How long should I spend on each brick?
We expect most children to work on each wall for about one year as the emphasis is on the facts being very secure in your child's mind so they can recall them rapidly.

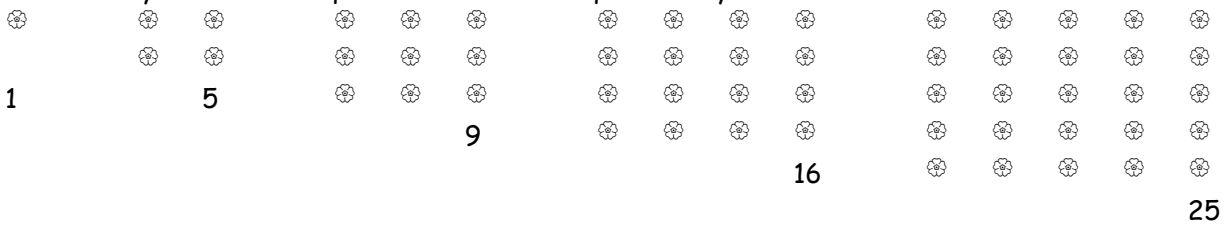
Frequently Asked Questions

Which brick should I start with?
Your child's teacher will let you know the bricks that will be particularly helpful to start with. However you know your child and may choose to start with an area of maths they enjoy. A positive attitude to maths is essential

Squares

A square number, sometimes also called a **perfect square**, is a whole number that can be written as the square of another whole number. e.g. 64 is a square number, because it is the square of 8 , 8x8 = 64

- The first ten square numbers are -
  1, 4, 9, 16, 25, 36, 49, 64, 81, 100 ...
- Each is the result of multiplying a number by itself -
  1 x 1, 2 x 2, 3 x 3, 4 x 4, 5 x 5.
- As you can see a square number has a square array.



- Multiplying a number by itself can be written using ^{2} -
  1^2, 2^2, 3^2, 4^2, 5^2 ...
  - where the small ^{2}means 'squared'.
- The square of 7 is 49, and working backwards, we say the square root of 49 is 7.

Make learning about square numbers fun

- Ask your child to draw the arrays for the first ten square numbers. Or they could use stickers
- Ask your child to investigate what happens if you subtract a square number from the next square number (you get the odd numbers 3, 5, 7, 9 ...)

And Finally!!!

Make Maths FUN!

Play Bingo.
Each player chooses five answers.
Ask a question that is about the facts your child is learning
If a player has the answer, they can cross it off.
The winner is the first player to cross off all their answers.

Name :

Helping your child with maths

Date started:-

VIOLET WALL

Date completed:-

The maths work your child is doing at school may look very different to the kind of 'sums' you remember. This is because children are encouraged to work mentally, where possible, using personal jottings to help support their thinking. **One thing hasn't changed; children still need to have a secure understanding of essential facts such as times tables**.

You can help your child do well and enjoy maths by helping them learn these facts.

You can see which facts your child needs to learn by looking at page 2 of this booklet. This shows two walls. The first is made up of statements about the facts your child needs to learn. On the second wall each corresponding brick contains examples to help you understand what we expect children to be able to do.

When you or your child's teachers think they have secure understanding of the facts needed for one brick that brick should then be shaded in using the wall colour. This will show your children how well they are doing; it is always a great feeling to know you have learnt something!

Violet Wall

Find the prime factors of two digit numbers	Know divisibility tests for exact multiples of 8 and 9	Know divisibility tests for exact multiples of 3, 4 and 6
Remember quickly all the multiplication and division facts up to 10 x 10	Identify prime numbers less than 100	Know squares of numbers up to 12x12
Know divisibility tests for exact multiples of 100, 10, 5 and 2	Use place value to quickly work out sums and differences of pairs of multiples of 10, 100 or 1000 and decimals	

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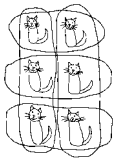
Violet Wall Examples

The prime factors of 20 are 2and 5 . To express 20 as a product of its prime factors 2x 2 x5 . The prime factors of 6 are 2 and 3 See the glossary opposite for further support	In exact multiples of: 8 the last 3 digits are divisible by 8; *(this is a less useful divisibility test as it requires a very good level of flexibility with applying the facts from the 8 times table e.g 472 is divisible by 8 because 8x50=400* *9x8=72)* **9 the sum of the digits is divisible by 9.** **e.g. 9234⇨ 9+2+3+4** **9+2+3+4= 18** **18 is divisible by 9** **So 9234 is divisible by 9**	In exact multiples of: **3 the sum of the digits is divisible by 3; e.g. 42⇨4+2** **4+2= 6** **6 is divisible by 3** **So 42 is divisible by 3** ***(3x 14=42 42÷3=14)*** **4** the last two digits are divisible by 4; *e.g. 2124* *24÷4=6* *So 2124 is divisible by 4* *(531x4=2124, 2124÷4=531)* **6** the number is even **and** divisible by 3;
Remember quickly all the multiplication and division facts up to 10 x 10	2, 3, 5, 7, 11, 13, 17. 19,23, 29, 31, 37, 41, See the glossary opposite for further support	4, 9, 16. 25 , 36, 49, 64, 81, 100, 121, 144. See the glossary and back page for further support
In exact multiples of: 100 the last two digits are 00; 10 the last digit is 0; 5 the last digit is 0 or 5; 2 the last digit is 0, 2, 4, 6 or 8;	If 2 add 3 equals 5 then 20 add 30 equals 50 If 7 add 9 equals 16 then 700 add 900 equals 1600.	

Glossary

Array :



This way of drawing a multiplication/ division in rows and columns is called an **array**

Complement: A way of describing the missing number of number pairs that make a certain total.
e.g. For the total 100 the complement to 35 is 65, For the total 20 the complement to 18 is 2

Difference: The difference between two numbers is the distance between them.
e.g. 2007-1999= 8 , *The difference between 1999 and 2007 equals 8*

Divisible By: If you divide one number by another the result is a whole number e.g. 14 is divisible by 7, because 14÷7 = 2 **exactly,** but 15 is **not** divisible by 7, because 15÷7 = **2 $^{1}/_{7}$** (i.e. the result is **not** a whole number).

Divisibility Tests: These rules let you test if one number can be evenly divided by another, without having to do too much calculation

Factors: The factors of a number are those that the number can be divided by to give a whole number answer. Another, perhaps easier way to think of them is as the pairs of numbers that can be multiplied to give the number

e.g The factors of 20 are 20, 1 (20x1=20)
2, 10 (10x2=20)
4, 5 (5x4=20)

Multiples: 10, 20, 30, 40, 50, 60, and 70 are multiples of ten as they can be divided exactly by ten.

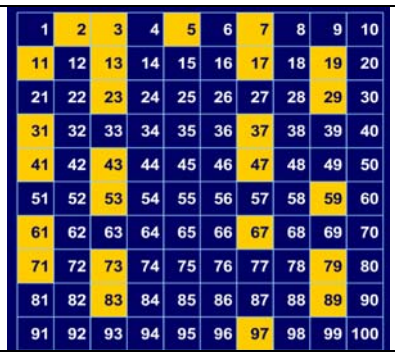
Place Value: We use ten digits to record all our numbers, 0,1,2,3,4,5,6,7,8,9.The value of each digit depends on its place in a number. As a digit moves to the left it becomes ten times bigger.

				0 •	2	Two tenths
				2		Two
			2	0		Two tens
		2	0	0		Two hundred
	2	0	0	0		Two Thousands
2	0	0	0	0		Two lots of ten thousand

Product: the answer to a multiplication. *The product of 6 and 4 is 24*

Prime Factors: A factor tree can be used to help find the prime factors of a number. The tree is constructed for a particular number by looking for pairs of values which multiply together to give that number.

Prime Numbers:

	The prime numbers are those whose only factors are the number and 1. An easy way to find the prime numbers less than 100 is to draw a 1-100grid and colour in all the multiples of 2, 3, 5, 7, and 9 except the first multiple of these numbers. The unshaded numbers are the prime numbers. Because the shaded numbers are in a multiplication table you know that they must have a factor other than one or themselves so cannot be prime.

Square: the **square** of a number is that number multiplied by itself. e.g. 8x8. = 64 .The square is 64