

TIMES TABLES STRATEGY WORKSHOP.

In this session I aim to...

- Suggest simple yet engaging times tables techniques which you can use with your child at home.
- Discuss raised expectations when it comes to children's ability to recall and use their times tables facts, with particular mention of the introduction of a mandatory national times tables test for Y4 children.
- Highlight the importance of children being able to recall their link division facts, as well as their tables facts.

times tables												Help with Homework
1 1x1=1 2x1=2 3x1=3 4x1=4 5x1=5 6x1=6 7x1=7 8x1=8 9x1=9 10x1=10 11x1=11 12x1=12	2 1x2=2 2x2=4 3x2=6 4x2=8 5x2=10 6x2=12 7x2=14 8x2=16 9x2=18 10x2=20 11x2=22 12x2=24	3 1x3=3 2x3=6 3x3=9 4x3=12 5x3=15 6x3=18 7x3=21 8x3=24 9x3=27 10x3=30 11x3=33 12x3=36	4 1x4=4 2x4=8 3x4=12 4x4=16 5x4=20 6x4=24 7x4=28 8x4=32 9x4=36 10x4=40 11x4=44 12x4=48	5 1x5=5 2x5=10 3x5=15 4x5=20 5x5=25 6x5=30 7x5=35 8x5=40 9x5=45 10x5=50 11x5=55 12x5=60	6 1x6=6 2x6=12 3x6=18 4x6=24 5x6=30 6x6=36 7x6=42 8x6=48 9x6=54 10x6=60 11x6=66 12x6=72	7 1x7=7 2x7=14 3x7=21 4x7=28 5x7=35 6x7=42 7x7=49 8x7=56 9x7=63 10x7=70 11x7=77 12x7=84	8 1x8=8 2x8=16 3x8=24 4x8=32 5x8=40 6x8=48 7x8=56 8x8=64 9x8=72 10x8=80 11x8=88 12x8=96	9 1x9=9 2x9=18 3x9=27 4x9=36 5x9=45 6x9=54 7x9=63 8x9=72 9x9=81 10x9=90 11x9=99	10 1x10=10 2x10=20 3x10=30 4x10=40 5x10=50 6x10=60 7x10=70 8x10=80 9x10=90 10x10=100 11x10=110	11 1x11=11 2x11=22 3x11=33 4x11=44 5x11=55 6x11=66 7x11=77 8x11=88 9x11=99 10x11=110 11x11=121	12 1x12=12 2x12=24 3x12=36 4x12=48 5x12=60 6x12=72 7x12=84 8x12=96 9x12=108 10x12=120 11x12=132	

National Expectations

Year Group	Expectation
Year 1	Count in multiples of 2, 5 and 10 . Recall and use all doubles to 10 and corresponding halves.
Year 2	Recall and use multiplication and division facts for the 2, 5 and 10 times tables including recognising odd and even numbers .
Year 3	Recall and use multiplication and division facts for the 3, 4 and 8 times tables.
Year 4	Recall and use multiplication and division facts for tables up to 12 x 12
Year 5	Revision of all times tables and division facts up to 12 x 12
Year 6	Revision of all times tables and division facts up to 12 x 12

Why are times tables important?

- Times tables knowledge underpins much of the primary Maths curriculum.
- Mastering times tables and having the ability to quickly recall known facts is a necessary step to approaching more challenging topics as they progress through school.

KS2 topics which require times tables knowledge.

- Fractions.
- Decimals.
- Multiplication.
- Division.
- Area.
- Ratio.
- Square and cube numbers.
- Place value.
- Prime numbers.
- Common multiples.
- Factors.

Adding, subtracting, multiplying and dividing fractions

Simplifying fractions

Using scale factors

2 people: 6 eggs, 300g flour
 3 people: 6 + 2 = 8 eggs, 300 + 2 = 302g flour
 5 people: 8 + 2 = 10 eggs, 302 + 2 = 304g flour

Finding a fraction or a percentage of a number

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

48 ÷ 4 = 12
 Multiplying by 4 finds one quarter.
 12 × 3 = 36
 Multiplying by 3 finds 3 quarters.

Calculating volume

Calculating ratio

A prize is shared in a ratio of 3 : 4 between Jamie and Dan. If Jamie gets £2.1, how much will Dan get?

Jamie : Dan
 3 : 4
 x 7 : x 7
 2.1 : 2.8

Using algebraic rules

1st term: 5 × 1 - 4 = 1
 2nd term: 5 × 2 - 4 = 6
 3rd term: 5 × 3 - 4 = 11
 4th term: 5 × 4 - 4 = 16
 5th term: 5 × 5 - 4 = 21

Finding the area of rectangles, triangles and parallelograms.

9 × 4 = 36 cm²

Area of triangle: $\frac{1}{2} \times 6 \times 4 = 12$

Why are times tables useful?

Converting between mixed and improper fractions

$1\frac{3}{4} = \frac{7}{4}$

Convert between miles and kilometres

30 convert km to miles: $\frac{30}{8} = 3\frac{6}{8} = 3\frac{3}{4}$

Short and long division

$5 \overline{) 275}$

Finding prime factors

Prime factors of 12: 2, 2, 3

Square and cube numbers

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

$3^2 = 3 \times 3 = 9$

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

$3^3 = 3 \times 3 \times 3 = 27$

Factors and common factors

Factors of 8: 1, 2, 4, 8
 Factors of 12: 1, 2, 3, 4, 6, 12
 Common factors: 1, 2, 4

Finding equivalent fractions

$\frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$

$\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$

Identifying prime and composite numbers

A prime number is a whole number greater than 1 with no divisors except 1 and itself.

Prime numbers: 2, 3, 5, 7, 11, 13, 17, 19
 Composite numbers: 4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20

Multiples and common multiples

Multiples of 3: 3, 6, 9, 12, 15, 18, 21, 24
 Multiples of 4: 4, 8, 12, 16, 20, 24, 28, 32
 Common multiples: 12, 24

Ordering and comparing fractions

$\frac{2}{3} < \frac{3}{4}$

Short and long multiplication

$853 \times 3 = 2559$

Most of the approaches I will share with you today are of a calmer, more low-key nature than others available.

They are also all used at school, too!



Ways to support times table knowledge

- Count and look for patterns.
- Understand that multiplication is repeated addition.
- Remember that multiplication is commutative.
- Remember that multiplication is the inverse of division.
- Recall and utilise fact families.

- Use different representations to represent multiplication, such as:
- Concrete manipulatives such as multilink cubes or counters.
- Create pictorial representations such as arrays.



Counting and looking for patterns

Example: Counting in 2s

2, 4, 6, 8, 10...

- Ensure children have a strong understanding of counting in groups first.
- When children are secure with counting, they can then look for patterns.

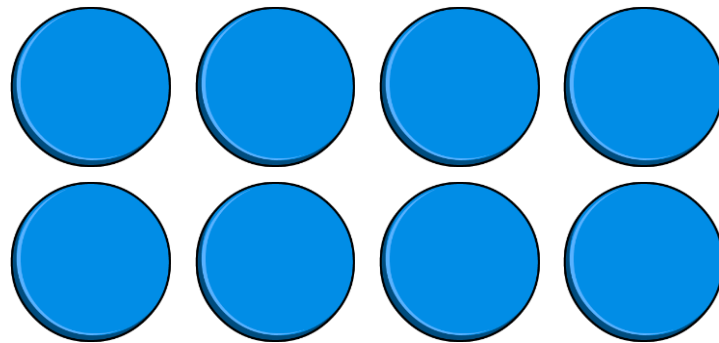


Repeated addition

Knowing that 2×4 is the same as $2 + 2 + 2 + 2$



$$2 + 2 + 2 + 2 = ?$$



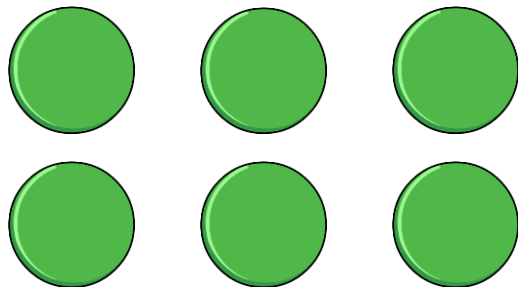
$$2 \times 4 = ?$$



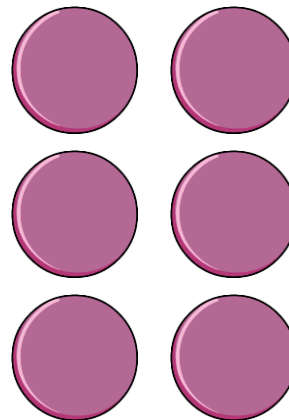
Multiplication is commutative

3×2 is the same as 2×3

Children need to understand that multiplication can be completed in any order to produce the same answer. Sometimes this link needs to be made explicit.



3 lots of 2 = 6



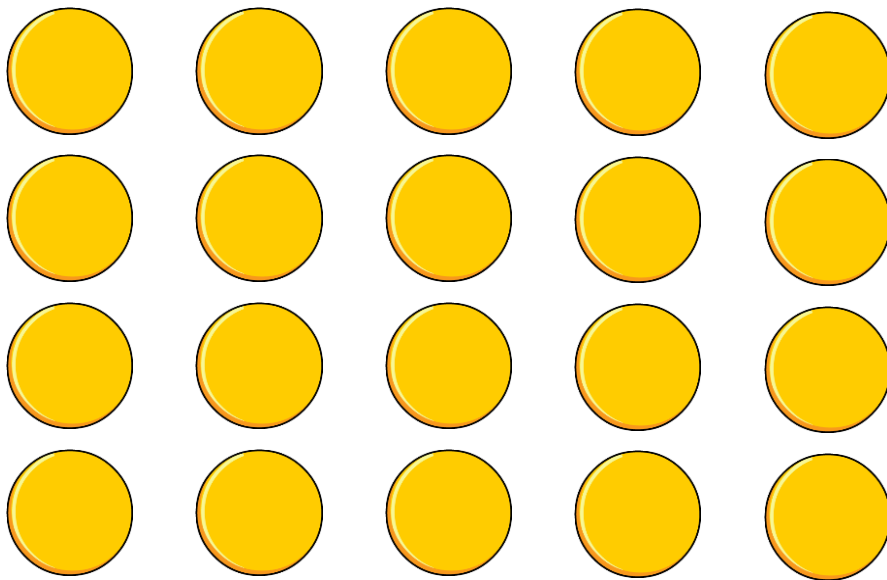
2 lots of 3 = 6



Multiplication is the inverse of division

$20 \div 5 = 4$ can be worked out because $5 \times 4 = 20$

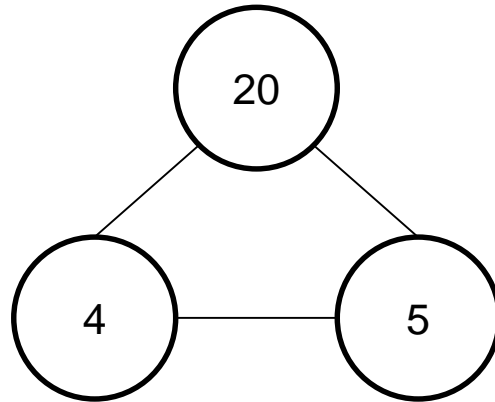
Using pictorial representations (such as arrays) is useful here for children to see the link between multiplication and division.



Fact families

$$4 \times 5 = 20, 5 \times 4 = 20, 20 \div 5 = 4, 20 \div 4 = 5$$

Due to their commutative understanding, children should also be able to see whole number families. For many children this will need to be pointed out and discussed.



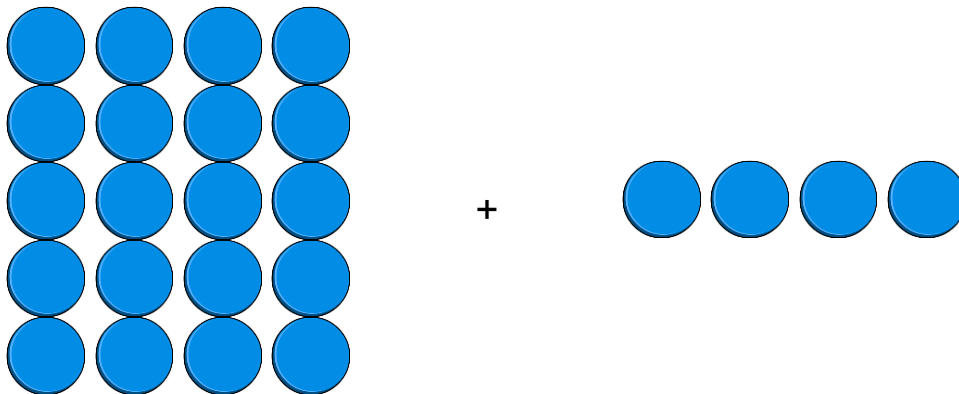
Using known facts

$$4 \times 6 = ?$$

I know $4 \times 5 = 20$

Therefore, $20 + 4 = 24$

By using known facts from 'easier' times tables, children should be able to find answers with increasing speed.



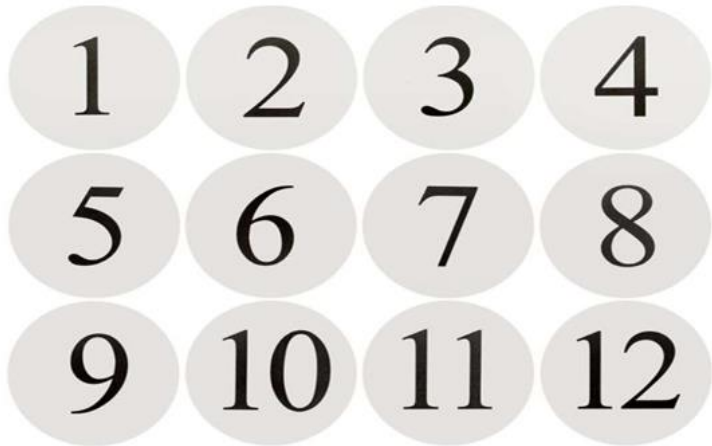
Games to try:

- Climb the stairs counting in multiples
- Play time tables games verbally.
- Listen and sing along to times tables songs.
- Take it in turns to say times tables in funny voices.
- Play maths games online.

PLEASE ALLOW CHILDREN TO USE A MULTIPLICATION SQUARE...

X	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

DIGIT CARD TURNOVER



When playing digit card turnover...

Say I turn over a 7 and my partner turns over a 3,
 $3 \times 7 = 21$.

I can then quiz my partner on the link division facts as well by saying...

“Ok, what’s $21 \div 3$? Also, what’s $21 \div 7$?”

Create your
own scoring
system. Best of
 $3/5/9$?

If you have more
than one child, this
is a super game
between siblings!

HIT THE BUTTON!

Does what it says on the tin!

<https://www.topmarks.co.uk/maths-games/hit-the-button>

A fantastic tool, especially for link division facts, doubling and halving...



DRAW A WALDORF MULTIPLICATION FLOWER...

One for the creative kids.

- Children start this activity by drawing the centre of the flower, in which they write a number between 2 and 12.
- They then draw 12 petals around the centre, with each petal containing the numbers 1 through 12.
- The last step is to draw another set of 12 petals which contain the centre number multiplied by each petal in the inner circle.



Important information about multiplication tables check (MTC)

- The MTC determines if Year 4 children can **fluently** recall their multiplication tables.
- They are designed to help schools identify which children require more support to learn their times tables.
- There is no 'pass' rate or threshold which means that, unlike the Phonics Screening Check, children will not be expected to re-sit the check.
- The Department for Education (DfE) will create a report about the overall results across all schools in England, not individual schools.

<https://www.timestables.co.uk/speed-test/>



When the check will take place

- There will be a **2 week window** from **Monday 2 June 2025** for schools to administer the check.
- There is **no set day** to administer the check and children are not expected to take the check at the same time.
- All eligible Year 4 children in England will be required to take the check.



How the check is carried out

- The check will be **fully digital**.
- Answers will be entered using a keyboard, by pressing digits using a mouse or using an on-screen number pad.
- Usually, the check will take less than **5 minutes** for each child.
- The children will have **6 seconds** from the time the question appears to input their answer.
- There will be a total of **25 questions** with a **3 second pause** in-between questions.
- There will be **3 practice questions** before the check begins.



Specific arrangements for the check

Some children will be eligible for specific arrangements:

- Colour contrast;
- Font size adjustment;
- 'Next' button (alternative to 3-second pause);
- Removing on-screen number pad;
- An adult to input answers;
- Audio version;
- Audible time alert.



The check questions

- Each child will be **randomly assigned** a set of questions
- There will only be **multiplication** questions in the check, not division facts.
- The 6, 7, 8, 9 and 12 times tables are **more likely** to be asked.
- Reversal of questions (e.g. 8×6 and 6×8) will not be asked in the same check.
- Children will not see their individual results when they complete the check.



More information about the questions

The Standards and Testing Agency (STA) state that they are classifying the multiplication tables by the first number (multiplier) in the question. For example, 8×3 would fall within the 8 times table.

5.2.1 Table 1 – Multiplication table limits in the MTC

Multiplication Table	Minimum number of items in each form	Maximum number of items in each form
1	Not applicable	Not applicable
2	0	2
3	1	3
4	1	3
5	1	3
6	2	4
7	2	4
8	2	4
9	2	4
10	0	2
11	1	3
12	2	4



How best to prepare your child for the check

- Remind them that the check should last no more than **5 minutes**.
- If you want to go over times tables, make them fun.
- If you have any concerns, talk to your child's teacher.
- If your child has any concerns, encourage them to talk to a trusted adult (for example, yourself, their teacher).

We are giving more time in the school day for times tables testing and rehearsal than ever before in an effort to best prepare our children for these tests.

<https://www.timestables.co.uk/speed-test>

Please use this website at home!



