

Times tables

February 2025



Aims of this session

- General awareness about the teaching of times tables at Hillside
- Progress from Year 2 to Year 4 and beyond
- Links to other areas of the curriculum





Multiplication as Repeated Addition



$3 + 3 + 3 + 3 = 12$

$$3 \times 4 = 12$$

Repeated Subtraction

$$12 - 3$$

$$3 - 3 = 0$$

$$6 - 3 = 3$$

$$9 - 3 = 6$$

$$12 - 3 = 9$$



$$12 \div 3 = 4$$

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

Multiplication is commutative

8×2 is the same as 2×8 . 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.

$$8 \times 2 = 16$$

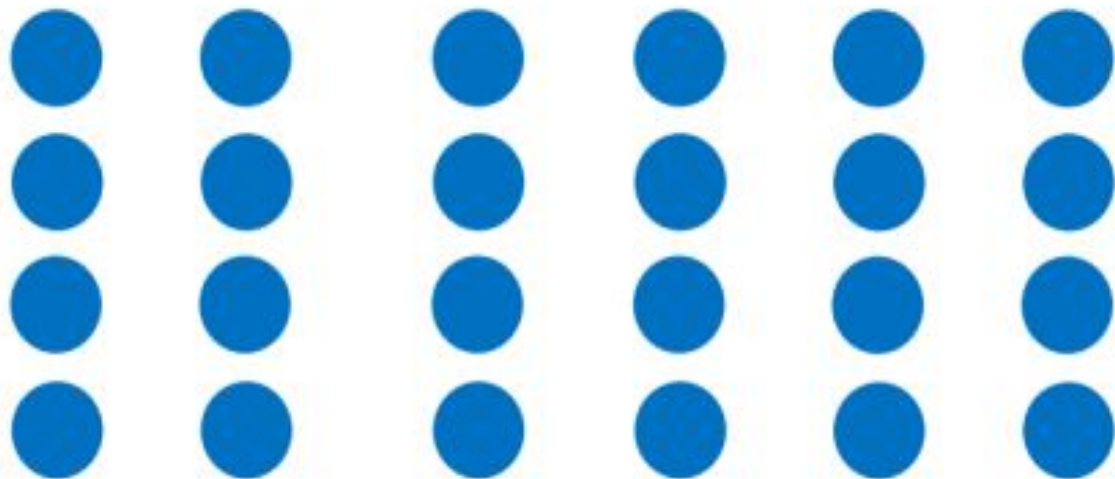


$$2 \times 8 = 16$$



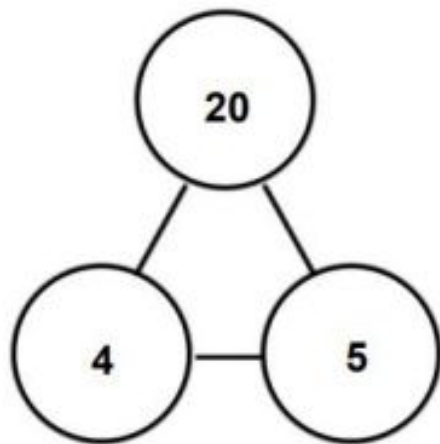
Multiplication is the inverse of division

$24 \div 6 = 4$ can be worked out because $6 \times 4 = 24$.
Using pictorial representations (such as arrays) is useful here for children to see the link between multiplication and division.



Number 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. This helps children find missing numbers in a calculation e.g. $\square \times 4 = 20$



Using known facts

$$7 \times 12 = ?$$

I know $7 \times 11 = 77$

So I add another 7 to 77, to get my answer $77 + 7 = 84$

By using known facts from 'easier' times tables, children should be able to find answers with increasing speed. I know that $3 \times 7 = 21$

This means that I can calculate 6×7 because double 3 is 6, so I can double 21 because the answer to 6×7 will be double the answer to 3×7 . $6 \times 7 = 42$

Times Tables

36 facts to take us up to 9×9 – the building block facts

2×2	10×1							
3×2	10×2	5×3	3×3					
4×2	10×3	5×4	4×3	4×4				
5×2	10×4	5×5						
6×2	10×5	6×5	6×3	6×4	8×6		6×6	
7×2	10×6	7×5	7×3	7×4	8×7	7×7	7×6	
8×2	10×7	8×5	8×3	8×4	8×8			
9×2	10×8	9×5	9×3	9×4	9×8	9×7	9×6	9×9
	10×9							
8 facts	9 facts	7 facts	6 facts	5 facts	4 facts	2 facts	3 facts	1 fact
By the end of Y2: 24 facts learnt 45 facts still to learn			By end of Y3: 15 facts learnt 27 facts still to learn			By end of Y4 27 facts learnt to complete building blocks (including $11 \times$ & $12 \times$ below)		

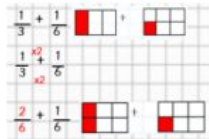
What order
should
facts be
learnt in?

Year 4: 21 more facts

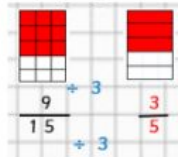
11×2	11×3	11×4	11×5	11×6	11×7	11×8	11×9	11×10	11×11	
12×2	12×3	12×4	12×5	12×6	12×7	12×8	12×9	12×10	12×11	12×12

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

Adding, subtracting, multiplying and dividing fractions

$$\frac{3}{4} \times \frac{2}{3} = \frac{6}{12}$$


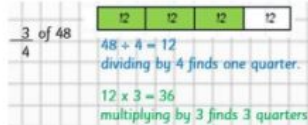
Simplifying fractions



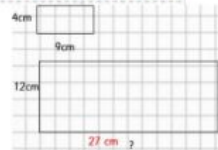
Using scale factors

2 people	1 person	5 people
6 eggs	$6 \div 2 = 3$ eggs	$3 \times 5 = 15$ eggs
100g flour	$100 \div 2 = 50$ g	$50 \times 5 = 250$ g

Finding a fraction or a percentage of a number



Calculating volume



Calculating ratio

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	
$\times 7$	3	:	4	$\times 7$
	21	:	28	

Using known facts

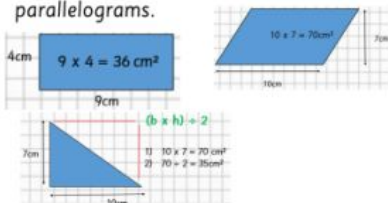
If $3 \times 2 = 6$, then

- $3 \times 20 = 60$
- $30 \times 2 = 60$
- $30 \times 20 = 600$

Using algebraic rules

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

Finding the area of rectangles, triangles and parallelograms.

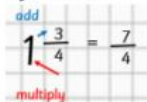


Why are times tables useful?

Short and long division



Converting between mixed and improper fractions

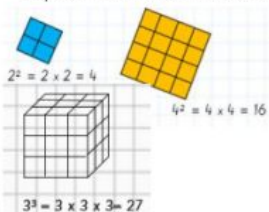


Convert between miles and kilometers

To convert km to miles:

5 miles = 8km	1) Divide by 8 ($48 \div 8 = 6$)
30 miles = 48km	2) Multiply by 5 ($6 \times 5 = 30$)

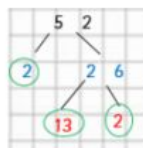
Square and cube numbers



Factors and common factors

4	8	3	6
1) $\times 4$	8	1) $\times 3$	6
2) $\times 2$	4	2) $\times 1$	8
3) $\times 1$	6	3) $\times 2$	6
4) $\times 1$	2	4) $\times 1$	9
6) $\times 8$		6) $\times 6$	

Finding prime factors



Ordering and comparing fractions



Finding equivalent fractions



Identifying prime and composite numbers

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

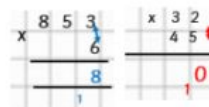
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

Multiples and common multiples

Multiples of 3: 3, 6, 9, 12, 18, 21, 24

Multiples of 4: 4, 8, 12, 16, 20, 24, 28, 32

Short and long multiplication



**Thank You for your
time.**

