Year 2 Even More Arrays

Today we are going to continue to work with arrays.



Revision

32 + 66 = 78 - 45 = $43 + _ = 100$ $10 - 6 = 4 \text{ so } 80 - 6 = _$



Is Jerry correct? Explain your reasoning!

Vocabulary



<u>Arrays</u>

An array is a model with objects arranged in equal rows and equal columns.



5 rows of 4 columns.

5 x 4 = 20







Draw one array to show both multiplications:

$$2 \times 6 = 6 \times 2$$

$$4 \times 8 = 8 \times 4$$

Remember that we can draw just one array to show both multiplications.

Example $4 \times 5 = 5 \times 4$





My array shows 3 x 6 and 6 x 3

Is this true or false?



2True. My array shows 3×6 and 6×3



Remember that we can count the rows to find the first multiplication and the columns to find the second one.

Explore



What arrays can you see in these pictures? Can you write a pair of multiplication sentences that go with each picture.

Arrays are all around us.



Explore

 $4 \times 4 = 16$



Why have I only written one multiplication sentence for the doughnuts? Talk to your grown up.



3 x 5 = 15 5 x 3 = 15

Independent Practice



EVERYDAY ARRAYS



Example The egg box array shows $6 \times 2 = 12$ $2 \times 6 = 12$

What to do:

Go on an adventure for real world arrays! Hunt for arrays in your home. For example, open a box of crayons and take a peek inside - you'll find an array! Pull out a calculator – you'll find an array!

Remember, you CAN'T make your array out of something!!! It has to be an array you just happen to come across.

Take a picture of your array – or draw and label it. Record the multiplication sentence to match your array. Can you record it in a different way? I'd love to see what you find, so please send examples of your work to me at our class e-mail address.

Now try this....

Things you will need: • counters • pencil and paper



What to do:

On Monday, Mrs. Multiple, the baker, made 12 cup cakes.

Rather than straight lines like this, she likes to arrange them in rectangles or arrays. How could she do it? Use counters to help you explore the arrays you can make with 12 cakes. Draw or write down what you discover. On Tuesday, Mrs. Multiple made 15 cakes, how could she arrange them in an array? It's a larger number of cakes, so do you think there will be more or fewer ways to arrange them than with Monday's 12 cakes?

On Wednesday, Mrs. Multiple baked 19 cakes! Can she place these in one or more arrays?

Challenge

Find which number of cakes from 10 to 20 can be arranged in the most ways. Which do you think it might be?





Fancy a challenge?

Do you agree or disagree with each child? Why?

Use arrays to explain your answers.



Do you agree or disagree? Why?



Fran has used arrays to represent a times table.



Which times table has Fran represented? Write the calculations to match these three arrays.

How many oranges would be in the sixth array? Write the calculation to match the tenth array.



Revision

32 + 66= 98 78 - 45 = 33 43 + 57 = 100 10 - 6 = 4 so 80 - 6 = 74





Is Jerry correct? Explain your reasoning!

Yes 15 less than 45 is 30 45 - 15 = 30



I don't think Mrs Multiply would like the 🕅 straight lines. Do you?

James is correct, as multiplication can be done in any order. Both calculations would have an answer of 30.

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Amira is right. $2 \times 2 = 4$ and 2 + 2 = 4. An array for 2×2 would be two rows of two, which is the same as 2 + 2.



4 x 3

The arrays represent the IO times table.
10 × 1 = 10
$10 \times 2 = 20$
$10 \times 3 = 30$
The sixth array would represent $10 \times 6 = 60$ so there would be 60 oranges.
The calculation for the tenth array would be $10 \times 10 = 100$.