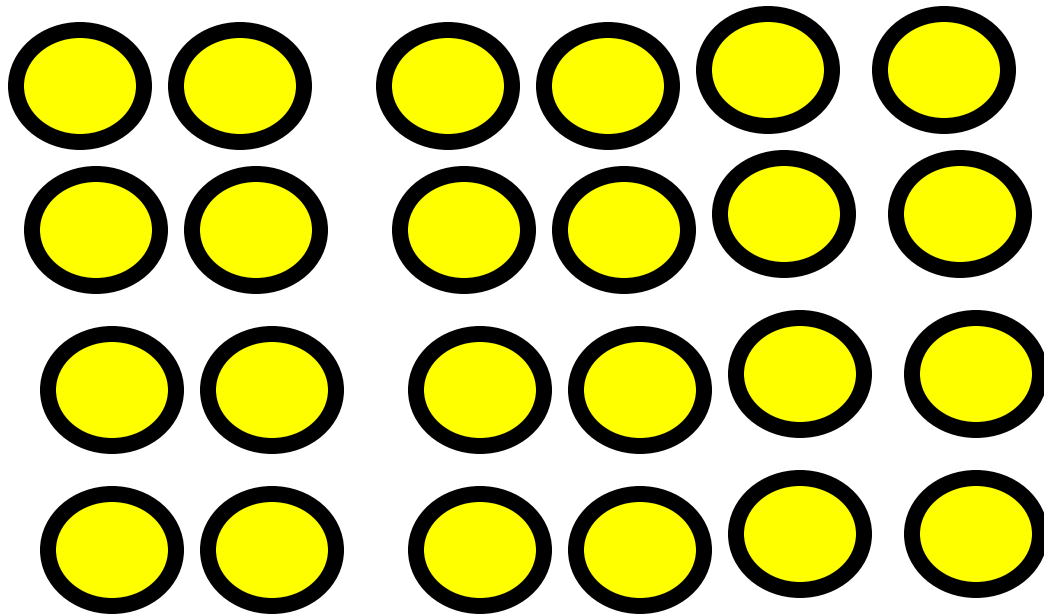


Get into pairs....



Main Learning Task

- We could write it as 4 rows of 6.

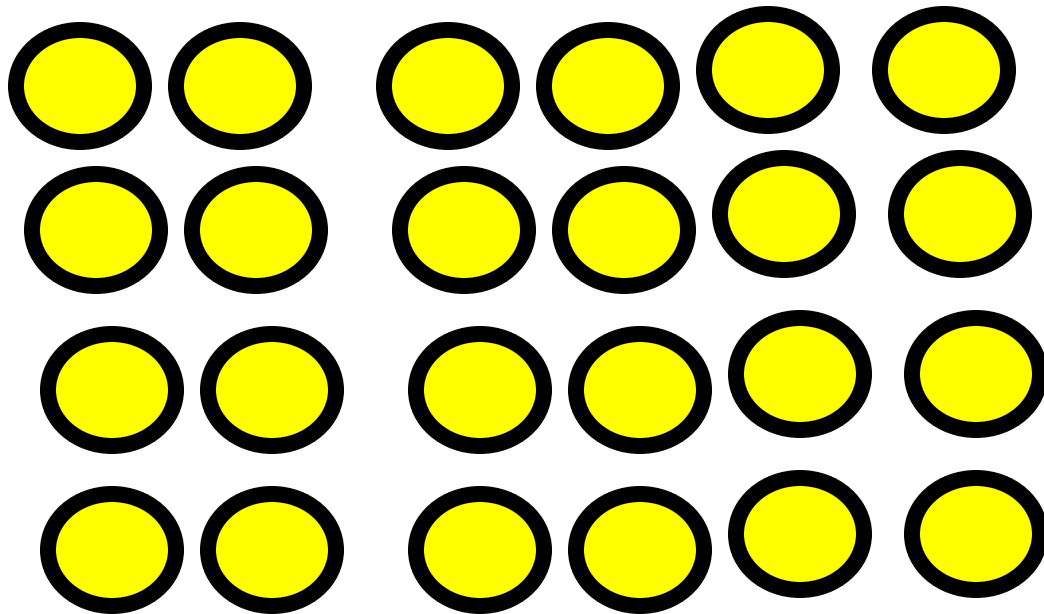


Write two multiplication and two divisions....



Main Learning Task

- We could write it as 4 rows of 6.



How many ways can you rearrange these 24 counters in rectangular arrays.



Main Learning Task

- Pairs of numbers 8 and 3, 6 and 4, 12 and 2, and 24 and 1 are all factors of 24.



Main Learning Task

- Simplification : Children can use counters or squared paper to model their work.
- Challenge:- Children can look for the numbers less than 100 with the most factors,



Main Learning Task

- I am now going to give you four more numbers,
- I want to know how many different arrays you can make.
- I want four multiplication and division equations that describe each array.



Main Learning Task

- Find all the arrays and 4 multiplication and division equations for

20

36

35

42



Main Learning Objective

- I know the relationship between multiplication and division.
- I can make rectangular arrays.
- I can write \times and \div



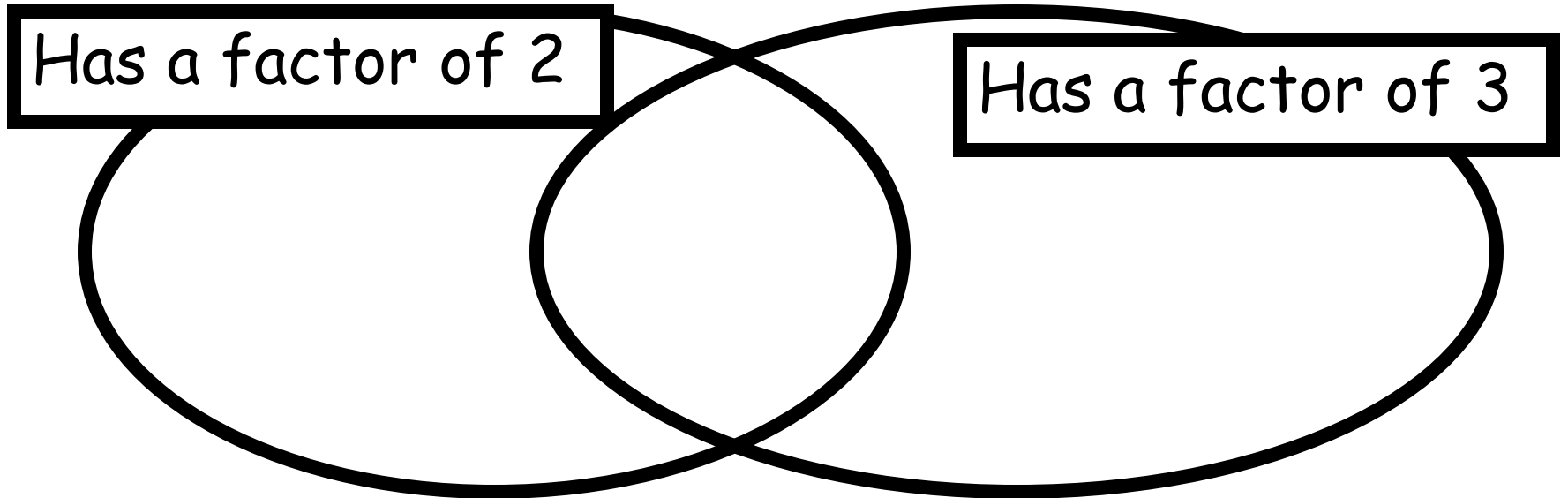
Plenary

- Ask the children to report back on the work they have done.
- Children working on the simplification show the arrays they have made.



Plenary

- Sort out all the numbers from 1 to 36 in the Venn diagram below.



Plenary

- For homework pupils can take home the Take 5 worksheet and play the game on their own or with a partner.



Review of Key Idea

- I can review work. I can establish pairs of factors.
- Did you learn this today?



Five in row

5	3	11	7	2	9	8	6	4
11	2	6	8	4	5	3	7	9
7	9	3	5	6	4	2	8	12
2	4	8	9	5	7	11	3	6
6	7	2	4	8	11	9	5	3
3	12	5	6	7	2	4	9	8
9	5	4	3	11	8	6	2	7
8	6	7	2	9	3	5	12	4
4	8	9	11	3	6	7	5	2

- Roll two dice
- Arrange to make into 2 digit number
- Find every factor of the two digit number.
- Cover these with counters.
- First to cover a line of 5 squares in the winner.

Where Can I Find More Resources Like This?

- You can now visit my teaching resource website at <http://www.DrFog.co.uk>
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