

Year 2 Maths Activities - Week Beginning 18.1.21

For the next few weeks, children will be learning about Multiplication and Division.

You'll notice that as part of the daily activities we are signposting you to videos intended to support your child's learning.

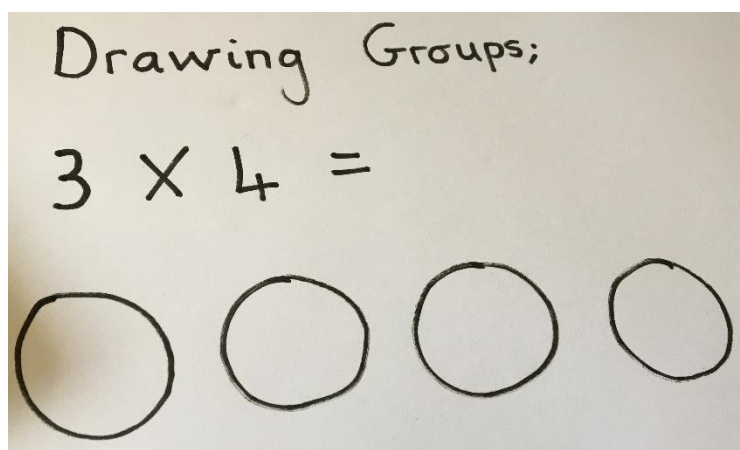
This week's sessions will take the form of the following:

- A main teaching video (created by dedicated maths specialists).
- A daily activity (uploaded to the year 2 page). These are to be completed at certain points during the videos; please be ready to pause the videos to allow your child to complete the tasks. Your child may need each question reading to them.
- There are some extra challenges for your child to try if they are confident with the daily activity.

Before introducing the activities, please look at how we teach Multiplication and Division in year 2 as we will be referring to these methods over the coming weeks.

Multiplication

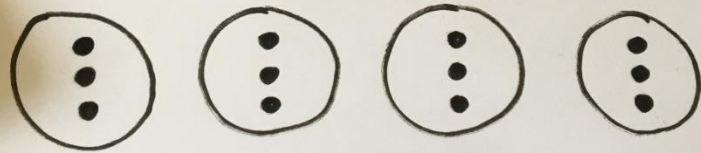
- The first thing that children learn about multiplication is that it can be done in any order and that it is the same as **repeated addition**.
- So 3×4 is the same as 4×3 , which is also the same as $3 + 3 + 3 + 3$, and this is also the same as $4 + 4 + 4$.
- We teach children that if they see a multiplication question that they don't know the answer to, they can either draw groups, or they can do an array.



Step 1 - Draw your groups.
In this example, children could draw 3 groups or 4 groups. Technically, it is 4 because 3×4 means 'three, four times', but children also learn that multiplication is commutative (it can be done in any order and you will get the same answer).

Drawing Groups;

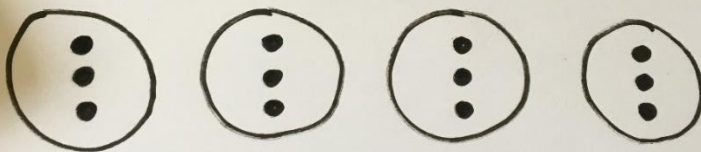
$$3 \times 4 =$$



Step 2 - One of the numbers in the number sentence tells us how many groups to draw, the other number tells us how many 'things' to put in each group.

Drawing Groups;

$$3 \times 4 = 12$$



Step 3 - Count how many 'things' you have altogether and write the answer.

The other way to do this is to **draw an array**. The easiest way to think of an array is like an egg box. You might have an egg box that holds 12 eggs and it is set out in 2 rows of 6. This shows us that $2 \times 6 = 12$.

Benefits of using arrays: Arrays are clear to see when children draw neat rows so children are less likely to miscount them. Drawing groups looks very similar to what we do for division, whereas an array looks different and children are less likely to mix up the two operations.

Drawing an array;

$$3 \times 4 =$$



OR



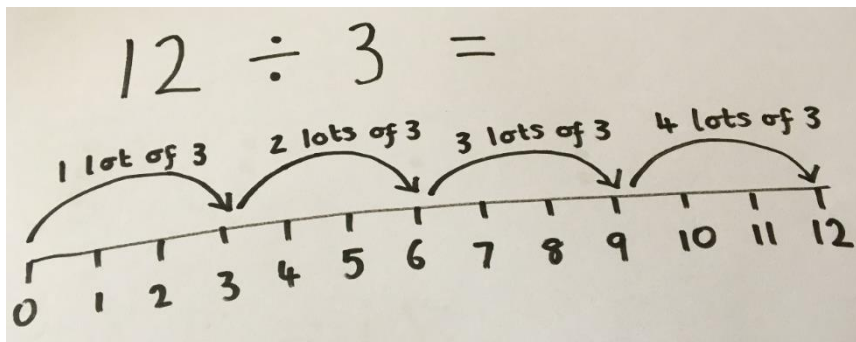
It doesn't matter if you do 3 rows of 4 or 4 rows of 3, you will still get the same answer.

- These are the methods we use when children don't know the answer, but that is not the end of the story...

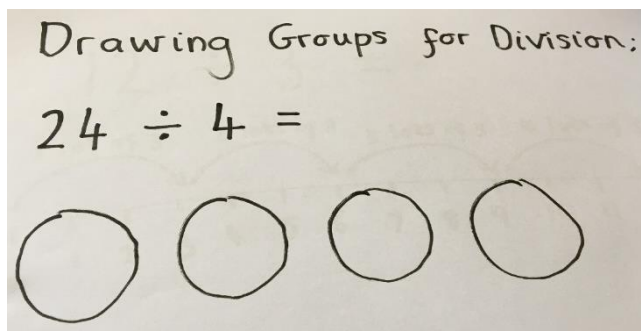
Children might use the above methods for something like 4×6 , because we don't teach the 4 or 6 times tables in Year 2. However, we do teach the 2, 5, 10 and 3 times tables. Children should work mentally whenever possible and **only use written methods if they cannot do something mentally**. In other words, **they should use their times tables as a first resort**. They might automatically know that $3 \times 4 = 12$ (if they know their tables off by heart), or they might be able to count in 3's (3, 6, 9, 12) to find the answer. If we don't make it clear that the children should use what they already know, children will try to do 10×10 by drawing groups. This wouldn't be an efficient way to calculate and they could end up getting the wrong answer because they don't count accurately. **They need to start to see what the most efficient and reliable strategy would be**. When children are able to make decisions like these, it is part of what we call '**mathematical fluency**'.

Division

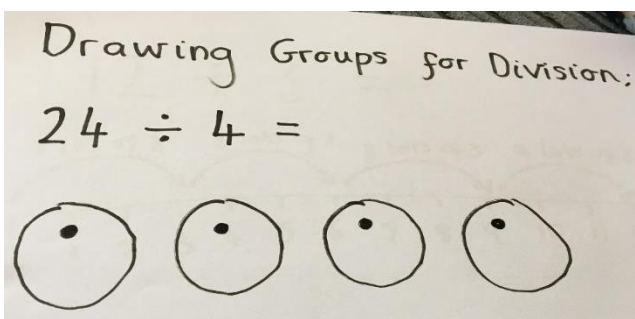
- Like with Multiplication, children should use their Times Tables where they are able to. They begin by seeing division as 'sharing' into equal groups, but they should now also start to see the link between multiplication and division. They are 'inverse operations', so to do $12 \div 3$, they should be able to count in 3s until they get to 12 and then see that they counted 4 times, it took 4 lots of 3 to get to 12. They may just know this as a number fact, or they may be able to do it mentally. Alternatively, it helps some children to see it drawn on a number line, like this;



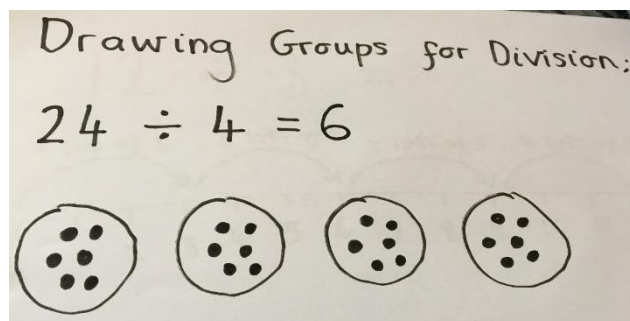
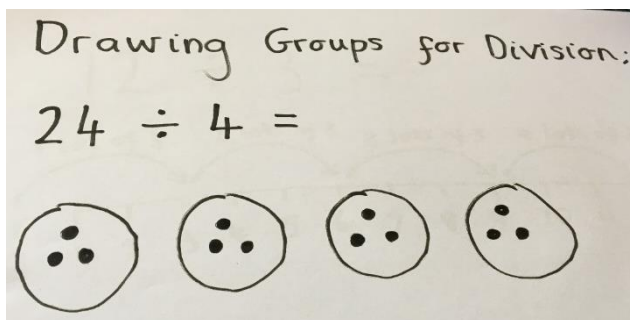
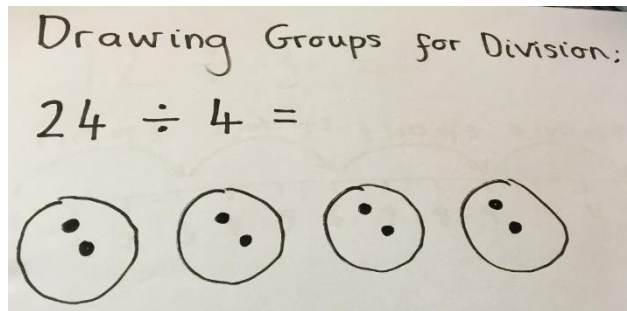
- So what should we do if we don't know the times table fact or if we cannot do it in our head? Well, in that case, we draw groups;



Step 1 - Draw your groups. The number of groups you need to draw will be the smaller number in the number sentence and the larger number is how many 'things' we need to share amongst them.



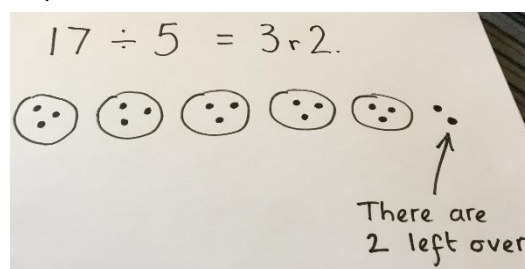
Step 2 - Share the larger number amongst the groups systematically. Draw one in the first group and say 'one', then draw the second one in the next group and say 'two', the third in the next group and say 'three' etc. When you have put one in each group, go back to the first group and start again. Keep going in this way, counting the whole time until you get to the larger number (in this case 24).



Step 3 - Once you have shared the bigger number equally between your groups, count how many 'things' are in each group and that is the answer.

If children are working at a Greater Depth, they are also required to understand about remainders. They can do this in a couple of ways:

- Firstly, if they draw groups, they should see that the groups are not equal and they have some 'left over' that will not share exactly.



- Alternatively, they might be able to use their Times Tables. So in the above example, they may know that 17 does not occur in the Five Times Table, but 15 does. If it was 15, there would be 3 in each group and then 17 is 2 more than 15, so there will be 2 left over.

Activity 1	Objective: To recognise equal groups Activity video: https://vimeo.com/488106597 Task: Activity 1 (attached on the year 2 page) Extra challenge: <table><tr><td>Work out the answers to the following;</td><td>Try doing some with the equals sign at the beginning. Remember that = just means 'the same as' or 'equal to', so we can put it at the beginning of our number sentence, but the answer will be the same.</td><td>Try answering some of these missing number questions.</td></tr><tr><td>4 X 2 = 3 X 6 = 7 X 4 = 5 X 8 = 3 X 6 = 7 X 5 = 3 X 8 = 9 X 4 = 7 X 10 =</td><td>? = 2 X 8 ? = 5 X 3 ? = 5 X 4 ? = 5 X 2 ? = 3 X 6 ? = 3 X 7 ? = 8 X 5 ? = 2 X 9 ? = 10 X 4</td><td>6 X ? = 12 ? X 3 = 21 ? X 6 = 24 5 X ? = 20 6 X ? = 30 ? X 3 = 18 ? X 3 = 27 ? X 5 = 50</td></tr></table>	Work out the answers to the following;	Try doing some with the equals sign at the beginning. Remember that = just means 'the same as' or 'equal to', so we can put it at the beginning of our number sentence, but the answer will be the same.	Try answering some of these missing number questions.	4 X 2 = 3 X 6 = 7 X 4 = 5 X 8 = 3 X 6 = 7 X 5 = 3 X 8 = 9 X 4 = 7 X 10 =	? = 2 X 8 ? = 5 X 3 ? = 5 X 4 ? = 5 X 2 ? = 3 X 6 ? = 3 X 7 ? = 8 X 5 ? = 2 X 9 ? = 10 X 4	6 X ? = 12 ? X 3 = 21 ? X 6 = 24 5 X ? = 20 6 X ? = 30 ? X 3 = 18 ? X 3 = 27 ? X 5 = 50
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Activity 2	Objective: To make equal groups Activity video: https://vimeo.com/488108584 Task: Activity 2 (attached on the year 2 page) Extra challenge: If you have dice, let your child create bigger number sentences e.g. roll 12, then roll 2. This becomes 12 x 2 Ask them to investigate the inverse number sentence: do you get to the same answer?						

Activity 3	Objective: To add equal groups Activity video: https://vimeo.com/488110327 Task: Activity 3 (attached on the year 2 page) Extra challenge: Multiples of 2 5 and 10 Word Problems Multiples of 10 There are 10 sweets in a packet. I have bought 17 packets. How many sweets do I have?  Multiples of 2 5 and 10 Word Problems Multiples of 2 There are 12 sausages in one packet. How many sausages are in two packets?  Multiples of 2 5 and 10 Word Problems Multiples of 5 Football stickers are sold in packets of five. I want to buy one sticker for each child in the class. If there are 30 children, how many packets do I need to buy?  Multiples of 2 5 and 10 Word Problems Multiples of 2 Miss Casha has 34 pairs of shoes. How many shoes are there altogether? 
Activity 4	Objective: To multiply using the x symbol Activity video: https://vimeo.com/488111269 Task: Activity 4 (attached on the year 2 page) Extra challenge:

	Multiples of 2 5 and 10 Word Problems Owen had a birthday party and invited 10 friends. He wants to put two blowers in each party bag. How many whistles does he need?  Multiples of 10 Multiples of 2 5 and 10 Word Problems There are 30 children in 3C. Mrs Roberts has to mark each child's numeracy and science books tonight! How many books does she have to mark?  Multiples of 2 Multiples of 2 5 and 10 Word Problems Chris spends 70p on 10 party bags. How much does each bag cost?  Multiples of 10 Multiples of 2 5 and 10 Word Problems In year 2, there are 70 boys in two classes. How many would be in each year 2 class?  Multiples of 2
Activity 5	Objective: To solve multiplication sentences using pictures Activity video: https://vimeo.com/488113679 Task: Activity 5 (attached on the year 2 page) Extra challenge: Multiples of 2 5 and 10 Word Problems Mr Blavoet wants to separate his class into groups of 5. There are 30 children in his class. How many groups would he need?  Multiples of 5 Multiples of 2 5 and 10 Word Problems Miss Fraser has 34 children in her class. She wants enough laptops for children to work in pairs. How many laptops does she need?  Multiples of 2 Multiples of 2 5 and 10 Word Problems A glove has space for five fingers. How many finger spaces are in 14 gloves?  Multiples of 5 Multiples of 2 5 and 10 Word Problems A car seats 5 passengers. How many cars would you need to take 25 people to the shops?  Multiples of 5