Multiplication Tables

Which multiplication tables are taught when?

How can we support children to learn their multiplication tables?

Autumn 2022

Which year groups will learn which multiplication tables?

Year Group	National Curriculum Expectations	St Gabriel Primary School's expectation that children are taught and can recall the following tables by the end of the academic year:
Reception	Pupils count in ones up to 20. Pupils state one more and one less. Pupils solve problems including doubling. Pupils exceeding the Early Learning Goal will Solve practical problems that involve combining groups of 2, 5 or 10, or sharing into equal groups and halving	Counting in 1s and understand the concept of doubling. Exceeding pupils will work on practical exploration of groups of 2s, 5s and 10s.
Year 1	N/A	1, 2, 5 and 10. Introduced once the concept of multiplication as 'lots of' is secure through use of a range of equipment and a range of pictures/representations.
Year 2	2, 3, 5 and 10.	2, 3, 5 and 10.
Year 3	Previously taught tables plus 3, 4, 8 Also count in multiples of 50 and 100. Know related division facts. 6, 7 and 11's may be introduced (teacher assessment)	2, 3, 4, 5, 6, 7, 8, 10, 11
Year 4	Previously taught tables plus 6, 7, 9, 11, 12 Also count in multiples of 25 and 1000. Know both multiplication and division facts up to 12x12	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Year 5 and 6	Children should know all of their multiplication tables by the end of Year 4. In years 5 and 6, speed of recall and confidence when applying these facts is developed. For example, how swiftly can pupils use their knowledge of 7 x 4 = 28 to state that 70 x 40 = 2800 etc.	

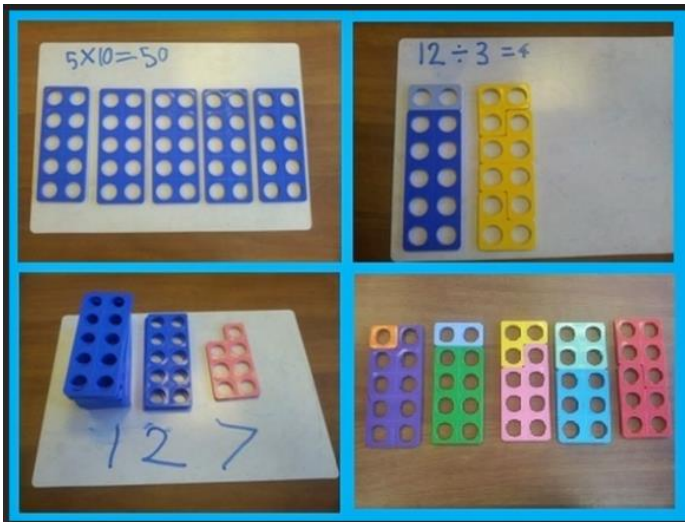
As of academic year 2019/2020, Year 4 pupils must take a statutory multiplication check. This is completed online. Children have to answer 25 multiplication questions and are given 6 seconds per question to recall the answer and type it into a laptop or tablet device.

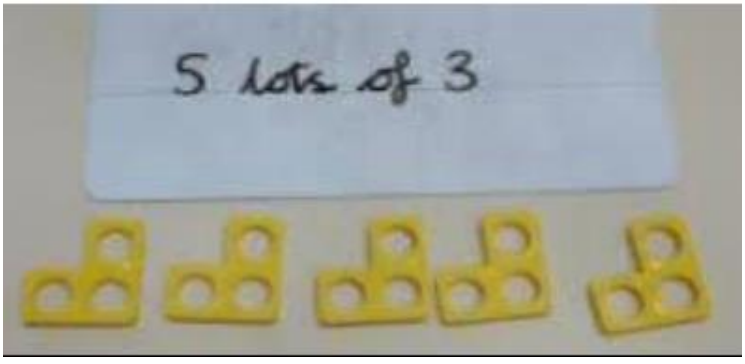
Ways to understand, learn and recall multiplication tables…

This booklet contains many ways to explore multiplication tables. It is important that children understand the concept of multiplication first. It is then important to recognise that everyone learns differently; some people will recall their tables facts best from simply chanting them every day, others will learn best from drawing them, other people will require a physical activity in order to process and recall them

Multiplication Tables using numicon…

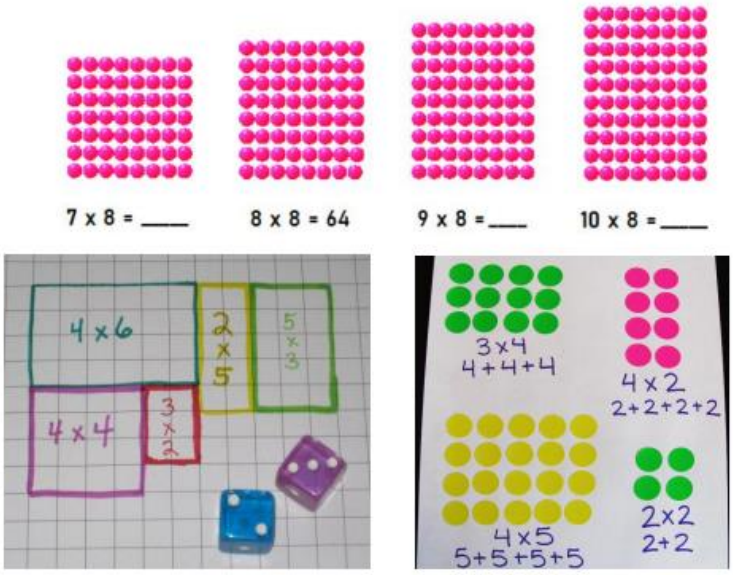
Numicon is a highly versatile set of equipment that is extremely useful when teaching children the concept of multiplication tables. If you ask a child to calculate 5 x 10 or find out what 5 lots of 10 is, they can select 5 of the pieces which have 10 holes. They can count the holes to find the final answer. They can also explore how 10 of the pieces with 5 holes provides the same answer. Numicon also helps pupils to understand that multiplication is the same as repeated addition (5 x 3 = 5 + 5 + 5 = 3 + 3 + 3 + 3 + 3





Arrays

Drawing arrays is a really clear way to understand what is happening to numbers when we multiply them. If given the question, 7x8. Children can draw a grid which is 7 dots or squares by 8 dots or squares and count the total. They can practice counting each row or column in 7s or 8s and also explore how it does not matter whether the row of 7s is along the bottom or up the side, the answer will still be the same.

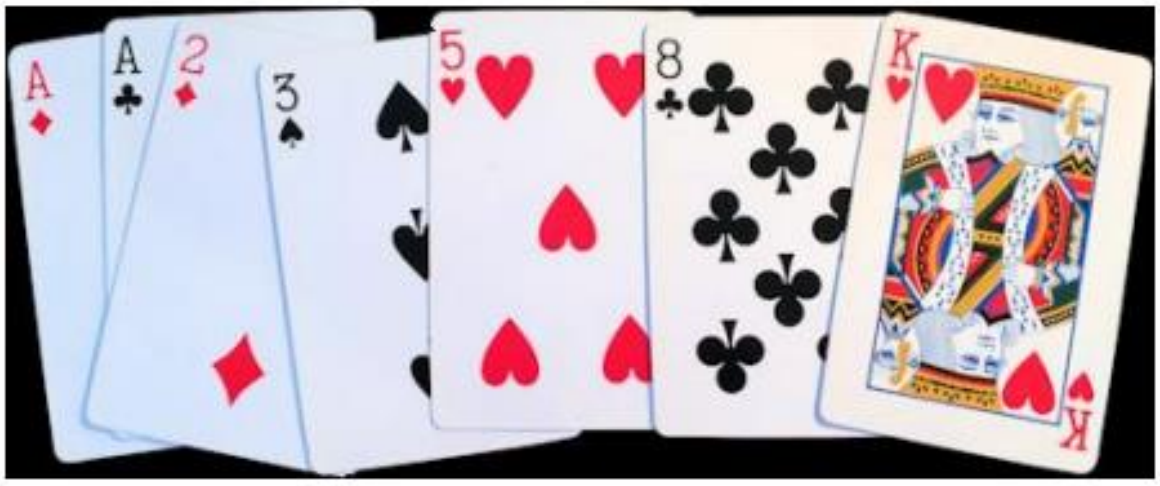


Arrays can be found outside of the classroom, too!

You can also roll a pair of dice and draw an array to match the numbers rolled. E.g. If you roll a 3 and a 5, draw a 3x5 array, write the calculation and the division facts related to it too!

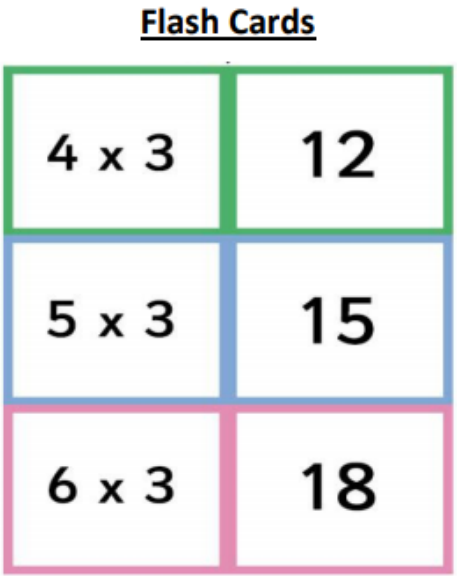
Card Games

Most people process numbers better when they are represented visually. Dice and cards are extremely effective in improving pupil's understanding of number. Here is a card game to play to increase mental calculation of times tables…



Shuffle the cards and place them into two equal piles in front of two players who are sat next to each other. At exactly the same time the players each turn over a card and place them where both players can see both cards. The first person to mentally multiply the numbers on the cards together and call out the answer, wins the cards. The overall winner is the person with the most cards at the end of the game. Adapt how you wish. E.g. Remove the picture cards or assign them the numbers 11 and 12.

Flash Cards



Create or buy cards that have a times tables question on one side and the answer on the other. Play 'quick fire' by holding up the card showing the question and the child states the answer on the back.

It is best to include related division facts too so that pupils see multiplication and division facts as related to each other and equally valuable to recall.

You could also adapt the cards so that there is a multiplication fact on one side and a related division fact on the other side.

BINGO!

Quickest way to play is to get children to turn a mini whiteboard into 6 sections. They pick numbers at random to go in each box.

You call out times tables questions using a wide variety of language. E.g. What is the product of 5 and 6? Ten squared? 3 lots of 4? 64 divided by 8?

They cross out any answers that match and call bingo when they have crossed them all off.

Physical Times tables - Get dancing!

Do the moves to the popular 1990s Macarena dance whilst chanting. E.g. Put your left arm out and say 2, put your right arm out and say 4, turn your left hand over and say 5 and so on…

Support less confident children by having a list of the focus times-table on the board or on a poster or piece of paper. When confidence is increased, take it away so that they can do it from memory.

Beanbags

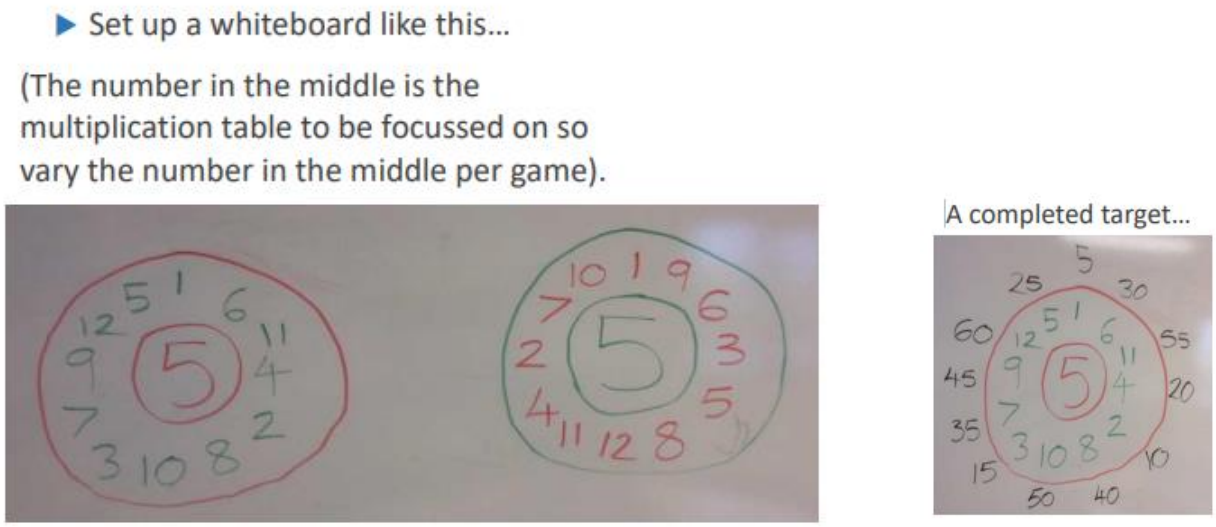
Children sit or stand in a circle or sit around a table. They gently throw the beanbag around the group.

When they are holding the beanbag, they say the next number in the times table.

Increase difficulty by saying 'ascending' to get them to recall in increasing order. At a random point, call 'descending' and they have to reverse the times table, recalling it backwards, in decreasing order.

Race to the target competition!

Set up a whiteboard like this… (The number in the middle is the multiplication table to be focussed on so vary the number in the middle per game). A completed target… stand behind a cone or designated point.



The child at the front of the line runs to the target and chooses a space to complete then runs back and hands the whiteboard pen the to next person on their team. υ All teams take part at the same time.

When their target is complete and they believe the numbers are correct and written clearly. The first team to sit down with a correctly completed target, wins!

Split children into teams and get them to stand behind a cone or designated point. υ The child at the front of the line runs to the target and chooses a space to complete then runs back and hands the whiteboard pen to the next person on their team. υ All teams take part at the same time.

When their target is complete and they believe the numbers are correct and written clearly - the first team to sit down with a correctly completed target, wins.

Numicon elimination game

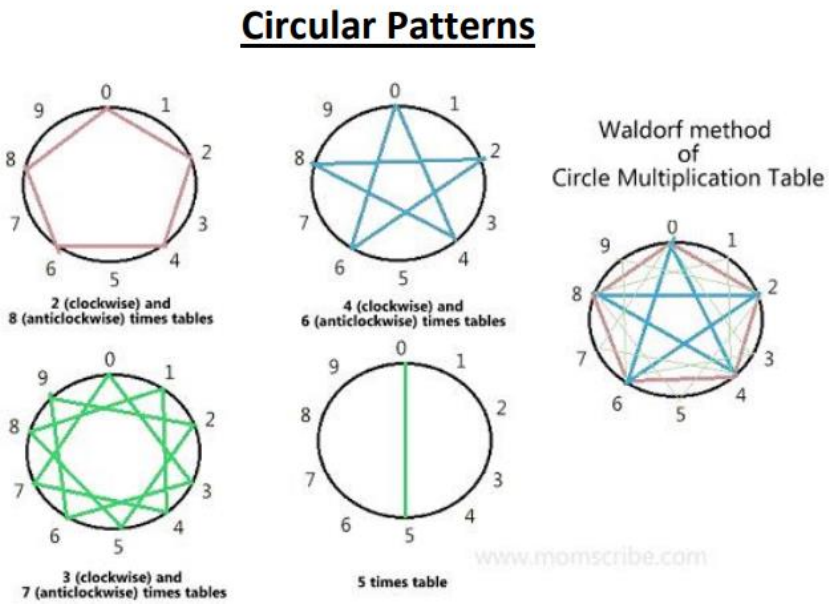
Lay out some Numicon pieces either on a table to roughly make a square. If you have the white base piece, use this or use the Numicon lid as a base.

A player rolls a pair of dice. If 2 and 6 were rolled, they multiply 2 and 6. The answer is 12 so they must remove Numicon pieces totalling exactly 12 (e.g. a ten piece and a two piece or three of the four pieces etc).

Then the next player rolls and has a go. Continue.

The winner is the player who takes the final piece.

Circular Patterns



Equally place numbers 0-9 in order around a circle.

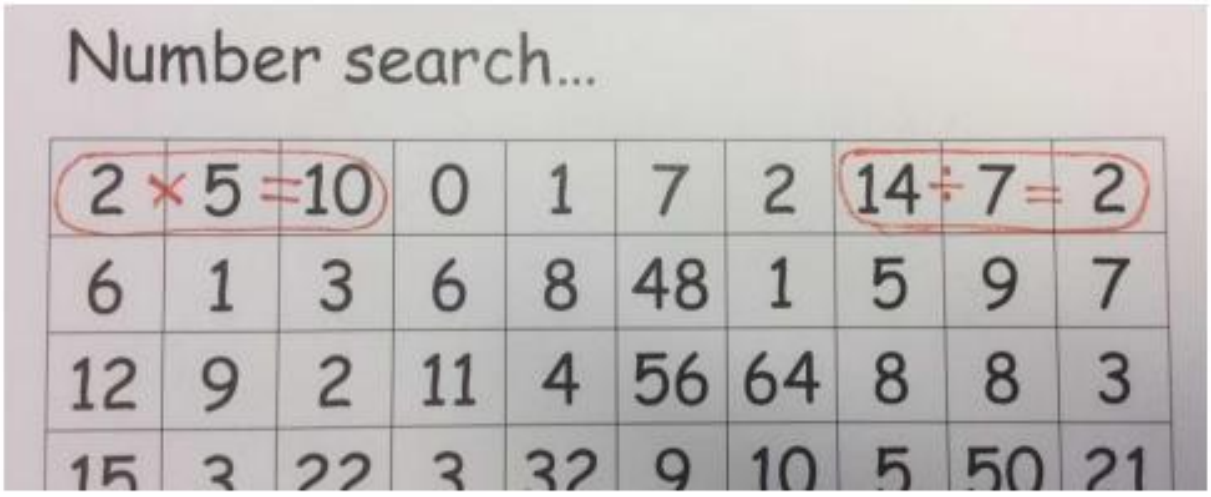
Children are given a ruler and a times table to focus on.

If given the two times table, they would draw a line from 0-2 then 2-4 then 4-6. When answers reach two-digits, only use the ones digit (e.g. if you need to record 12, just link to the 2).

Children work clockwise for one multiplication table and anti-clockwise for another to create a layered pattern.

Numbers calculation search…

Like a word search, fill a blank grid of squares with random numbers then try and spot opportunities to place an operation symbol and the equal symbol to create a correct calculation.



Multiplication and division grids

Once children can complete a times tables grid, they can time themselves and beat their own time score each time.

Once they can do a regular grid, try grids where the numbers are placed in a different order or they are expected to divide instead of multiply.

X	5	4	12	1	11	3	6	10	2	9	7	8
4												
11												
3												
1												
9												
6												
2												
8												
7												
10												
5												
12												

Division Grid

1.

÷	4	5	8	3	2
36					
25					
48					
10					
18					

2.

÷	2	6	5	9	12
84					
28					
50					
81					
36					

Use technology…

There are many songs on youtube which help children to learn their times tables.

There are many apps which help children to practice their tables.