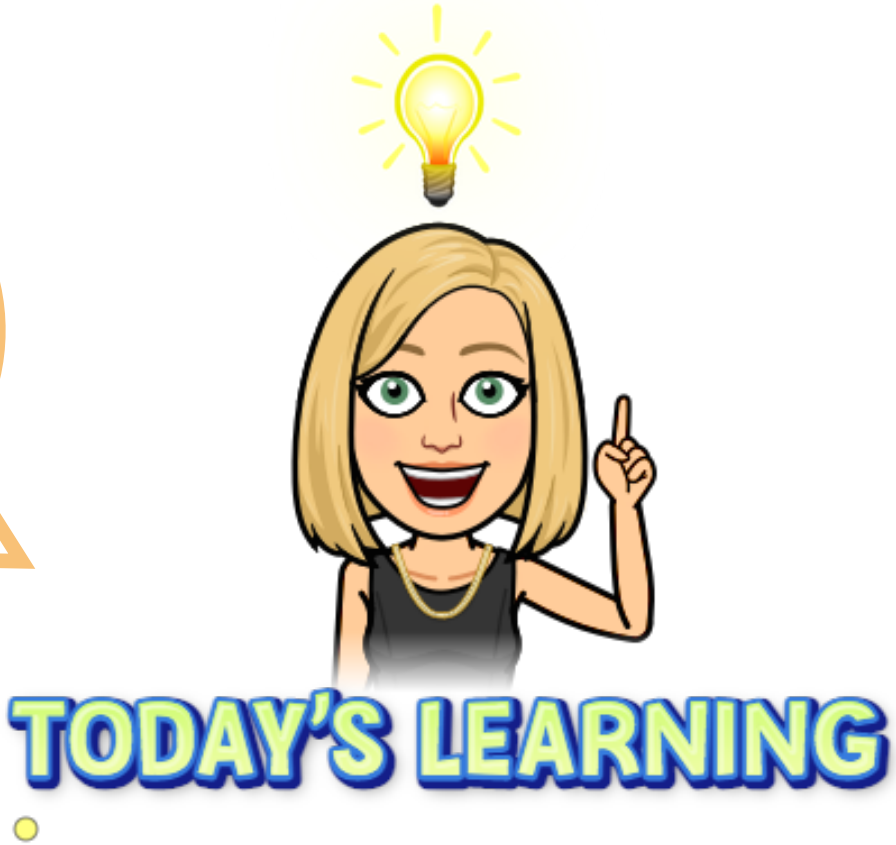
Year 2 All About Arrays

Maths: Wednesday 03.02.21

In our lesson today we will learn about organising our pictures to help us create arrays. This will help us work out our multiplication sentences.



Revision

72 - 47=

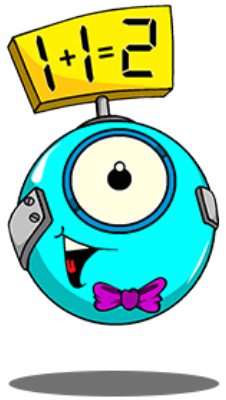
85 - 58 =

76 – 25 =

50 + 54

_____ + 34 = 100

These tasks help you to practise your skills and then use them to solve word problems.



Can you deepen the moment and answer this challenge question?

I have 45p.
I only have 5p coins.
How many coins do I have?

Vocabulary

Multiplication Year 2

Equal Groups

There are 5 groups with the same amount in each group.
They are equal groups.

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Multiplication Year 2

Equal Groups

5 x 3 = 15

There are 5 groups with the same amount in each group.
They are equal groups.

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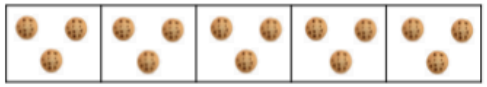
Multiplication Year 2

Repeated Addition



3 + 3 + 3 + 3 + 3

Adding the same number again and again.

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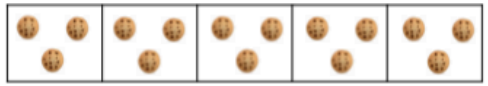
Multiplication Year 2

Repeated Addition



5 x 3 = 15

3 + 3 + 3 + 3 + 3

Adding the same number again and again.

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Multiplication Year 2

Multiplication Symbol

We use this symbol show we are **multiplying**
(adding equal groups of numbers).

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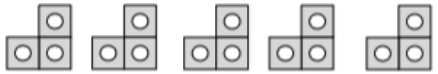
Multiplication Year 2

Multiply

To add equal groups of numbers.



5 x 3 = 15

There are 5 lots of 3s.

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Multiplication Year 2

Lots Of...

There are 5 lots of 3s.
This helps us write a our multiplication sentence.
5 lots of 3 is the same as 5 x 3

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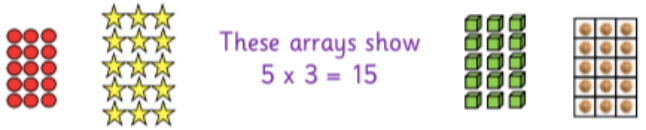
Multiplication Year 2

Arrays



Arrays are objects or shapes in rows and columns.
They help us to multiply.

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Multiplication Year 2

Commutative Law

When you multiply numbers, you will get the same answer when you swap them around.

5 x 3 = 15

3 x 5 = 15

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Recap

This is the multiplication symbol. It means:

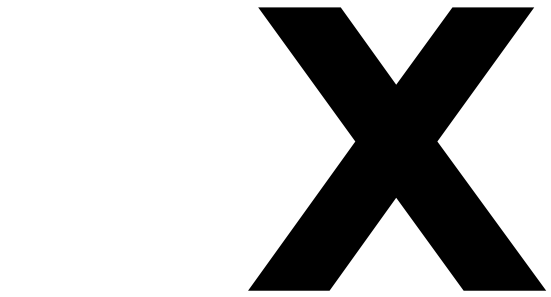
Lots of

Groups of

Multiplies by

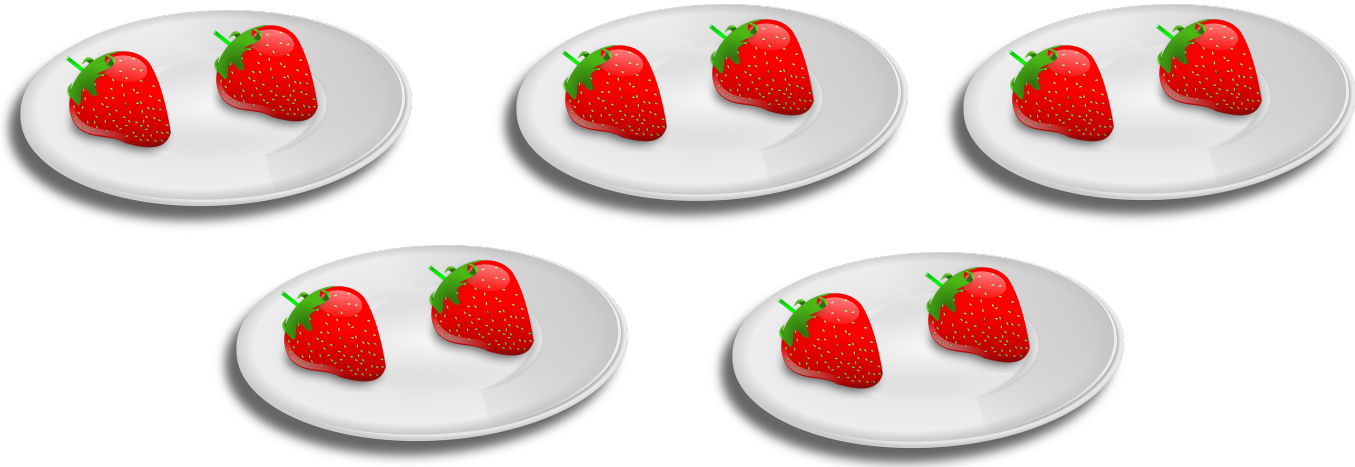
Times

All these are ways of saying the same thing.



Recap

How many strawberries?

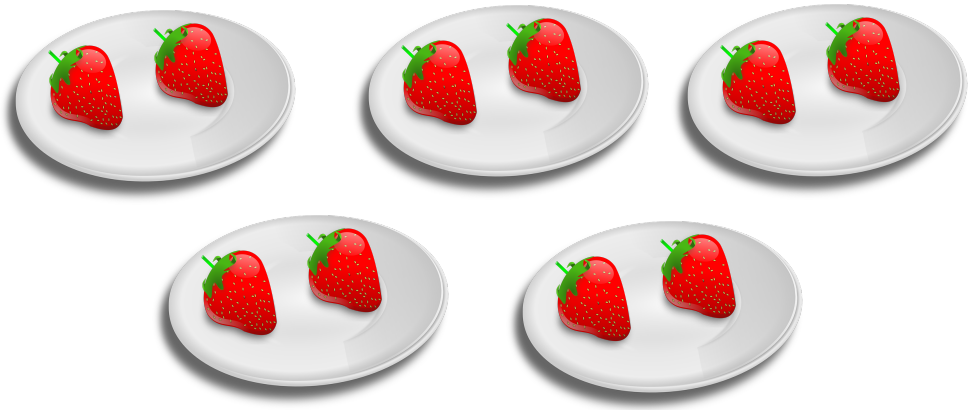


5 lots of 2

or

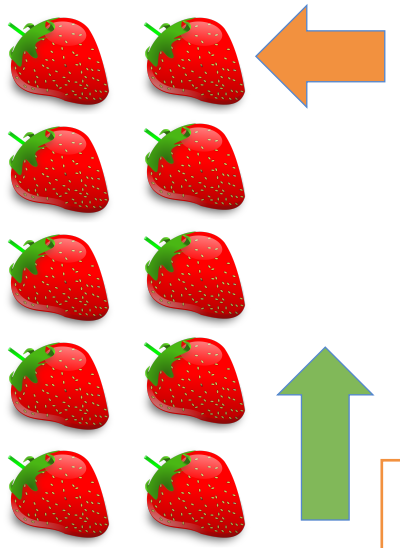
5 x 2 = 10

Explore



To make our strawberries easier to count we could place them in rows. When we do this we call it an array. An array can help us to count objects more efficiently.

I have arranged my strawberries into 5 rows of 2. That is the same as 5 lots of 2 or 5 x 2.

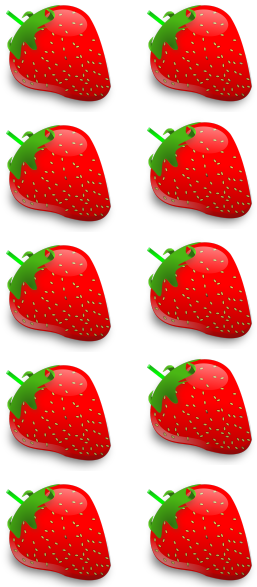


Rows go across

Columns go up and down

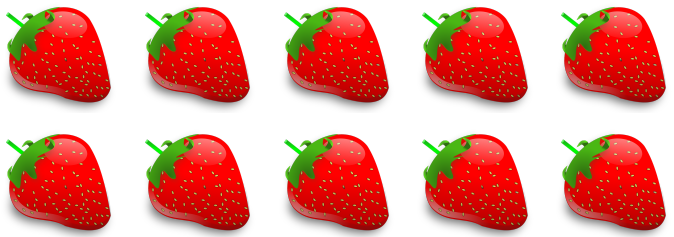
Explore

We can arrange the strawberries in more than one way?



5 lots of 2

5 x 2



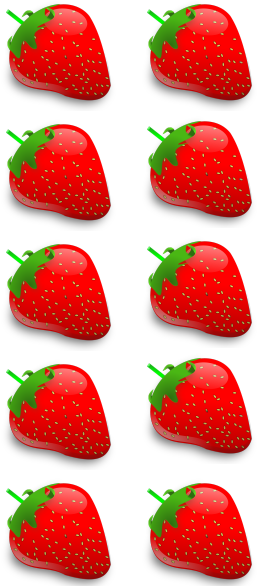
2 lots of 5

2 x 5

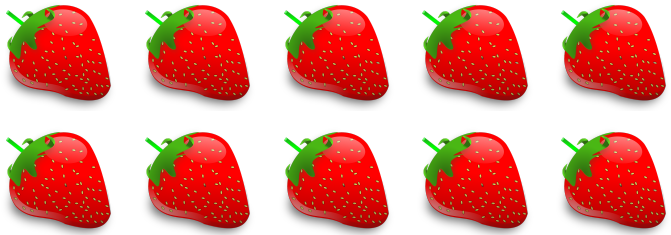
Talk to your grown up about what you see.

Explore

We can arrange the strawberries in more than one way?



5 lots of 2
5 x 2

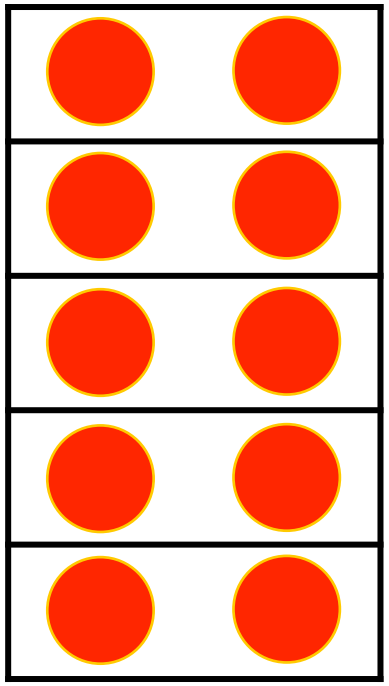


2 lots of 5
2 x 5

When you are working out your array think about the rows first. How many rows are there? How many objects in each row?

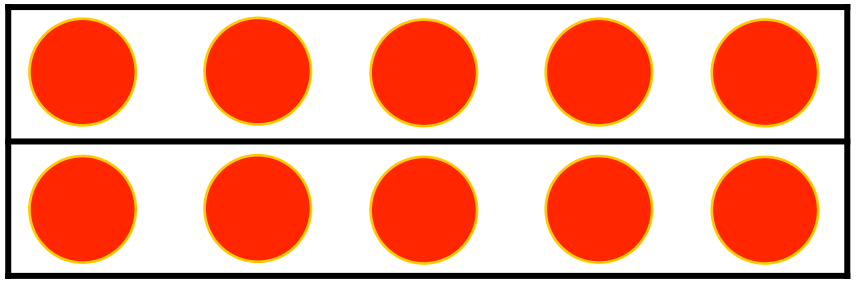
Explore

We can represent the strawberries with dots or counters.



There are 5 rows of 2.
There are 5 lots of 2
5 x 2

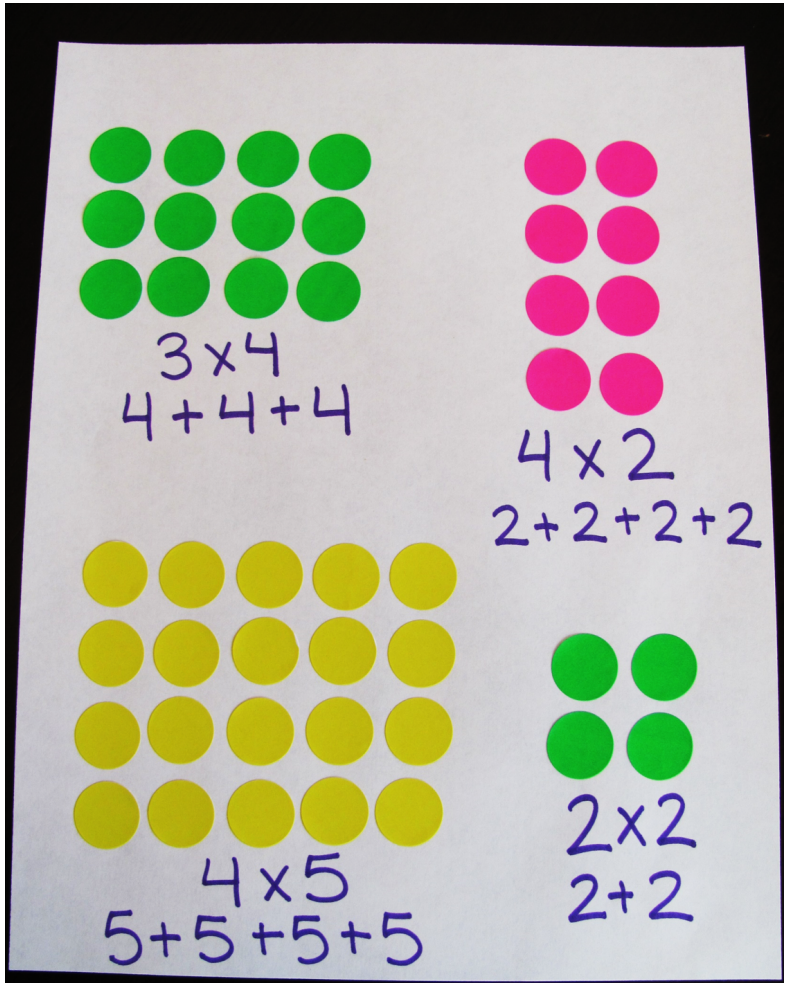
5 x **2** = **2** x **5**



There are 2 rows of 5.
There are 2 lots of 5
2 x 5

Explore

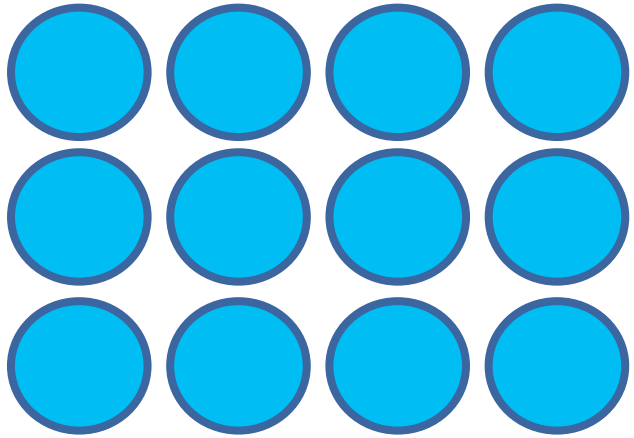
We can represent the strawberries with dots or counters.

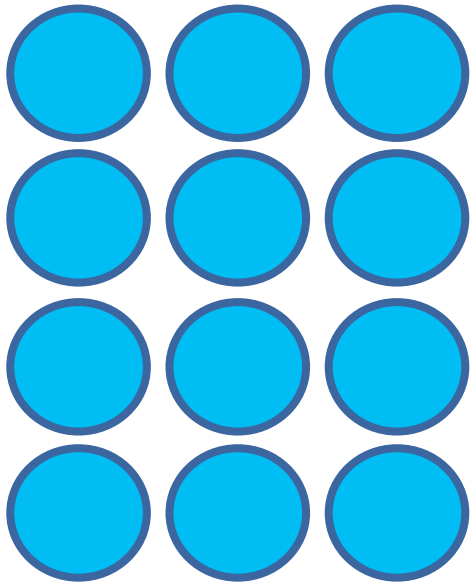


You might find it helpful to write the repeated addition to check you have written the correct array. Look at the picture to see what I have done.

Guided Practice

Can you write multiplications for these arrays?

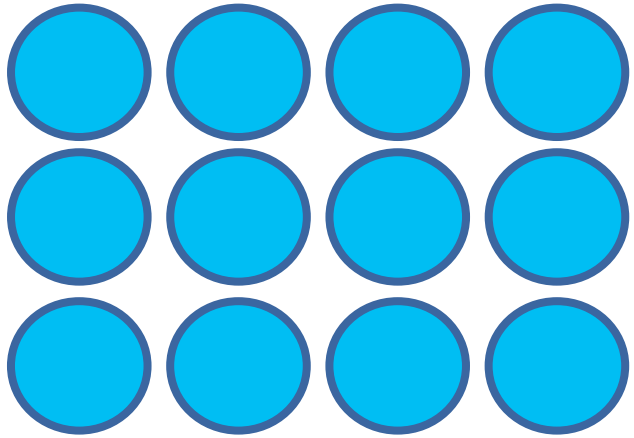


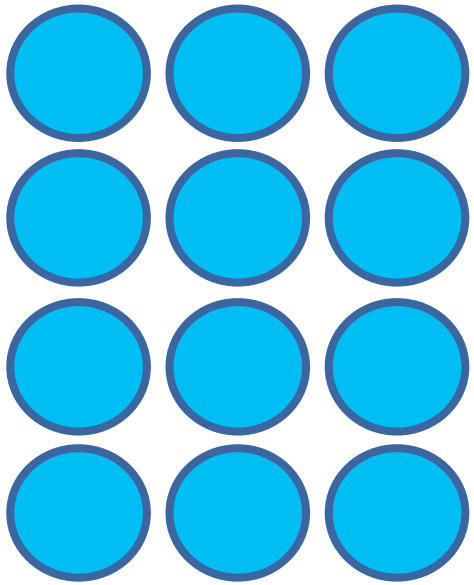


Watch today's lesson video to find out more about this.

Guided Practice

Can you write multiplications for these arrays?



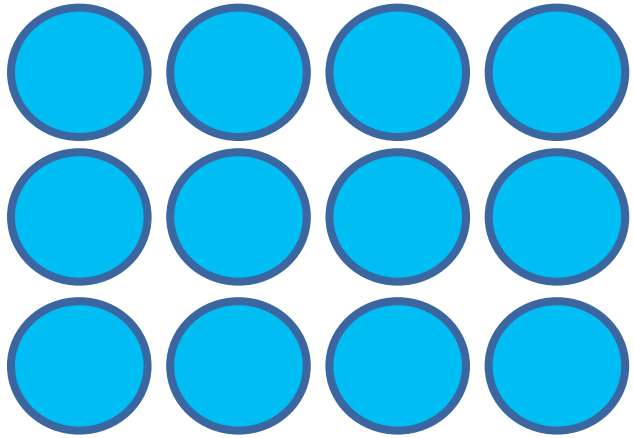


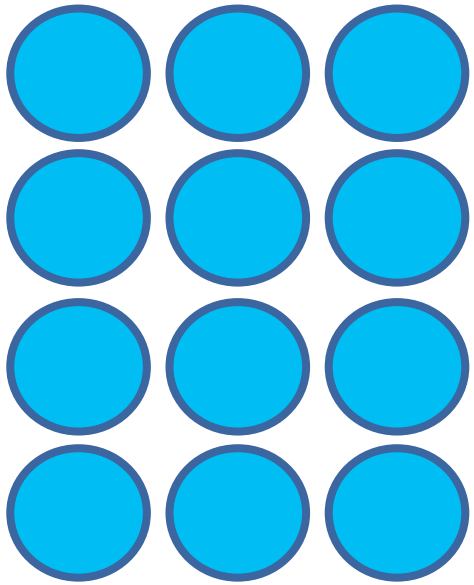
When you are working out your array think about the rows first. How many rows are there? How many objects in each row.

___ x___ = ___ x ___

Guided Practice

What do you notice about the arrays?

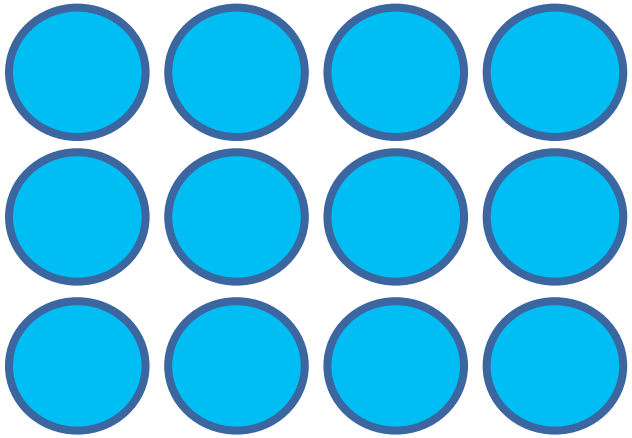


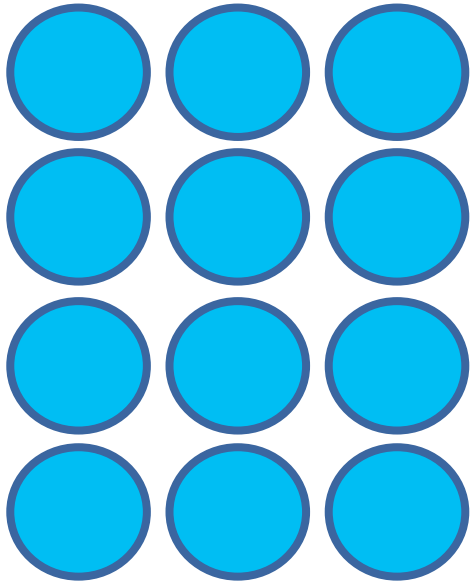


$3 \times 4 = 4 \times 3$

Guided Practice

How can I find the totals for these 2 arrays?

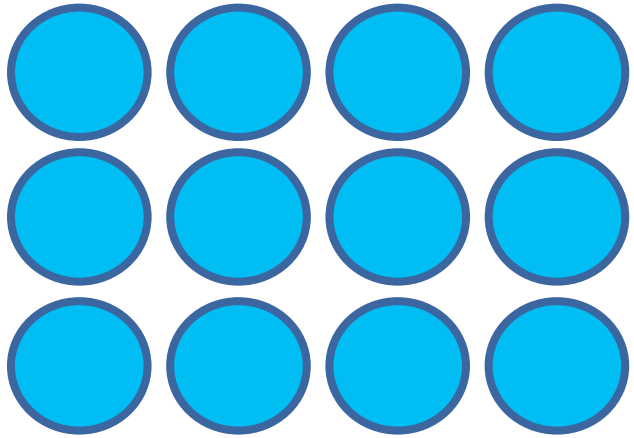


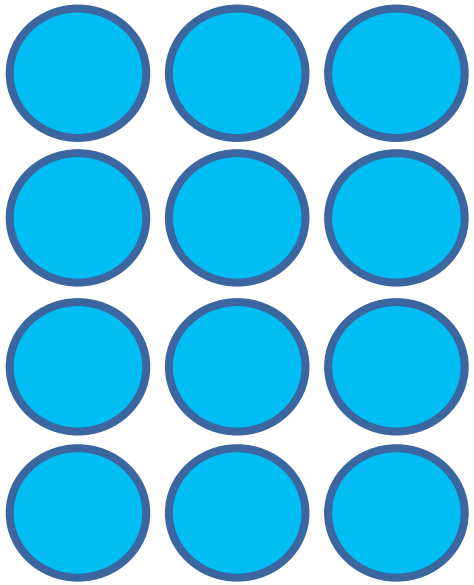


Do you think the totals will be the same or different? Talk to your grown up.

Guided Practice

How can I find the totals for these 2 arrays?





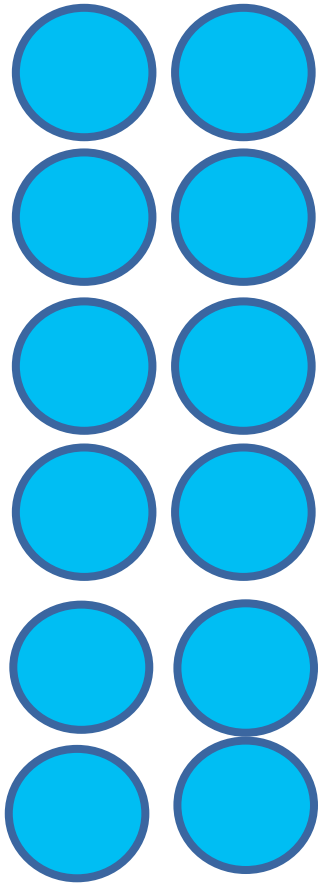
3 x 4 = 12

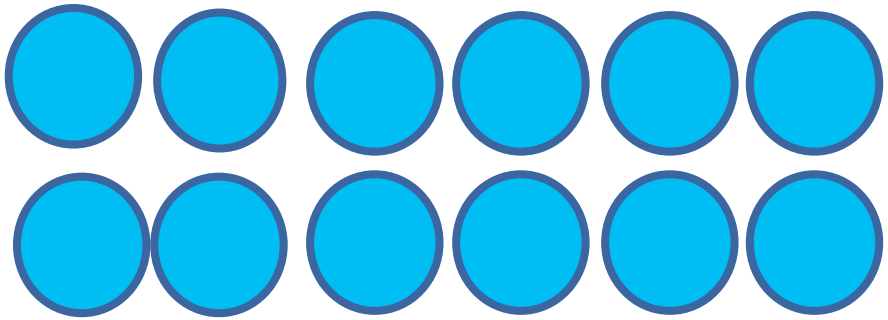
4 x 3 = 12

To find the totals, I just count the counters in the arrays. In this case there are 12 counters. Both arrays are the same, just in different positions, so the totals must be the same. Let's find out more about this.

Explore

What multiplications do these arrays show?



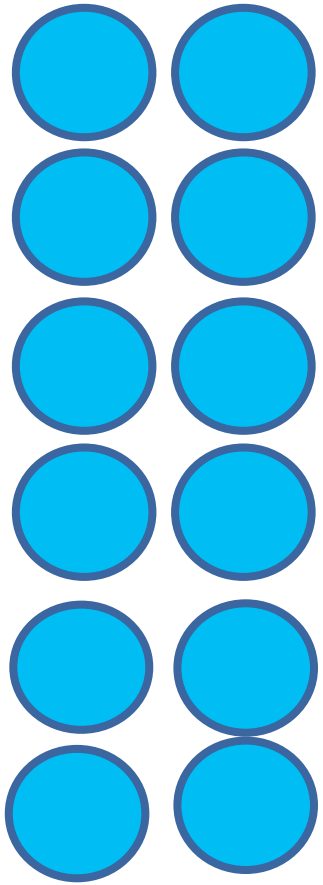


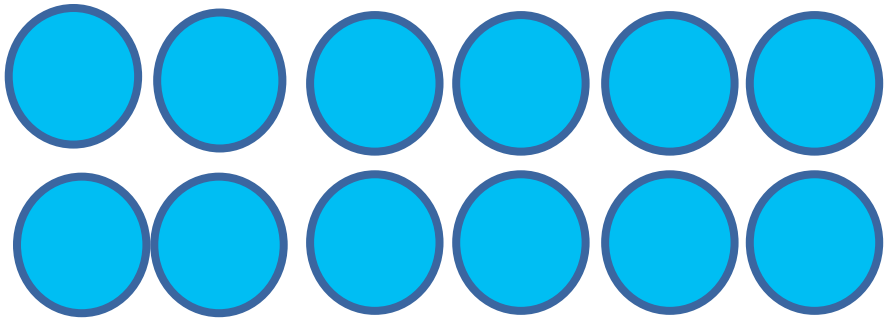
Watch the lesson video to see Mrs Riley's explanation.

___ x___ = ___ x ___

Explore

What multiplications do these arrays show?





To find the total for each multiplication I just count the counters!

6 X 2 = 12

2 x 6 = 12

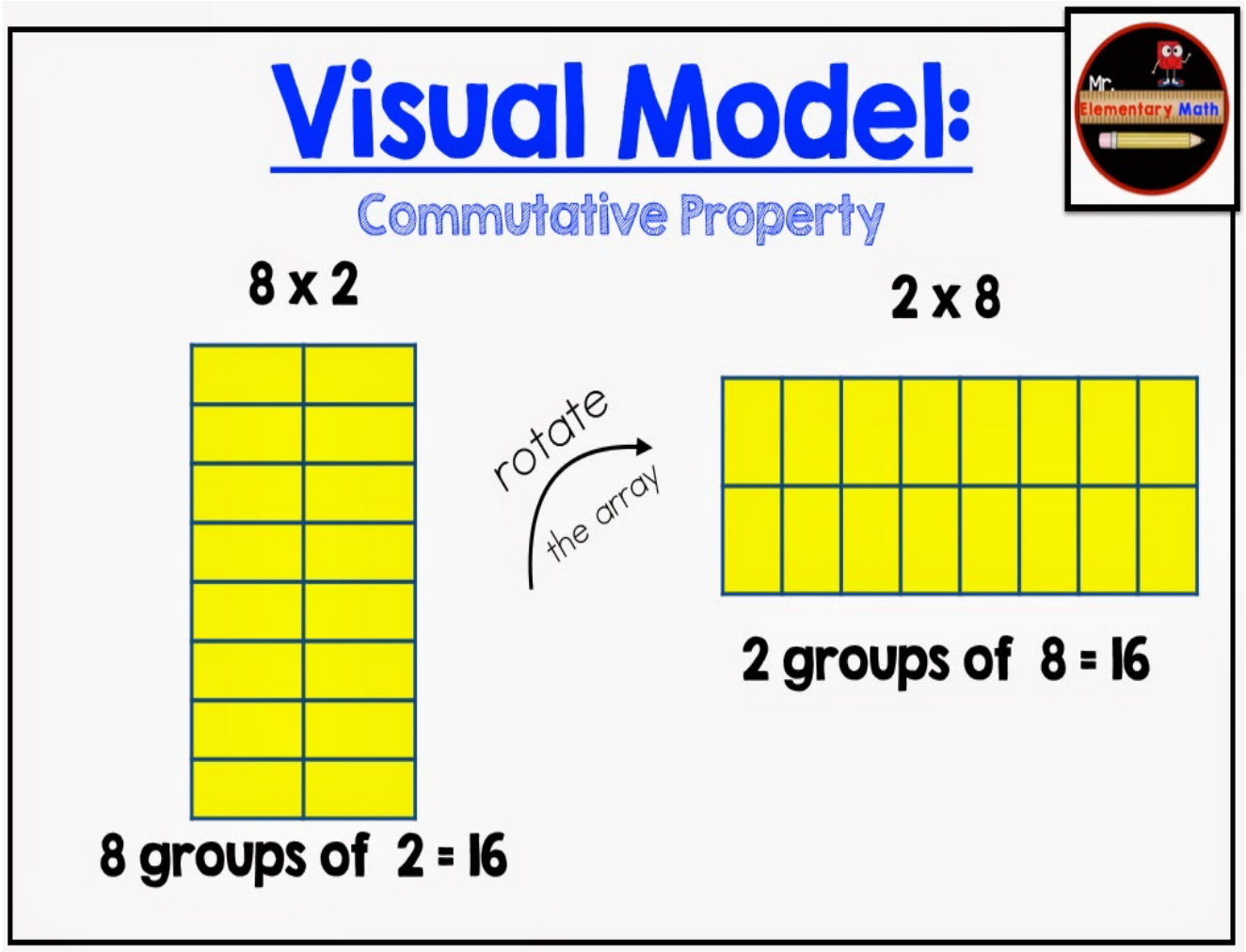
Explore

When you multiply numbers, you will get the same answer when you swap them around.

8 x 2 = 16

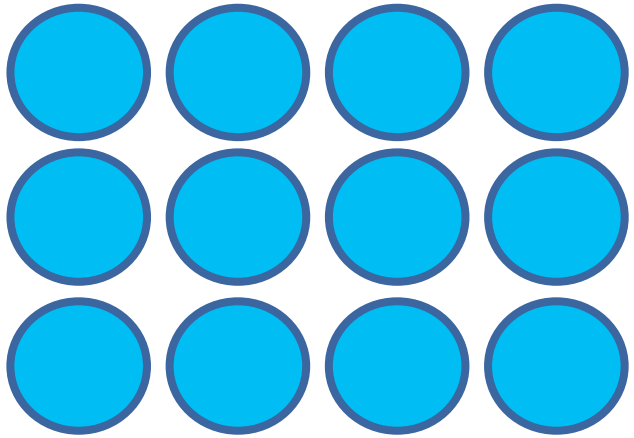
2 x 8 = 16

We say that multiplications are commutative.



Guided Practice

Let's take it further



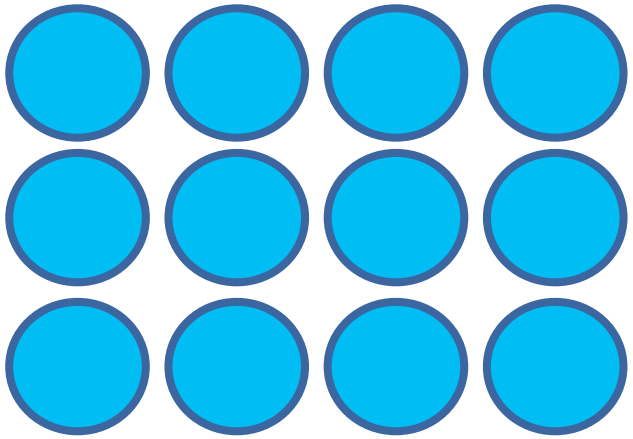
3 x 4 = 12

4 x 3 = 12

I can say that this array shows both 3 x 4 = 12 and 4 x3 = 12
How?

Guided Practice

What do you notice about the arrays?



If I count the rows I can see I have 3 rows of 4. I can write this 3 x4.

If I count the the columns I have 4 columns of 3 counters. I can write that as 4 x3

$3 \times 4 = 4 \times 3$

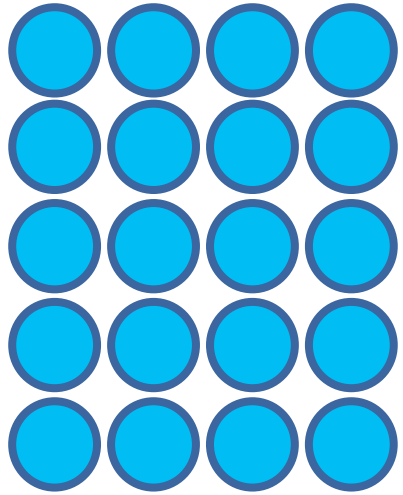
Show the multiplication counting the rows first. Then count the columns to find the other multiplication.

Guided Practice

____ x ____ =

____ x ____ =

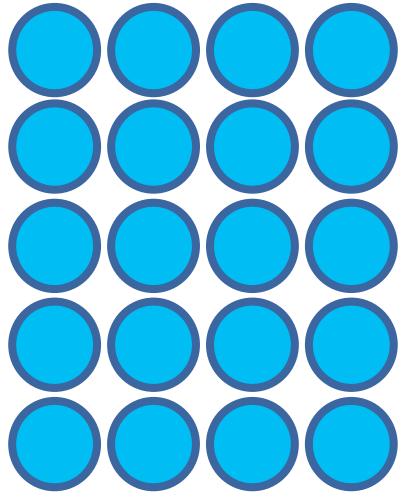
Write two multiplications for this arrays. Work out the total.



Guided Practice

$5 \times 4 = 20$

$4 \times 5 = 20$

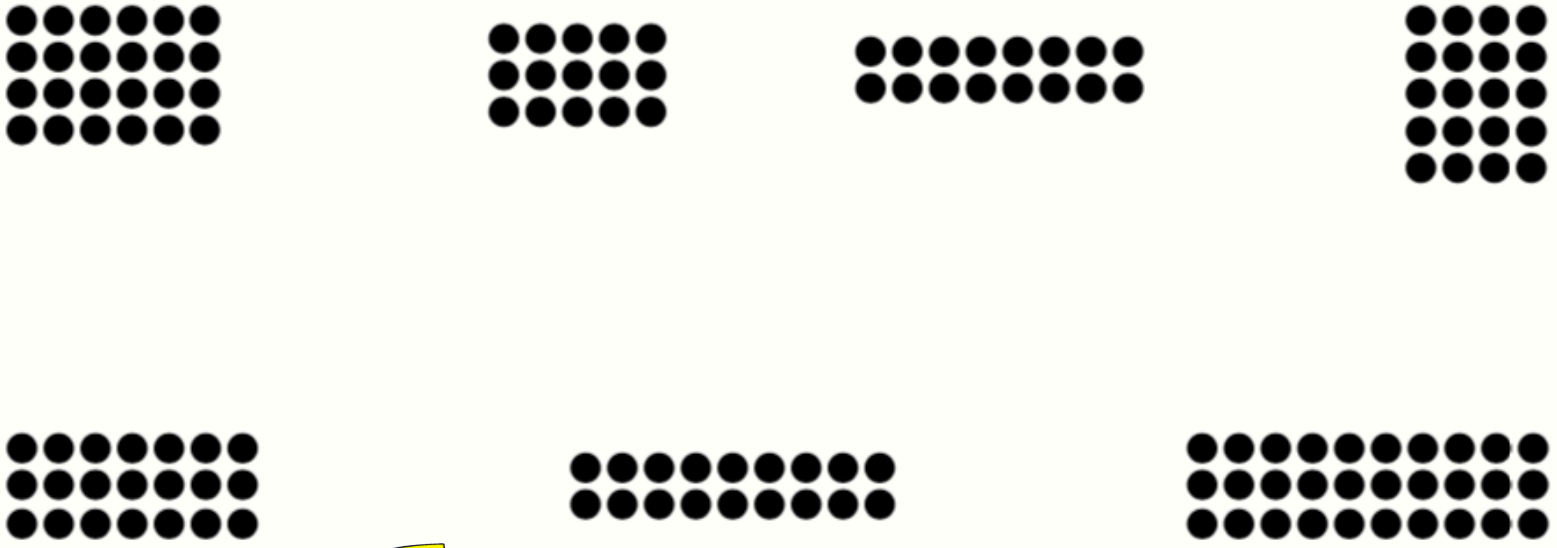


I have 5 rows of 4 counters.
That is 5 x 4
I have 4 columns of 5 counters. That is 4 x5
There are 20 counters in each array.

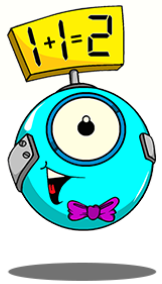
Independent Practice

Reading arrays

Write the two multiplication facts to go with each array.



Show the total for each multiplication.



Challenge

Draw one more array to show 6 x 3. What else does it show?

If you're finding things a bit tricky….

Directions: Write a multiplication sentence for each array.

1. 

____ rows of ____

____ x ____ = ____

2. 

____ rows of ____

____ x ____ = ____

3. 

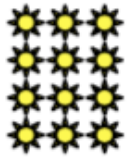
____ rows of ____

____ x ____ = ____

4. 

____ rows of ____

____ x ____ = ____

5. 

____ rows of ____

____ x ____ = ____

6. 

____ rows of ____

____ x ____ = ____

7. 

____ rows of ____

____ x ____ = ____

8. 

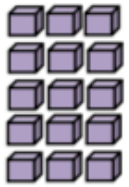
____ rows of ____

____ x ____ = ____

9. 

____ rows of ____

____ x ____ = ____

10. 

____ rows of ____

____ x ____ = ____

11. 

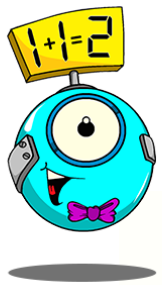
____ rows of ____

____ x ____ = ____

12. 

____ rows of ____

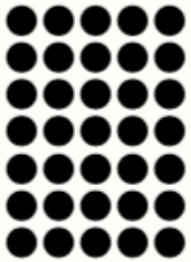
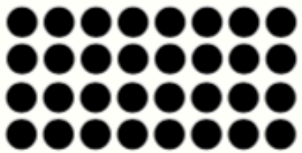
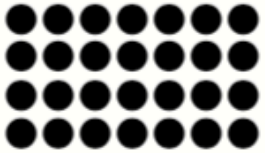
____ x ____ = ____

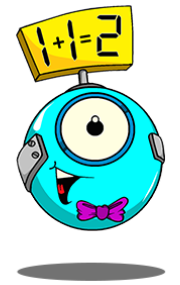


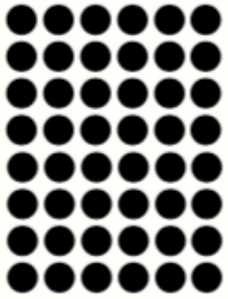
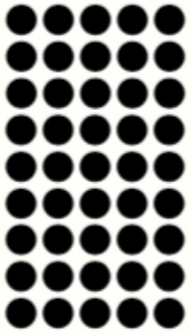
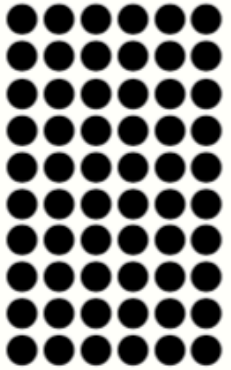
Try something a bit harder.

Reading arrays

Write the two multiplication facts to go with each array.

Show the total for each multiplication.

Challenge

Draw one more array to show 1 x 11. What else does it show?

Exit task – Dong Nao Jin

Mrs Riley wants to plant 18 flowers in her garden

She wants to plant them in equal rows.

Draw the different ways she could plant the flowers

ALL THE ANSWERS

Revision Answers

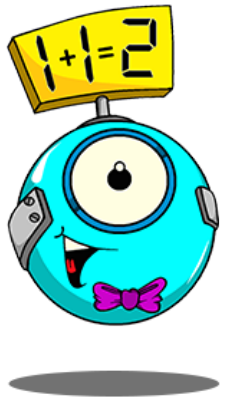
72 - 47= 25

85 - 58 = 27

76 – 25 =51

50 + 54= 94

56+ 34 = 100



Can you deepen the moment and answer this challenge question?

5p + 5p + 5p + 5p + 5p + 5p + 5p + 5p + 5p = 45p

9 x 5 = 45p

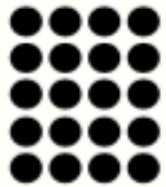
I have 45p.
I only have 5p coins.
How many coins do I have?

Reading arrays (mild)

4 x 6 = 24
6 x 4 = 24

3 x 5 = 15
5 x 3 = 15

2 x 8 = 16
8 x 2 = 16



5 x 4 = 20
4 x 5 = 20

3 x 7 = 21
7 x 3 = 21

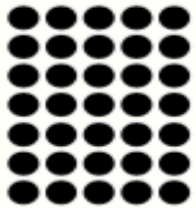
2 x 9 = 18
9 x 2 = 18

3 x 10 = 30
10 x 3 = 30

Challenge

3 x 6 = 18 6 x 3 = 18

Reading arrays (hot)

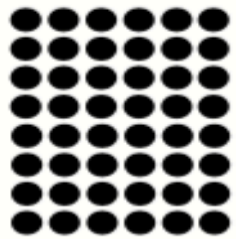


7 x 5 = 35
5 x 7 = 35

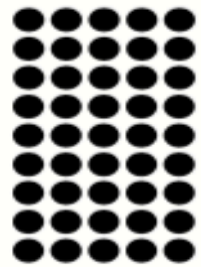
4 x 8 = 32
8 x 4 = 32

4 x 7 = 28
7 x 4 = 28

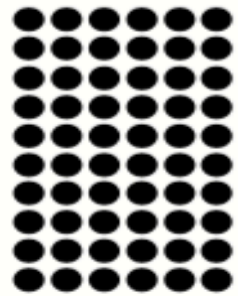
4 x 9 = 36
9 x 4 = 36



8 x 6 = 48
6 x 8 = 48



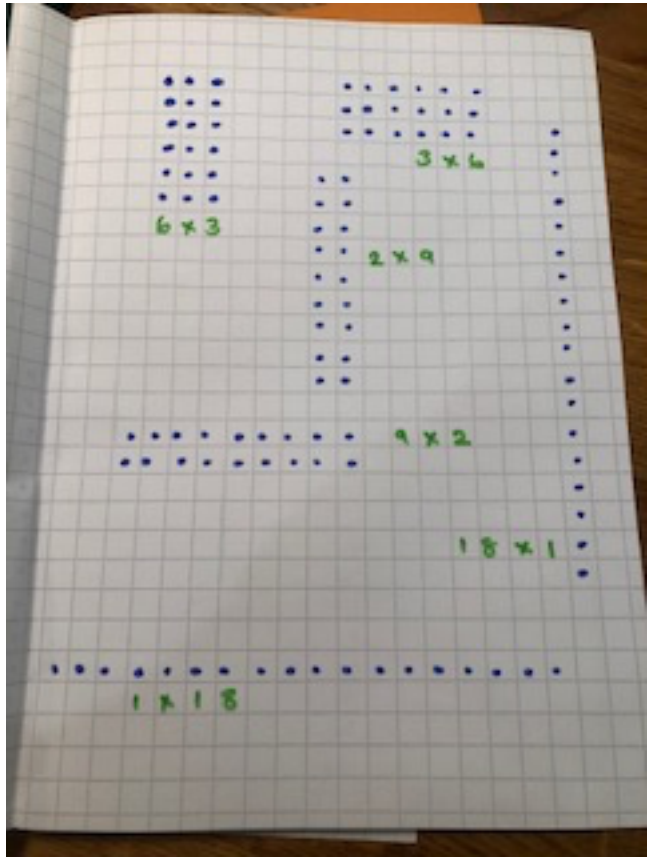
9 x 5 = 45
5 x 9 = 45



10 x 6 = 60
6 x 10 = 60

Challenge

1 x 11 = 11 11 x 1 = 11



Arrays for 18