

Ensuring all pupils develop
secure
**mathematical foundations
and fluency.**



**PARENTS
WORKSHOP
2026**

- If you have questions please write them down.*
- At the end of session if I have not answered your questions please ask.*

Why do we learn Maths?

- Always draw out real life links to Maths around your home
- Talk about how you use Maths in your job!
- Point out that their dream job involves Maths!
- Be positive about Maths!

Fixed vs Growth Mindset - Carol Dweck

We believe that **everyone** can get better at maths...when they put in the **effort** and work at it.

Do not praise children for being clever when they succeed at something, but instead praise them for **working hard**.

Children learn to associate **achievement with effort** (which is something they can influence themselves – by working hard), not 'cleverness' (a trait perceived as absolute and that they cannot change).

In today's workshop, we will look at:

- Look at the updated Calculation Policy
- Look at what are the most important facts to help with overall fluency
- Discuss the importance of Maths Fluency
- Look at what are the most important maths facts to help with overall fluency in KS2
- Share some games and ideas we can use at home to re-inforce these skills
- Share some resources that we use in school
- Share some online resources that you can use at home

Our Maths Curriculum

- We follow White Rose Maths Scheme for learning
- Calculation Policy is on the school's website

<https://camp.herts.sch.uk/>

Primary maths

Calculation policy

Updated September 2024

https://drive.google.com/file/d/1OXFARkMKQcYli5naNETBwS_6Q-BBCYZX/view?usp=sharing

Calculation Methods

- The maths work that your child is doing in school may look different to the kind of 'sums' you remember.
- Many parents express concerns about helping at home and showing 'wrong' methods to their children.
- Our Calculation Policy outlines how maths is taught from Reception through to Year 6 (on our website)

There are 3 main strands in the Maths National Curriculum

- Fluency
 - Reasoning
 - Problem solving
- Our lessons aim to involve all 3 skills every day. In order to be able to do quick reasoning and problem solving you need fluency with numbers.

Maths Fluency is the foundation of success. What is Maths Fluency?

Maths fluency, as viewed by OFSTED, is the ability to solve mathematical problems accurately, efficiently, and flexibly.

It requires a deep understanding of number sense (conceptual fluency) and the procedures to use for calculations (procedural fluency).

This means pupils can not only recall facts but also understand the "why" behind the methods and choose **the most appropriate strategy** for different problems.

Conceptual fluency is the cognitive ability to understand complex ideas with ease, make connections between concepts, and mentally shift between different levels of understanding. It's the ease with which one can process information related to a concept and grasp its meaning, often contrasted with [procedural fluency](#). (Daily Maths lesson)

Procedural fluency is the ability to perform a procedure correctly without necessarily understanding the "why" behind it. Conceptual fluency allows for greater flexibility in problem-solving because it is rooted in understanding, not just memorization. (15 Minute number fact fluency)

- ***Synergy:*** Ideally, **both** are needed. Conceptual understanding makes it easier to remember procedures and apply them flexibly to new situations. For example, understanding place value (**conceptual**) makes it faster to count a large pile of cubes by grouping them in tens (**procedural**).

Number (KS1) ,multiplication and division (KS2)fluency is getting an answer pretty quickly and with limited demands on '**working memory**'. **(3 seconds)**

It is also about:

- **knowing facts** and how they **relate** to each other (e.g. $4 \times 5 = 20$ so $5 \times 4 = 20$ or $4000 \times 50 = 200000$)
- **understanding the meaning of operations** and how they relate to each other $4 \times 5 = 20$ so $20 = 4 \times 5$ or $5 = 20$ divided by 4.)

Multiplication and division fluency is **not a fixed ability**: it can grow and develop through frequent opportunities to practise effective strategies. (start from any age)

Why should we focus on **multiplication and division fluency**?

- Although according to the National Curriculum pupils in Year 3 and 4 (5 & 6) should 'memorise and reason with all multiplications and divisions in several forms (for example, $2 \times 3 = 6$, $6 = 2 \times 3$ so $200 \times 3 = 600$, $300 = 6000$ divided by 20) many children do not become fluent in these facts, which can hinder their progress in Key Stage 2 and beyond.

(Research) Interestingly when "conferenced," most adults *derive* facts like $8+9$ using a quick strategy (like $8+8+1$ or $8+2+7$). So *strategies* to calculate facts quickly need to be taught.

- **Our Goal** = An answer in 3 seconds or less for **most typically** age related and above children.

This can be a:

- **"Known Fact"** (e.g., "just knowing" $4 \times 5 = 20$)
- **"Derived Fact Strategy"** (e.g. *quickly* solving $4000 \times 5 = 2000$)

5 Key Reasons (Research)

1. **Reduces Cognitive Load:** Frees up working memory to focus on complex, multi-step problems, not basic calculation.
2. **Improves Efficiency & Avoids "Bad Habits":** Moves students away from slow "counting based approaches," which are "less efficient" and "associated with lower attainment".
3. **Builds Student Confidence:** As we build this routine, we will find that "children really enjoy... the confidence they get from having these building blocks in place".
4. **Develops True Number Sense:** It's not just speed! It's seeing patterns. A fluent child can see $6+9$ as $(2 \times 3) + (3 \times 3)$, which is 5 groups of 3, or 15.
5. **It's a "Must-Do," Not a "Maybe":** Children "don't magically become fluent". We must "explicitly [teach] them to solve" these facts by teaching strategies

A Note on Expectations

- *Mastering all facts takes time and this is for the 'typical student.'*
- *This is a whole-school, multi-year commitment.*
- *Research findings :*
 - Higher attainers in mathematics tend to use **known facts or derived fact strategies** whereas lower attainers use counting on approaches
 - The **teaching of strategies** is more effective in securing number fluency than taking a rote memorisation approach.
 - Children will have more success if the strategies are taught through a **few key resources**.
 - If children can commit key facts to long term memory, then working memory is freed to deeper and more complex learning.

Teach Strategies First, Then Practice for Speed.

We will take a "structured and systematic approach **similar to phonics**".

adding and subtracting fractions

$$\frac{2}{3} + \frac{4}{5} = \frac{10}{15} + \frac{12}{15} = \frac{22}{15}$$

$$\frac{10}{15} + \frac{12}{15} = \frac{22}{15}$$

comparing and ordering fractions

$$\frac{2}{3} \times \frac{4}{5} = \frac{8}{15}$$

$$\frac{10}{15} \ominus \frac{12}{15} = \frac{-2}{15}$$

finding equivalent fractions

simplifying fractions



$$\frac{6}{9} \div 3 = \frac{2}{3}$$

using known facts

If $3 \times 2 = 6$ then...
 $30 \times 2 = 60$
 $3,000 \times 2 = 6,000$
 $0.3 \times 2 = 0.6$
 $600 \div 2 = 300$

short division

	1	2	5
5	6	2	5
		1	2

short and long multiplication

	4	3	4
x			7
3	0	3	8
	2	2	

	4	3	6
x		2	3
	1	3	0
	8	7	2
1	0	0	2

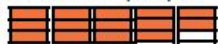
multiplying pairs of fractions

$$\frac{3}{5} \times \frac{2}{3} = \frac{6}{15}$$

dividing fractions by whole numbers

$$\frac{3}{5} \div 4 = \frac{3}{20}$$

converting between mixed numbers and improper fractions



$$\frac{14}{3} = 4\frac{2}{3}$$

factors and common factors

24	32
① 24	① 32
② 12	② 16
③ 8	④ 8
④ 6	

square and cube numbers

$$4^2 = 4 \times 4 = 16$$

$$4^3 = 4 \times 4 \times 4 = 64$$

fractions

multiplying fractions by whole numbers

$$\frac{3}{5} \times 4 = \frac{12}{5}$$

finding a fraction of a number

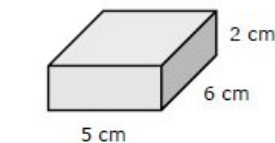
$\frac{3}{4}$ of 48

$$48 \div 4 = 12$$

$$12 \times 3 = 36$$

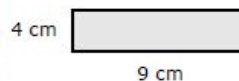
48
12 12 12 12

Why are times tables useful?

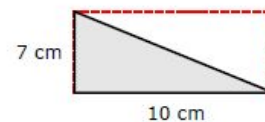


$$5 \text{ cm} \times 3 \text{ cm} \times 2 \text{ cm} = 30 \text{ cm}^3$$

calculating volume

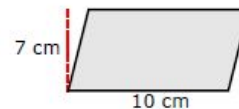


$$9 \text{ cm} \times 4 \text{ cm} = 36 \text{ cm}^2$$



$$7 \text{ cm} \times 10 \text{ cm} = 70 \text{ cm}^2$$

$$70 \text{ cm}^2 \div 2 = 35 \text{ cm}^2$$



$$7 \text{ cm} \times 10 \text{ cm} = 70 \text{ cm}^2$$

Calculating areas of rectangles, triangles and parallelograms

multiples and common multiples

Multiples of 2: 2, 4, 6, 8, 10, 12, 14

Multiples of 3: 3, 6, 9, 12, 15, 18, 21

using algebraic rules

	$5n - 4$	
1 st term	$5 \times 1 - 4 =$	1
2 nd term	$5 \times 2 - 4 =$	6
3 rd term	$5 \times 3 - 4 =$	11
4 th term	$5 \times 4 - 4 =$	16

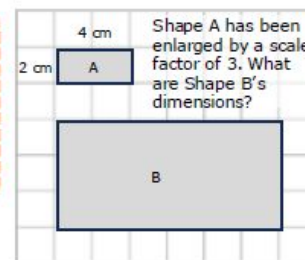
calculating and simplifying ratios

A prize is shared in a ratio of 3:4 between Jamie and Dan. If Jamie gets £21, how much will Dan get?

Jamie Dan

$$\times 7 \left(\begin{array}{c} 3 : 4 \\ \hline \pounds 21 : \pounds 28 \end{array} \right) \times 7$$

using scale factors with shapes and amounts



Shape A has been enlarged by a scale factor of 3. What are Shape B's dimensions?

recipe		
2 servings	1 serving	8 servings
400 ml milk	200 ml milk	1,600 ml milk
600 g fruit	300 g fruit	2,400 g fruit
80 g sugar	40 g sugar	320 g sugar

WHY ARE TIMES TABLES USEFUL?



NUMBER AND CALCULATION

WRITTEN MULTIPLICATION

$$\begin{array}{r} 758 \\ \times 8 \\ \hline 6064 \\ 46 \end{array}$$

WRITTEN DIVISION

$$\begin{array}{r} 109 \\ 6 \overline{) 654} \\ \underline{6} \\ 5 \end{array}$$

MENTAL MULTIPLICATION AND DIVISION

Using the facts you know to quickly work out answers in your head.

USING KNOWN FACTS TO FIND OTHERS WITH PLACE VALUE

$$\begin{aligned} 4 \times 6 &= 24 \\ 40 \times 6 &= 240 \\ 40 \times 60 &= 2400 \\ 0.4 \times 6 &= 2.4 \\ 0.4 \times 0.6 &= 0.24 \end{aligned}$$

WORD PROBLEMS

Sam can fit 12 tins of soup in each box, he has 11 boxes. How many tins of soup will he need to fill the boxes?

$$12 \times 11 = 132$$

ALGEBRA

$$\begin{aligned} 4x &= 24 & x &= 6 \\ 7x &= 42 & x &= 6 \\ 9x &= 81 & x &= 9 \end{aligned}$$

RATIO

In a school playground, the ratio of boys to girls is 2:3. If there are 18 girls, how many boys are there?

PROPERTIES OF NUMBER

FINDING FACTORS

Factors of 12

$$1 \times 12, 2 \times 6, 3 \times 4$$

FACTORS

FINDING MULTIPLES

Multiples of 12

$$12, 24, 36, 48, 60, 72, \dots$$

FINDING COMMON FACTORS

Factors of 12 $1 \times 12, 2 \times 6, 3 \times 4$

Factors of 18 $1 \times 18, 2 \times 9, 3 \times 6$

FINDING COMMON MULTIPLES

Multiples of 3

$$3, 6, 9, 12, 15, 18, 21, 24, 27, \dots$$

Multiples of 4

$$4, 8, 12, 16, 20, 24, \dots$$

FINDING PRIME AND COMPOSITE NUMBERS

Prime numbers have only 2 factors

$$1 \times 7, 1 \times 3, 1 \times 5$$

Composite numbers have more than 2 factors

$$1 \times 6, 2 \times 3, 1 \times 8, 2 \times 4$$

SQUARE AND CUBE NUMBERS

$$2 \times 2 = 4 \quad \leftarrow \text{Square}$$

$$3 \times 3 \times 3 = 27 \quad \leftarrow \text{Cube}$$

SHAPE

CALCULATING AREA: $6\text{cm} \times 3\text{cm} = 18\text{cm}^2$

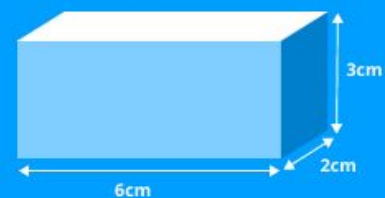


FINDING THE PERIMETER OF REGULAR POLYGONS



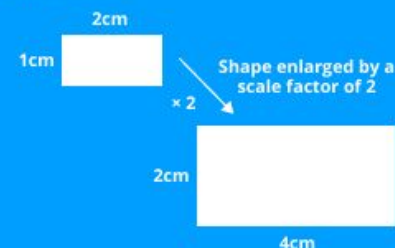
$$6 \times 5\text{cm} = 30\text{cm}$$

CALCULATING VOLUME



$$6\text{cm} \times 2\text{cm} \times 3\text{cm} = 36\text{cm}^3$$

SCALING SHAPES



FRACTIONS

SIMPLIFYING FRACTIONS

$$\frac{2}{6} \longrightarrow \frac{1}{3}$$

ADDING/SUBTRACTING FRACTIONS

$$\frac{1}{3} + \frac{3}{6} = \frac{2}{6} + \frac{3}{6} = \frac{5}{6}$$

MULTIPLYING/DIVIDING FRACTIONS

$$\frac{1}{2} \times \frac{2}{4} = \frac{1 \times 2}{2 \times 4} = \frac{2}{8} = \frac{1}{4}$$

FINDING FRACTIONS OF WHOLE NUMBERS

$$\frac{1}{6} \text{ OF } 24 = 4$$

ORDERING FRACTIONS

Put these fractions in order, largest first

$$\frac{1}{2}, \frac{6}{8}, \frac{2}{5} \longrightarrow \frac{6}{8}, \frac{1}{2}, \frac{2}{5}$$

CONVERTING BETWEEN MIXED NUMBERS AND IMPROPER FRACTIONS

$$2 \frac{1}{2} = \frac{5}{2}$$

AND MANY MORE!

Understanding multiplication and recalling times table facts are key!

- Division
 - Fractions
 - Ratio
 - Proportion
 - Percentages
 - Decimals
 - Algebra
 - Converting measures
-
- All of these topics (and more) stem from **multiplication!**

Year 4 Multiplication Table Check

- Year 4 will sit a statutory test in June.
- There will be 25 mixed questions up to 12×12
- They will only have 6 seconds per question!
- They will use an ipad to type in their answers
- 'Practise makes perfect'

What is the progression in x tables?

Y1	Y2	Y3	Y4	Y5	Y6
Multiplication and division Pupils should be taught to: solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	Multiplication and division Pupils should be taught to: - recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers - calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals (=) signs - show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot - solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	Multiplication and division Pupils should be taught to: - recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables - write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit <u>numbers</u> times one-digit numbers, using mental and progressing to formal written methods - solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects	Multiplication and division Pupils should be taught to: - recall multiplication and division facts for multiplication tables up to 12×12 - use place value, known and derived facts to multiply and divide mentally, <u>including</u>: multiplying by 0 and 1; dividing by 1; multiplying together three numbers - recognise and use factor pairs and commutativity in mental calculations - multiply two-digit and three-digit numbers by a one-digit number using formal written layout - solve problems involving multiplying and adding, including using the distributive law to multiply <u>two digit</u> numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects	Multiplication and division Pupils should be taught to: - identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers - know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers - establish whether a number up to 100 is prime and recall prime numbers up to 19 - multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers - multiply and divide numbers mentally drawing upon known facts - divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context - multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 - recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) - solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes - solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the <u>equals</u> sign - solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Addition, subtraction, multiplication and division Pupils should be taught to: - multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication - divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context - divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context - perform mental calculations, including with mixed operations and large numbers - identify common factors, common multiples and prime numbers - use their knowledge of the order of operations to carry out calculations involving the four operations - solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why - solve problems involving addition, subtraction, multiplication and division - use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Y1	Y2	Y3	Y4	Y5	Y6
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Where does counting in steps fit in?

Progression : Number and place value Programme of study (statutory requirements)

Y1	Y2	Y3	Y4	Y5	Y6
Number and place value Pupils should be taught to: - count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number - count, read and write numbers to 100 in <u>numerals</u>; count in multiples of twos, fives and tens - given a number, identify one more and one less - identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least - read and write numbers from 1 to 20 in numerals and words	Number and place value Pupils should be taught to: - count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward - recognise the place value of each digit in a two-digit number (tens, ones) - identify, represent and estimate numbers using different representations, including the number line - compare and order numbers from 0 up to 100; use <, > and = signs - read and write numbers to at least 100 in numerals and in words - use place value and number facts to solve problems	Number and place value Pupils should be taught to: - count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number - recognise the place value of each digit in a three-digit number (hundreds, tens, ones) - compare and order numbers up to 1000 - identify, represent and estimate numbers using different representations - read and write numbers up to 1000 in numerals and in words - solve number problems and practical problems involving these ideas	Number and place value Pupils should be taught to: - count in multiples of 6, 7, 9, 25 and 1000 - find 1000 more or less than a given number - count backwards through zero to include negative numbers - recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) - order and compare numbers beyond 1000 - identify, represent and estimate numbers using different representations - round any number to the nearest 10, 100 or 1000 - solve number and practical problems that involve <u>all of</u> the above and with increasingly large positive numbers - read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value	Number and place value Pupils should be taught to: - read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit - count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 - interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero - round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 - solve number problems and practical problems that involve <u>all of</u> the above - read Roman numerals to 1000 (M) and recognise years written in Roman numerals	Number and place value Pupils should be taught to: - read, write, order and compare numbers up to 10 000 000 and determine the value of each digit - round any whole number to a required degree of accuracy - use negative numbers in context, and calculate intervals across zero - solve number and practical problems that involve <u>all of</u> the above

Strategies for KS2 (Multiplication/Division)- Herts for Learning- (What teachers will do at school)

The same principle applies: **Strategy before speed.**

- **Strategy 1: Counting**

Counting in equal groups is vital as a starting point when learning times tables. This helps children become familiar with the multiples in sequential order and builds fluency.

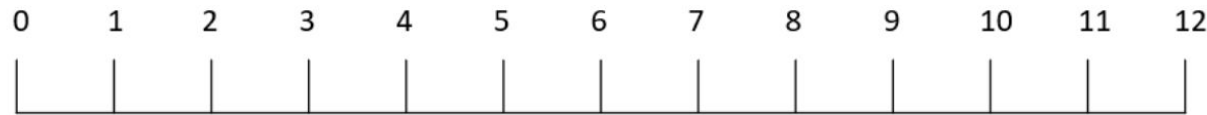
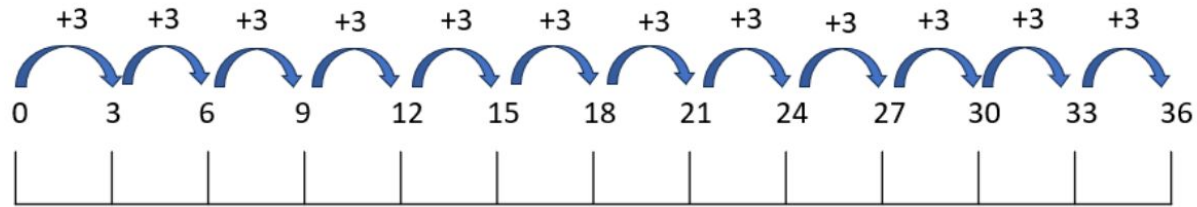
Counting sticks are very useful as a model for rehearsing all times tables. They show that in each timetable, there are 12 equal groups (for the facts we learn), and it is just the size of the group that changes. This aids memory because pupils are able to visualise the counting stick and, therefore, the multiples that are placed on it. Below are some suggestions for strategies using a counting



- **Boomerang:** Places on the stick are marked to signify where to count up and back from. For example: 0, 4, 8, 12, 16, 12, 8, 4, 0, 4...
- **Hiccup:** Pupils count forwards or backwards as usual until the teacher adds a hiccup sound. Pupils then go back to the previous number and
- then continue. For example: 0, 4, 8, 12, 16, (hiccup), 12, 16, 20, 24, (hiccup), 20, 24, 28, 32, (hiccup), 28, 32 ...
- **Sneezing:** Place sticky notes with the multiples in the correct position on the counting stick. Pupils count in 4s to 40. The teacher then 'sneezes' and blows several sticky notes off the counting stick. Pupils are to count in 4s again, including the numbers that are now not visible. Ask pupils to find a range of different ways of working out the missing value.
- **Spot the swap:** Place sticky notes with the multiples in the correct position on the counting stick. Teacher to swap two of the multiples and ask pupils to identify the swap.

Strategy 2: Number lines

- A number line is a helpful model to introduce early when teaching a new times table, and even more helpful is to show a dual number line showing the number of groups alongside. This also reinforces the repeated addition involved.



Strategy 3: Building the times table

- Children should have the opportunity to discover and 'build' times table facts for themselves to increase retention of facts through concrete and pictorial representations. Building arrays using counters and multilink help to reinforce the concept of equal groups and enable pupils to count on in ones to reach the next multiple. From these practical experiences, pupils can then create their own times tables flashcards to be used in a variety of ways in the future whilst rehearsing the facts and maintaining the recall. A scaled times table grid can also be explored with pupils, building on their understanding of arrays and linking this with traditional multiplication grids.

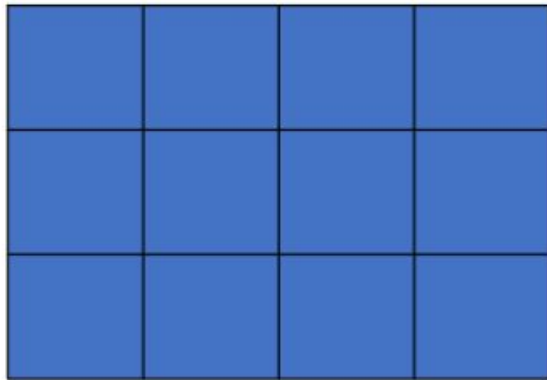
1	2	3	4
2	4	6	8
3	6	9	12
4	8	12	16

- **Strategy 4: Use Known Facts (Doubling / Halving)**

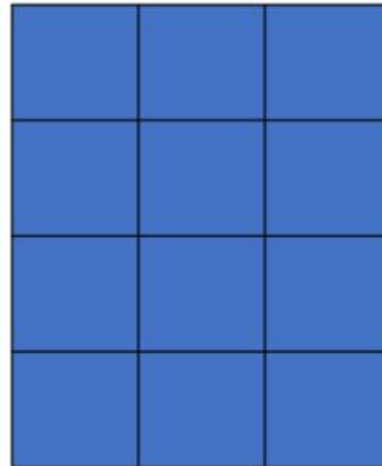
- *To solve 6×8 : If you know $3 \times 8 = 24$, you can double it.*
- *To solve 4×7 : If you know $8 \times 7 = 56$, you can halve it.*

Strategy 5: Commutativity

- The commutative law is when a multiplication can be completed in any order with the same result. For example, $5 \times 2 = 2 \times 5$. It works for both multiplication and addition but not subtraction or division. This is a very useful strategy for pupils to employ when learning their times tables because it instantly halves the number of facts they are required to recall. If they know $4 \times 3 = 12$, then they also know $3 \times 4 = 12$. Exploring this through concrete resources will also build an understanding of the difference between group size and number of groups. This is particularly helpful when they learn to divide through grouping (flexible grouping).



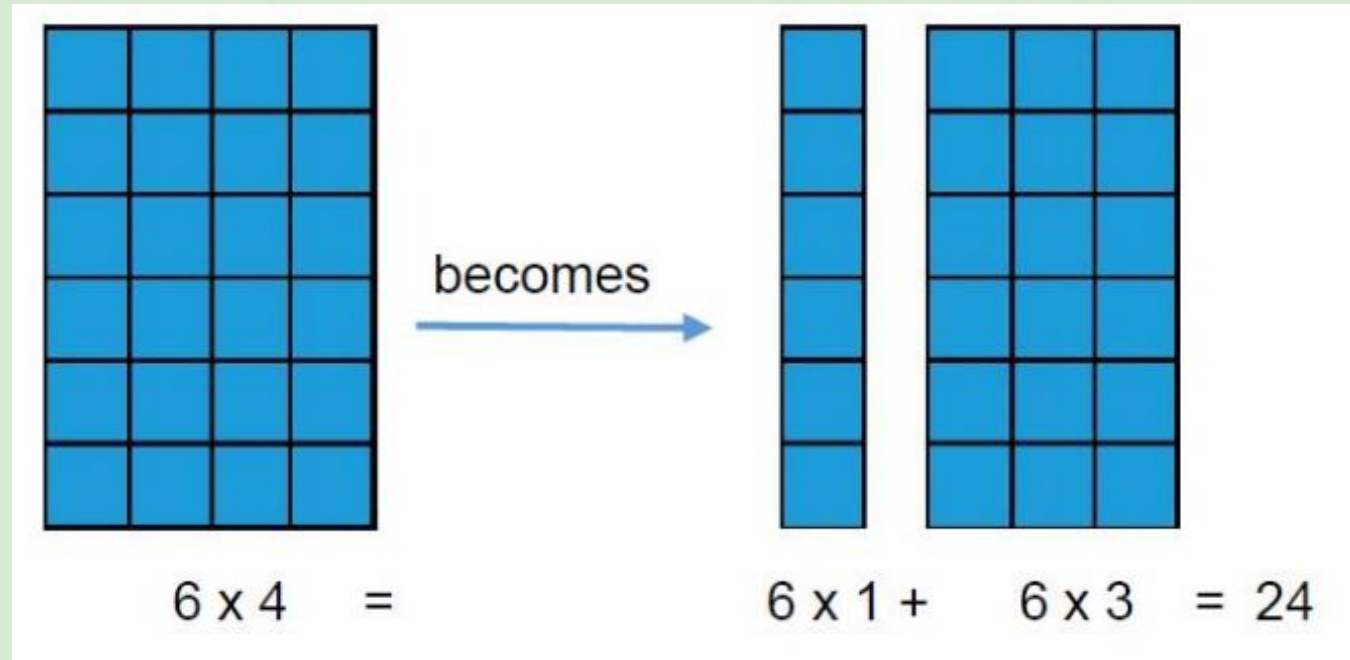
$$4 \times 3 = 12$$



$$3 \times 4 = 12$$

Slide 14: Strategy 6: Distributivity/Partitioning

For pupils to develop fluency in multiplication, the distributive law is a crucial concept to understand. Distributivity is when a calculation is split into 2 or more smaller calculations, which, when totalled, create the same answer. For example:



This is particularly helpful when trying to recall unknown facts, as pupils can fall back on smaller facts that they are already secure with. This concept can also be applied when working with larger numbers to make a calculation more manageable.

So to solve 13×4 : Partition into $(10 \times 4) + (3 \times 4)$

Strategy 7: Benchmarks

Using known and secure facts, like the 5 and 10 times tables, can help children reach unknown facts more quickly than counting from 0. For example, the fact 5×4 can be used as a starting point for finding 6×4 by counting on 1 more group of 4 from 20. These benchmarks can be made explicit when counting in multiples and using number lines. Using benchmarks for estimation purposes can also be useful, in the same way we encourage pupils to do when exploring number magnitude.

Recall of the square numbers is another useful benchmark and a helpful memory hook for times table facts. For example, $6 \times 6 = 36$ is a good stepping stone towards the facts that are more difficult to remember, such as 7×6 (next door fact) and then 8×6 .

Strategy 8: Fact Families (Relating Division)

- *If you know $6 \times 7 = 42$...*
- *You also know: $7 \times 6 = 42$, $42 \div 7 = 6$, and $42 \div 6 = 7$.*

Strategy 9: Making connections

To make learning stick, pupils need to make connections across the maths curriculum. These could include (but are not restricted to) doubles and halves, factor pairs, and finding the area of a rectilinear shape. Depending on the year group, the connections made will differ, but time should be allocated to make these explicit.

All the theory out of the way, let's play a game!

How to play – Duel (aka War)

You will need:

A pack of cards.

All Jacks and Queens removed from the deck.

Ace = 1, King = 0

How to play:

Basic version:

- Split the pack of cards equally between two players.
- All card must be face down.
- Simultaneously, each player turns over their top card.
- Player with the highest value card wins and picks up the other players card and places them at the bottom of their own pile.
- If players turn over cards of the same value then a *DUEL* is declared.
- *Duel*: Players place their next card face down and then the next face up – who ever has the highest value card now takes all 6 cards.
- First player to get all of the cards wins.

Fraction Duel (aka War)

4) Fractions

For each player, first card is numerator, second card is denominator.

Highest fraction wins. Equivalent fractions trigger a *Duel*.

Duel consists of each player placing two cards face down and then their next two as fractions. Highest fraction wins all 10 cards.

4b) Players get to turn over two cards and decide which one will be the numerator and which will be the denominator.

4c) Fraction addition: four cards for each player, create two fractions, greatest sum wins.

4d) Fraction subtraction: as above but smallest difference wins.

4e) Fraction multiplication:

Addition and Subtraction Duel (aka War)

Variations

1) Addition Duel

All 10s, Jacks and Queens removed from the pack

Ace = 1, King = 0

- Each player turns over two cards and finds the sum.
- Highest sum wins.

1b) Each player turns over three cards, making a two digit number with the first two and adding the third. Highest sum wins.

1c) Could increase to four cards, sum of two 2-digit numbers etc.

2) Subtraction Duel.

Same as above, but consider the difference between the numbers, so always the highest number first.

2b) Numbers have to be subtracted in the order that they have been turned over, which may result in a negative number. In this case, lowest number wins.

Multiplication Duel (aka War)

3) Multiplication

All cards are used Jack = 11, Queen = 12, King = 0, Ace = 1

- Each player turns over two cards, highest product wins

3b)

Remove tens, jacks and queens from the pack.

Each player turns over three cards, first two are used to make a 2-Digit number, third is the multiplier – highest product wins



MULTIPLICATION SONGS *and* TRICKS

ZEROS (0'S) When you multiply by zero, the product is always zero. $3 \times 0 = 0$ ONES (1'S) When you multiply by 1, the product will always be the other factor. $5 \times 1 = 5$	TWOS (2'S) Just count by 2's or double your number. 2, 4, 6, 8, ... $2 \times 2 = 4$ $2 \times 8 = 16$	THREES (3'S) Sing 3's to the tune of Jingle Bells.  3, 6, 9 - 12, 15 - 18, 21 - 24, 27, 30, 33	FOURS (4'S) Sing 4's to the tune of Row Your Boat. 4, 8, 12, 16 - 20, 24 - 28, 32, and 36, 40, 44
FIVES (5'S) Just count by 5's! 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 	SIXES (6'S) Take the other factor and hold up that many fingers. Count by 5's on each of those fingers, and then go back and count by 1's.	SEVENS (7'S) Sing 7's to the tune of Happy Birthday. 7, 14, 21 - 28, 35 - 42, 49 - 56, 63, 70 	EIGHTS (8'S) Sing 8's to the tune of This Old Man 8, 16 - 24 - 32, 40, 48 - 56, 64, and 72, 80, 88, and 96.
NINES (9'S) Hold up your fingers. Bend down the finger of the other factor. Count the fingers on the left (3) and right of bent finger (6). Example: $9 \times 4 = 36$ 	TENS (10'S) When multiplying by 10, just take the other factor and add a 0! $5 \times 10 = 50$	ELEVENS (11'S) When multiplying by 11's, first multiply the factor by 10, and then add one more of the factor. $10 \times 8 + 8 = 88$ $11 \times 8 = 88$	TWELVES (12'S) Take the other factor and multiply it first by 10, and then by 2, and add those. $12 \times 4 = 10 \times 4 + 2 \times 4 = 48$

Key Multiplication Table Patterns (0-12)

- 0 Times Table: All results are 0 ($0 \times 7 = 0$).
- 1 Times Table: The result is the same as the number multiplied ($1 \times 8 = 8$).
- 2 Times Table: Double the number ($2 \times 6 = 6 + 6 = 12$).
- 3 Times Table: Add the number three times, or skip count by 3 (3, 6, 9, 12, ...).
- 4 Times Table: Double the number, then double it again (4×6 : double 6 is 12, double 12 is 24).
- 5 Times Table: Numbers end in 0 or 5 (5, 10, 15, 20, ...).
- 6 Times Table: Double the three times table ($6 \times 3 = 18$, so $6 \times 6 = 36$).
- 8 Times Table: Double the four times table ($8 \times 4 = 32$, so $8 \times 8 = 64$).
- 9 Times Table: Hold up your fingers. Bend down the finger of the other factor. Count the fingers on the left (3) and right of the bent finger (6) $4 \times 9 = 36$).
- 10 Times Table: Add a zero to the number ($10 \times 7 = 70$).
- 11 Times Table: Repeat the digit for 1-9 ($11 \times 5 = 55$).
- 12 Times Table: Results are: Take the larger factor and multiply it by 10, then the other by 2 and add the total.

$$12 \times 4 = 10 \times 4 = 40 + 2 \times 4 = 48$$

0x Table

$1 \times 0 =$	0
$2 \times 0 =$	0
$3 \times 0 =$	0
$4 \times 0 =$	0
$5 \times 0 =$	0
$6 \times 0 =$	0
$7 \times 0 =$	0
$8 \times 0 =$	0
$9 \times 0 =$	0
$10 \times 0 =$	0
$11 \times 0 =$	0
$12 \times 0 =$	0

1 Times Table

$1 \times 1 =$
$1 \times 2 =$
$1 \times 3 =$
$1 \times 4 =$
$1 \times 5 =$
$1 \times 6 =$
$1 \times 7 =$
$1 \times 8 =$
$1 \times 9 =$
$1 \times 10 =$
$1 \times 11 =$
$1 \times 12 =$

2 Times Table

$2 \times 1 =$
$2 \times 2 =$
$2 \times 3 =$
$2 \times 4 =$
$2 \times 5 =$
$2 \times 6 =$
$2 \times 7 =$
$2 \times 8 =$
$2 \times 9 =$
$2 \times 10 =$
$2 \times 11 =$
$2 \times 12 =$

3 Times Table

$3 \times 1 =$
$3 \times 2 =$
$3 \times 3 =$
$3 \times 4 =$
$3 \times 5 =$
$3 \times 6 =$
$3 \times 7 =$
$3 \times 8 =$
$3 \times 9 =$
$3 \times 10 =$
$3 \times 11 =$
$3 \times 12 =$

4 Times Table

$4 \times 1 =$
$4 \times 2 =$
$4 \times 3 =$
$4 \times 4 =$
$4 \times 5 =$
$4 \times 6 =$
$4 \times 7 =$
$4 \times 8 =$
$4 \times 9 =$
$4 \times 10 =$
$4 \times 11 =$
$4 \times 12 =$

5 Times Table

$5 \times 1 =$
$5 \times 2 =$
$5 \times 3 =$
$5 \times 4 =$
$5 \times 5 =$
$5 \times 6 =$
$5 \times 7 =$
$5 \times 8 =$
$5 \times 9 =$
$5 \times 10 =$
$5 \times 11 =$
$5 \times 12 =$

6 Times Table

$6 \times 1 =$
$6 \times 2 =$
$6 \times 3 =$
$6 \times 4 =$
$6 \times 5 =$
$6 \times 6 =$
$6 \times 7 =$
$6 \times 8 =$
$6 \times 9 =$
$6 \times 10 =$
$6 \times 11 =$
$6 \times 12 =$

7 Times Table

$7 \times 1 =$
$7 \times 2 =$
$7 \times 3 =$
$7 \times 4 =$
$7 \times 5 =$
$7 \times 6 =$
$7 \times 7 =$
$7 \times 8 =$
$7 \times 9 =$
$7 \times 10 =$
$7 \times 11 =$
$7 \times 12 =$

8 Times Table

$8 \times 1 =$
$8 \times 2 =$
$8 \times 3 =$
$8 \times 4 =$
$8 \times 5 =$
$8 \times 6 =$
$8 \times 7 =$
$8 \times 8 =$
$8 \times 9 =$
$8 \times 10 =$
$8 \times 11 =$
$8 \times 12 =$

9 Times Table

$9 \times 1 =$
$9 \times 2 =$
$9 \times 3 =$
$9 \times 4 =$
$9 \times 5 =$
$9 \times 6 =$
$9 \times 7 =$
$9 \times 8 =$
$9 \times 9 =$
$9 \times 10 =$
$9 \times 11 =$
$9 \times 12 =$

10 Times Table

$10 \times 1 =$
$10 \times 2 =$
$10 \times 3 =$
$10 \times 4 =$
$10 \times 5 =$
$10 \times 6 =$
$10 \times 7 =$
$10 \times 8 =$
$10 \times 9 =$
$10 \times 10 =$
$10 \times 11 =$
$10 \times 12 =$

11 Times Table

$11 \times 1 =$
$11 \times 2 =$
$11 \times 3 =$
$11 \times 4 =$
$11 \times 5 =$
$11 \times 6 =$
$11 \times 7 =$
$11 \times 8 =$
$11 \times 9 =$
$11 \times 10 =$
$11 \times 11 =$
$11 \times 12 =$

12 Times Table

$12 \times 1 =$
$12 \times 2 =$
$12 \times 3 =$
$12 \times 4 =$
$12 \times 5 =$
$12 \times 6 =$
$12 \times 7 =$
$12 \times 8 =$
$12 \times 9 =$
$12 \times 10 =$
$12 \times 11 =$
$12 \times 12 =$

0x Table	
1 × 0 =	0
2 × 0 =	0
3 × 0 =	0
4 × 0 =	0
5 × 0 =	0
6 × 0 =	0
7 × 0 =	0
8 × 0 =	0
9 × 0 =	0
10 × 0 =	0
11 × 0 =	0
12 × 0 =	0

1 Times Table	2 Times Table	3 Times Table	4 Times Table	5 Times Table	6 Times Table
1 x 1 =					
1 x 2 =					
1 x 3 =					
1 x 4 =					
1 x 5 =					
1 x 6 =					
1 x 7 =	2 x 7 =	3 x 7 =	4 x 7 =	5 x 7 =	6 x 7 =
1 x 8 =					
1 x 9 =	2 x 9 =	3 x 9 =	4 x 9 =	5 x 9 =	6 x 9 =
1 x 10 =					
1 x 11 =					
1 x 12 =	2 x 12 =	3 x 12 =	4 x 12 =	5 x 12 =	6 x 12 =

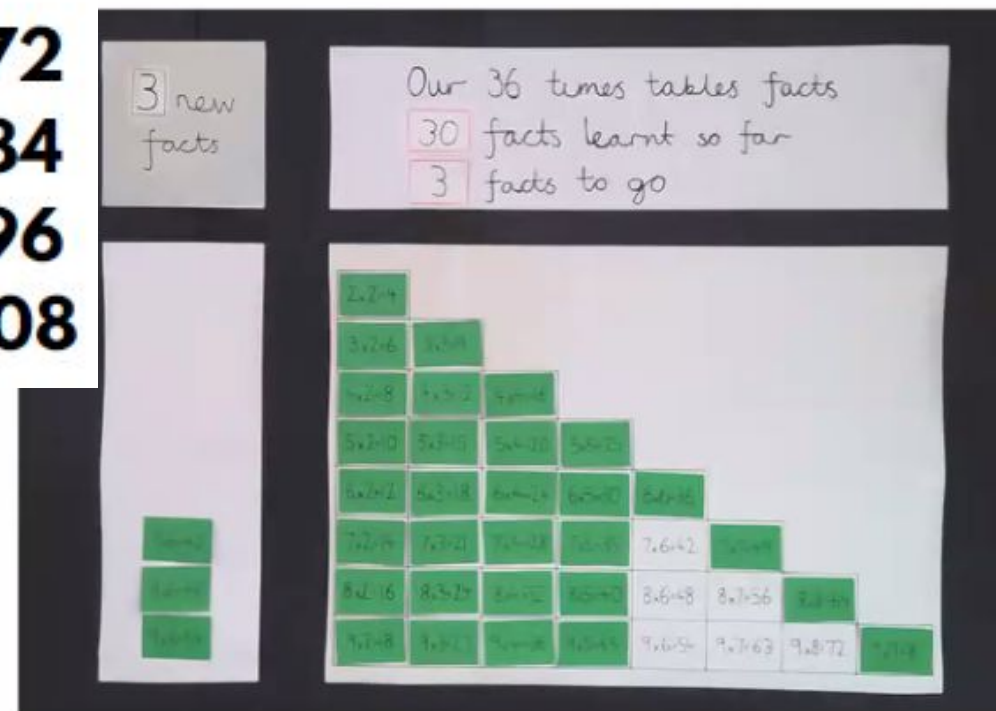
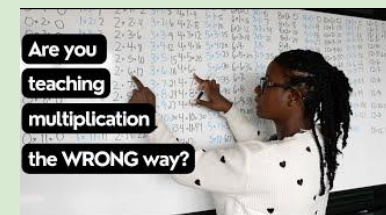
7 Times Table	8 Times Table	9 Times Table	10 Times Table	11 Times Table	12 Times Table
7 x 7 =					
7 x 9 =	8 x 9 =	9 x 9 =	10 x 9 =	11 x 9 =	
7 x 12 =	8 x 12 =	9 x 12 =	10 x 12 =		

THE SUPER SIXTEEN - PRIMARY MATHS HUB

The Super 16 are 16 times table facts that are notoriously difficult for learners to remember and recall. Specific table facts from the 6, 7, 8, 9 and 12 times tables. By using the Super 16 flashcards in class or at home, we can focus on these facts and master them forever!

By focusing on memorising these sixteen facts, we help can build core mathematical fluency and support the wider functions of mathematical reasoning. The Super 16 are:

$$\begin{aligned} 6 \times 7 &= 42, 6 \times 8 = 48, 6 \times 9 = 54, 6 \times 12 = 72 \\ 7 \times 6 &= 42, 7 \times 8 = 56, 7 \times 9 = 63, 7 \times 12 = 84 \\ 8 \times 6 &= 48, 8 \times 7 = 56, 8 \times 9 = 72, 8 \times 12 = 96 \\ 9 \times 6 &= 54, 9 \times 7 = 63, 9 \times 8 = 72, 9 \times 12 = 108 \end{aligned}$$



Times Tables Fluency – Facts

The 36 essential facts

$2 \times 2 = 4$

$3 \times 2 = 6$

$3 \times 3 = 9$

$4 \times 2 = 8$

$4 \times 3 = 12$

$4 \times 4 = 16$

$5 \times 2 = 10$

$5 \times 3 = 15$

$5 \times 4 = 20$

$5 \times 5 = 25$

$6 \times 2 = 12$

$6 \times 3 = 18$

$6 \times 4 = 24$

$6 \times 5 = 30$

$6 \times 6 = 36$

$7 \times 2 = 14$

$7 \times 3 = 21$

$7 \times 4 = 28$

$7 \times 5 = 35$

$7 \times 6 = 42$

$7 \times 7 = 49$

$8 \times 2 = 16$

$8 \times 3 = 24$

$8 \times 4 = 32$

$8 \times 5 = 40$

$8 \times 6 = 48$

$8 \times 7 = 56$

$8 \times 8 = 64$

$9 \times 2 = 18$

$9 \times 3 = 27$

$9 \times 4 = 36$

$9 \times 5 = 45$

$9 \times 6 = 54$

$9 \times 7 = 63$

$9 \times 8 = 72$

$9 \times 9 = 81$

$10 \times 2 = 20$

$10 \times 3 = 30$

$10 \times 4 = 40$

$10 \times 5 = 50$

$10 \times 6 = 60$

$10 \times 7 = 70$

$10 \times 8 = 80$

$10 \times 9 = 90$

$10 \times 10 = 100$

Extra facts learnt
for MTC

$11 \times 2 = 22$

$11 \times 3 = 33$

$11 \times 4 = 44$

$11 \times 5 = 55$

$11 \times 6 = 66$

$11 \times 7 = 77$

$11 \times 8 = 88$

$11 \times 9 = 99$

$11 \times 10 = 110$

$11 \times 11 = 121$

$12 \times 2 = 24$

$12 \times 3 = 36$

$12 \times 4 = 48$

$12 \times 5 = 60$

$12 \times 6 = 72$

$12 \times 7 = 84$

$12 \times 8 = 96$

$12 \times 9 = 108$

$12 \times 10 = 120$

$12 \times 11 = 132$

$12 \times 12 = 144$



Times Table Rock Stars

Having a secure understanding of the times tables facts and related division calculations up to 12×12 aids children in their mathematical learning within a wide range of different concepts.

Times Table Rock Stars is an exciting game which helps children to learn and practise their times tables. Through a "little and often" approach, children secure their times table knowledge whilst having fun! We recommend approximately 5 minutes practice a day, 4 or 5 times a week. You can download the app from the app store or play on the Times Table Rock Stars game on their website.



Checking your child's progress

Checking your child's progress is easy:

When your child has logged in, select their avatar in the top right hand corner and then select the 'My Stats' option.

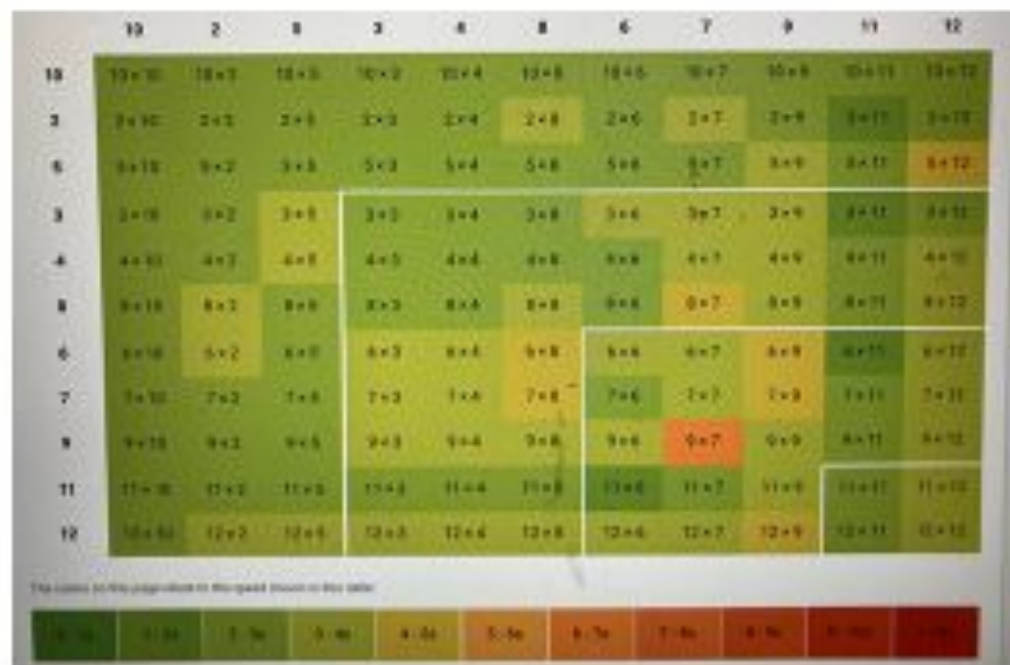
In the effort tab, you can see how many minutes the children have played.

Under fluency, you can see how quickly your child is able to answer each question and how confident they are with their individual times table knowledge.

The screenshot shows the user interface of the Times Tables Rock Stars game. At the top right, there is a purple header with a white t-shirt icon, a child's avatar, and the text 'PINK INGLE NEW ARTIST'. Below this, a white box displays a speedometer icon and the text 'Play in the studio to set your speed', followed by a gold coin icon and '1,010 Current coins'. A vertical menu on the right contains icons and labels for 'Profile', 'My Stats' (highlighted), and 'Charts'. At the bottom of this menu are 'Settings' and 'Logout' options. Below the menu, a heatmap titled 'Hannah heatmap as of 28 Sep 2022' is visible, showing a grid of multiplication problems with color-coded cells representing performance. The grid has columns for multipliers 10, 2, 5, 3, 4, 8, 6, 7, 9, 11, and 12, and rows for multiplicands 10, 2, 5, 3, 4, 8, 6, 7, 9, 11, and 12. The cells contain the full multiplication problem (e.g., '10 x 10', '10 x 2', etc.). The cells are color-coded: green for correct/quick, yellow for correct/slow, and orange for incorrect/slow. For example, '10 x 10' is green, '10 x 2' is yellow, and '10 x 12' is orange. The '3 x 2' cell is highlighted in white.

TIMES TABLES ROCK STARS – HEAT MAPS

How do we get a pupil from A to B?



	10	2	5	3	4	8	6	7	9	11	12
10	10 x 10	10 x 2	10 x 5	10 x 3	10 x 4	10 x 8	10 x 6	10 x 7	10 x 9	10 x 11	10 x 12
2	2 x 10	2 x 2	2 x 5	2 x 3	2 x 4	2 x 8	2 x 6	2 x 7	2 x 9	2 x 11	2 x 12
5	5 x 10	5 x 2	5 x 5	5 x 3	5 x 4	5 x 8	5 x 6	5 x 7	5 x 9	5 x 11	5 x 12
3	3 x 10	3 x 2	3 x 5	3 x 3	3 x 4	3 x 8	3 x 6	3 x 7	3 x 9	3 x 11	3 x 12
4	4 x 10	4 x 2	4 x 5	4 x 3	4 x 4	4 x 8	4 x 6	4 x 7	4 x 9	4 x 11	4 x 12
8	8 x 10	8 x 2	8 x 5	8 x 3	8 x 4	8 x 8	8 x 6	8 x 7	8 x 9	8 x 11	8 x 12
6	6 x 10	6 x 2	6 x 5	6 x 3	6 x 4	6 x 8	6 x 6	6 x 7	6 x 9	6 x 11	6 x 12
7	7 x 10	7 x 2	7 x 5	7 x 3	7 x 4	7 x 8	7 x 6	7 x 7	7 x 9	7 x 11	7 x 12
9	9 x 10	9 x 2	9 x 5	9 x 3	9 x 4	9 x 8	9 x 6	9 x 7	9 x 9	9 x 11	9 x 12
11	11 x 10	11 x 2	11 x 5	11 x 3	11 x 4	11 x 8	11 x 6	11 x 7	11 x 9	11 x 11	11 x 12
12	12 x 10	12 x 2	12 x 5	12 x 3	12 x 4	12 x 8	12 x 6	12 x 7	12 x 9	12 x 11	12 x 12



Drills: multiplication and division

My 6 Times Table Practice Booklet

Name: _____

Class: _____

New facts in this booklet:

$$7 \times 6 = 42$$

$$8 \times 6 = 48$$

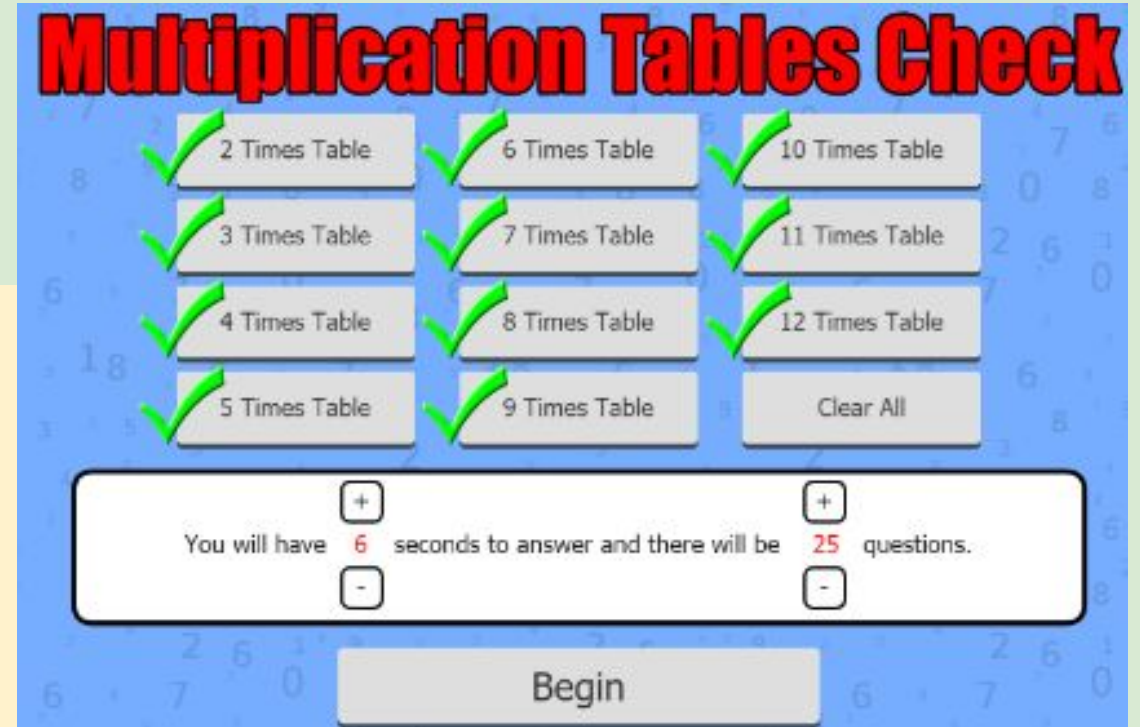
$$9 \times 6 = 54$$

1		2	
$6 \times 9 = \underline{\quad}$	$24 \div 3 = \underline{\quad}$	$6 \times 8 = \underline{\quad}$	$8 \times 8 = \underline{\quad}$
$54 \div 6 = \underline{\quad}$	$4 \times 2 = \underline{\quad}$	$6 \times 7 = \underline{\quad}$	$8 \times 3 = \underline{\quad}$
$7 \times 6 = \underline{\quad}$	$5 \times 4 = \underline{\quad}$	$54 \div 6 = \underline{\quad}$	$4 \times 9 = \underline{\quad}$
$6 \times 9 = \underline{\quad}$	$8 \times 5 = \underline{\quad}$	$7 \times 6 = \underline{\quad}$	$3 \times 5 = \underline{\quad}$
$7 \times 6 = \underline{\quad}$	$28 \div 4 = \underline{\quad}$	$6 \times 8 = \underline{\quad}$	$7 \times 5 = \underline{\quad}$
$8 \times 6 = \underline{\quad}$	$6 \times 3 = \underline{\quad}$	$8 \times 6 = \underline{\quad}$	$16 \div 4 = \underline{\quad}$
$48 \div 6 = \underline{\quad}$	$6 \times 6 = \underline{\quad}$	$7 \times 6 = \underline{\quad}$	$6 \times 2 = \underline{\quad}$
$8 \times 6 = \underline{\quad}$	$2 \times 9 = \underline{\quad}$	$54 \div 6 = \underline{\quad}$	$27 \div 3 = \underline{\quad}$
$9 \times 6 = \underline{\quad}$	$3 \times 2 = \underline{\quad}$	$6 \times 7 = \underline{\quad}$	$9 \times 2 = \underline{\quad}$
$7 \times 6 = \underline{\quad}$	$15 \div 5 = \underline{\quad}$	$6 \times 7 = \underline{\quad}$	$5 \times 2 = \underline{\quad}$
$9 \times 6 = \underline{\quad}$	$3 \times 4 = \underline{\quad}$	$9 \times 6 = \underline{\quad}$	$9 \times 9 = \underline{\quad}$
$6 \times 9 = \underline{\quad}$	$5 \times 8 = \underline{\quad}$	$42 \div 6 = \underline{\quad}$	$8 \times 6 = \underline{\quad}$
$48 \div 6 = \underline{\quad}$	$4 \times 6 = \underline{\quad}$	$6 \times 8 = \underline{\quad}$	$5 \times 9 = \underline{\quad}$
$9 \times 6 = \underline{\quad}$	$4 \times 4 = \underline{\quad}$	$6 \times 8 = \underline{\quad}$	$2 \times 6 = \underline{\quad}$
$6 \times 8 = \underline{\quad}$	$2 \times 2 = \underline{\quad}$	$7 \times 6 = \underline{\quad}$	$5 \times 5 = \underline{\quad}$
$42 \div 6 = \underline{\quad}$	$2 \times 5 = \underline{\quad}$	$48 \div 6 = \underline{\quad}$	$40 \div 5 = \underline{\quad}$
$8 \times 6 = \underline{\quad}$	$6 \times 9 = \underline{\quad}$	$6 \times 9 = \underline{\quad}$	$9 \times 9 = \underline{\quad}$
$9 \times 6 = \underline{\quad}$	$36 \div 6 = \underline{\quad}$	$6 \times 8 = \underline{\quad}$	$4 \times 7 = \underline{\quad}$
$9 \times 6 = \underline{\quad}$	$7 \times 7 = \underline{\quad}$	$6 \times 7 = \underline{\quad}$	$2 \times 3 = \underline{\quad}$
$6 \times 7 = \underline{\quad}$	$7 \times 6 = \underline{\quad}$	$42 \div 6 = \underline{\quad}$	$3 \times 3 = \underline{\quad}$

7x6, 8x6, 9x6 first column. All facts learnt so far in second column

Times table apps:

- Times Table Rockstars
- <https://www.timestables.co.uk/>
- Hit the button
- Topmarks
- Mathsframe Multiplication Tables Check (click adjust difficulty)



How can you help your child with Maths at home?

- Take away their fear.
- Reassure and praise whenever possible. Positive mindset...
- Let them see you using Maths in your everyday routines - portioning meals between the family, chopping vegetables into halves and quarters etc.
- Play with numbers and shapes through **games**.
- Seeing mistakes as an opportunity to learn and using them as a discussion point.
- Recognising the **importance** and value of maths in our everyday lives e.g. managing money and telling the time.
- Like reading we should do 'a little bit', every day.



All the hard work out of the way, let's play another game!



In my
handbag-
cards and dice!



Bingo (paper, pen, dice)

1. On a piece of paper draw grid with 6 spaces.
2. Write down multiples of a specific times table in spaces.
3. Roll a dice and multiply dice's number with that times table.
4. Cross out numbers on grid until you have all of them to shout Bingo!

21	3	27
12	15	36

Please come and see me if you have any questions!

- Feel free to email me if you have any Maths related questions/queries/Mathletics/ Numbots/Times Table Rockstar issues.
- alidadp@camp.herts.sch.uk
- Thank you for coming!

A quick guide to everyday Maths opportunities for your child



- Practise spotting and recognising numbers in the environment. Add/multiply/subtract/divide door numbers, numbers on car registration plates, road signs and at the shop.
- Flicking through the TV guide? Ask your child to calculate the length of their favourite programmes. How long is it until the next programme?
- Use food packaging to discuss 2D and 3D shapes. What are the properties of these shapes e.g. how many faces, sides, vertices? Flatten the packaging out to find the net of the 3D shape too.
- Measuring up for new furniture? Want to make sure the Christmas tree will fit in your living room? These are really good opportunities to encourage your child to see the value of careful measuring skills in everyday life.
- Practise telling the time with your child. Can they read both the digital and analogue clock? Can they readily convert between the two and use the 24 hour clock? Can they also recognise Roman Numeral representations of the time too?
- Board Games supply endless opportunities for Maths - Snakes and Ladders, Monopoly, Bingo, Connect Four, Battle Ships etc

Other everyday resources that can help your child's Maths skills at home

- Board games and card games encourage your children to **reason**



- Find an analogue watch and refer to the time



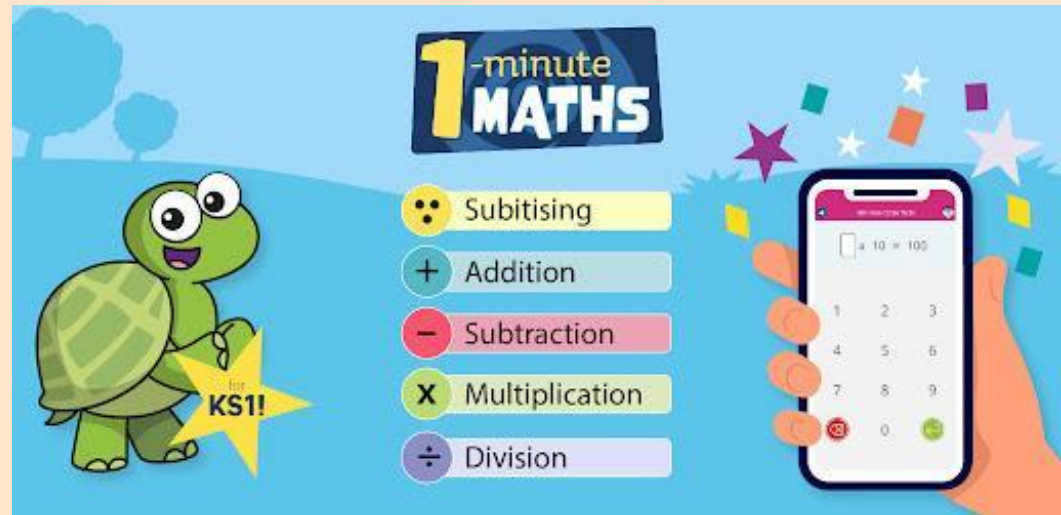
Using money:

- Allow your children to use real coins.
- Can they work out which coins they will need to buy something?
- Can they use the smallest number of coins?
- Can they calculate their change?



Useful websites you can use at home:

- Mathletics (always use a pencil and paper to make jottings) or use real life objects to help
- CBeebies
- 1 Minute Maths app
- Toy Theater (online manipulatives)
- Mathsbot (online manipulatives)
- Topmarks (different topics)
- Nrich (challenging tasks)
- BBC Bitesize



TIMES TABLES BLOGS



Starting from the beginning: how to learn times tables

Published: 20 April 2020

Are we teaching times tables before we test them?

Written for parents and teachers:
<https://www.hfleducation.org/blog/starting-beginning-how-learn-times-tables>



Put your school in the driving seat for the Year 4 Multiplication Tables Check

Published: 14 May 2024

Buckle up and get ready for a smoother journey to multiplication success! Rachael Brown examines how using the principles of learning to drive and the 'learn, rehearse, recall, assess' model can put your school in the driving seat.

<https://www.hfleducation.org/blog/put-your-school-driving-seat-year-4-multiplication-tables-check>