



Numeracy at School

Multiplication & Division

- Having problems with homework?
- Can't understand our methods?

“This isn’t the way we did sums when we were at school!”

Have a look at our Maths guidelines leaflet.
Hopefully it will help!



Numeracy Websites

Here are some useful websites that include various games and activities to support Numeracy work for Years 3 to 6.

www.topmarks.co.uk

<https://www.bbc.co.uk/bitesize/subjects/z826n39>

<https://play.ttrockstars.com/auth/school/student>

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

<https://mathszone.co.uk>

<https://mathsframe.co.uk>

https://resources.hwb.gov.wales/VTC/2017/CiparFathemateg/ca2_menu.html

<https://cynnal.co.uk/gweithgareddauRhesymu/>

<https://www.primarygames.co.uk>





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- Practice counting in steps of 2, 5 & 10 – (forwards & backwards.)

e.x. 10, 12, 14, 16, 18, 20.....
15, 20, 25, 30, 35, 40
40, 50, 60, 70, 80, 90.....

- Practice recognising doubles of numbers up to 10

double 1 = 2

double 2 = 4

double 3 = 6

double 4 = 8

double 5 = 10

double 6 = 12

double 7 = 14

double 8 = 16

double 9 = 18

double 10 = 20

- Understand that half of a number, is the same as dividing that number by 2.

e.x. What is half of 8? Share 8 objects into 2 even sets.



Set 1



Set 2

Year 2 Multiplication & Division



- Practice counting in steps of 2, 5, 10, 3 & 4. (Forwards & backwards.)

e.x. 0, 3, 6, 9, 12, 15, 18.....
20, 24, 28, 32, 36, 40....

- Understand that multiplication is the same as adding over and over again.

$$6 \times 5 \text{ (6 set of 5)} = 5 + 5 + 5 + 5 + 5 + 5 = 30$$

- Understand the relationship between multiplication & division

$$3 \times 5 = 15$$

$$15 \div 3 = 5$$

$$5 \times 3 = 15$$

$$15 \div 5 = 3$$



- Problem Solving using multiplication & division

e.x. A spider has 8 legs. How many legs has 2 spiders?

Table 2

Table 5

Table 10

Recall Times
Tables
2, 5, 10,
3 & 4.

$0 \times 2 = 0$
$1 \times 2 = 2$
$2 \times 2 = 4$
$3 \times 2 = 6$
$4 \times 2 = 8$
$5 \times 2 = 10$
$6 \times 2 = 12$
$7 \times 2 = 14$
$8 \times 2 = 16$
$9 \times 2 = 18$
$10 \times 2 = 20$

$0 \times 5 = 0$
$1 \times 5 = 5$
$2 \times 5 = 10$
$3 \times 5 = 15$
$4 \times 5 = 20$
$5 \times 5 = 25$
$6 \times 5 = 30$
$7 \times 5 = 35$
$8 \times 5 = 40$
$9 \times 5 = 45$
$10 \times 5 = 50$

$0 \times 10 = 0$
$1 \times 10 = 10$
$2 \times 10 = 20$
$3 \times 10 = 30$
$4 \times 10 = 40$
$5 \times 10 = 50$
$6 \times 10 = 60$
$7 \times 10 = 70$
$8 \times 10 = 80$
$9 \times 10 = 90$
$10 \times 10 = 100$

Year 2 Multiplication & Division



Table 3

Table 4

$0 \times 3 = 0$
$1 \times 3 = 3$
$2 \times 3 = 6$
$3 \times 3 = 9$
$4 \times 3 = 12$
$5 \times 3 = 15$
$6 \times 3 = 18$
$7 \times 3 = 21$
$8 \times 3 = 24$
$9 \times 3 = 27$
$10 \times 3 = 30$

$0 \times 4 = 0$
$1 \times 4 = 4$
$2 \times 4 = 8$
$3 \times 4 = 12$
$4 \times 4 = 16$
$5 \times 4 = 20$
$6 \times 4 = 24$
$7 \times 4 = 28$
$8 \times 4 = 32$
$9 \times 4 = 36$
$10 \times 4 = 40$

Useful Websites

- <https://www.timestables.co.uk>
- <http://www.topmarks.co.uk/>
- <http://mathszone.co.uk/>
- <http://www.crickweb.co.uk/ks1numeracy.html>
- <https://www.topmarks.co.uk/times-tables/coconut-multiples>
- <http://www.maths-games.org/>
- <http://www.bbc.co.uk/bitesize/ks1/maths/>
- <https://ictgames.com/mobilePage/doggyDivision/index.html>
- <https://maths-games.org/times-tables-games.html>



Year 3 Multiplication & Division



- Recall Multiplication tables 2, 3, 4, 5, 6 & 10
- Understand that Table 6 is the double of Table 3.

Table 3

0 x 3 = 0
1 x 3 = 3
2 x 3 = 6
3 x 3 = 9
4 x 3 = 12
5 x 3 = 15
6 x 3 = 18
7 x 3 = 21
8 x 3 = 24
9 x 3 = 27
10 x 3 = 30

x2



Table 6

0 x 6 = 0
1 x 6 = 6
2 x 6 = 12
3 x 6 = 18
4 x 6 = 24
5 x 6 = 30
6 x 6 = 36
7 x 6 = 42
8 x 6 = 48
9 x 6 = 54
10 x 6 = 60

- Understand that multiplication is the same as adding over and over again.

$$6 \times 5 \text{ (6 set of 5)} = 5 + 5 + 5 + 5 + 5 + 5 = 30$$

- Understand that multiplying a number by 6 is the same as multiplying by 3 and doubling the answer.

$$6 \times 4 = (3 \times 4 = 12) + (3 \times 4 = 12) = 12 + 12 = 24$$

- Problem Solving using multiplication & division

e.x. 5 people spend £6 each in a shop. How much do they all spend together?

Year 3 Multiplication & Division



- Practice multiplying & dividing numbers up to 100 by 10.

e.x.	$6 \times 10 = 60$	$160 \div 10 = 16$
	$15 \times 10 = 150$	$280 \div 10 = 28$
	$89 \times 10 = 890$	$930 \div 10 = 93$

- Practice multiplying and dividing 2 digit numbers with a single digit number e.e. $23 \times 5 =$

Grid Method

	20	3	
5	100	15	$\begin{array}{r} 100 \\ + 15 \\ \hline 115 \end{array}$

- Another method used in class is the Vertical short method.

$$\begin{array}{r} 23 \\ \times 5 \\ \hline 115 \\ 1 \end{array}$$

- Practice using the Short division method e.x. $48 \div 3 =$

- Step 1** - Does 3 go into 4? Yes once, so write 1 on top of the 4, then put the remainder **1** between the 4 and the 8.

$$\begin{array}{r} 16 \\ 3 \overline{) 48} \\ \underline{3} \\ 18 \end{array}$$

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- Step 2** – Does 3 now go into 18? Yes, **6** times, so write 6 above the 8, and that's your answer.

$$16 \times 3 = 48$$

Year 4 Multiplication & Division



- Recall Multiplication tables 2, 3, 4, 5, 6, 8 & 10
- Understand that Table 8 is the double of Table 4.

Table 4		Table 8
$0 \times 4 = 0$	$\times 2$ 	$0 \times 8 = 0$
$1 \times 4 = 4$		$1 \times 8 = 8$
$2 \times 4 = 8$		$2 \times 8 = 16$
$3 \times 4 = 12$		$3 \times 8 = 24$
$4 \times 4 = 16$		$4 \times 8 = 32$
$5 \times 4 = 20$		$5 \times 8 = 40$
$6 \times 4 = 24$		$6 \times 8 = 48$
$7 \times 4 = 28$		$7 \times 8 = 56$
$8 \times 4 = 32$		$8 \times 8 = 64$
$9 \times 4 = 36$		$9 \times 8 = 72$
$10 \times 4 = 40$		$10 \times 8 = 80$

- Understand that multiplying a number by 8 is the same as multiplying by 4 and doubling the answer.

$$8 \times 5 = (4 \times 5) = 20 \quad 20 \times 2 = 40$$

- Practice multiplying and dividing numbers by 10 & 100.

e.x.	$8 \times 10 = 80$	$8 \times 100 = 800$
	$25 \times 10 = 250$	$25 \times 100 = 2500$
	$1500 \div 10 = 150$	$1500 \div 100 = 15$
	$3200 \div 10 = 320$	$3200 \div 100 = 32$

- Problem Solving using multiplication & division

e.x. Mike wants to cut a piece of wood into 7 pieces. If he takes 4 minutes to cut 1 piece, how long will it take him to get 7 pieces?

Year 4 Multiplication & Division



- Practice multiplying and dividing 3 digit numbers with a single digit number e.x. $213 \times 4 = \underline{852}$

Grid Method	200	10	3	800
				40
4	800	40	12	$+ 12$
				852

- Another method used in class is the **Vertical short method**.

$$\begin{array}{r} 213 \\ \times 4 \\ \hline 852 \\ 1 \end{array}$$

- Practice using the **Short division method** e.e. $152 \div 4$ with reminders.

- Step 1** - Does 4 go into 1? No, so write 0 above 1.

$$0 \ 3 \ 8 \ r \ 1$$

- Step 2** - Now, does 4 go into 15? Yes, so write 3 above the 5. $4 \times 3 = 12$, so place the remainder **3** between the 5 & 3.

$$4 \overline{) 153} \begin{array}{l} 0 \\ 3 \end{array}$$

- Step 3** - Now, does 4 go into 33? Yes, so write 8 above the three, and as $8 \times 4 = 32$ there is a remainder of **1**.

To check your answer

$$(38 \times 4) + 1 = 153$$

Year 5 Multiplication & Division



- Recall Multiplication tables 2, 3, 4, 5, 6, 7, 8, 9 & 10

Table 7

0 x 7 = 0
1 x 7 = 7
2 x 7 = 14
3 x 7 = 21
4 x 7 = 28
5 x 7 = 35
6 x 7 = 42
7 x 7 = 49
8 x 7 = 56
9 x 7 = 63
10 x 7 = 70

Table 9

0 x 9 = 0
1 x 9 = 9
2 x 9 = 18
3 x 9 = 27
4 x 9 = 36
5 x 9 = 45
6 x 9 = 54
7 x 9 = 63
8 x 9 = 72
9 x 9 = 81
10 x 9 = 90

- Practice multiplying and dividing numbers and decimals by 10 & 100.

e.x. $14 \times 10 = 140$ $14 \times 100 = 1400$
 $0.75 \times 10 = 7.5$ $0.75 \times 100 = 75$
 $480 \div 10 = 48$ $160 \div 100 = 1.6$
 $13 \div 10 = 1.3$ $13 \div 100 = 0.13$

- Practice multiplying and dividing 2 digit numbers with 2 digit numbers e.x. $36 \times 28 = 1008$

Grid Method

	20	8	
30	600	240	
6	120	48	

$$\begin{array}{r} 600 \\ 240 \\ 120 \\ + 48 \\ \hline 1008 \end{array}$$

1

- Practice multiplying with decimals e.x. $4.3 \times 7 = 30.1$

Year 5 Multiplication & Division



- Another method used in class is the Long Multiplication method.

Step 1 – Write 0 underneath the 8. Then multiply $2 \times 6 = 12$. Write down the 2, and remember the 1. Then multiply $2 \times 3 = 6$ and add the 1 which makes 7.

Step 2 – Multiply $8 \times 6 = 48$. Write 8 underneath the 0, and remember 4. Then multiply $8 \times 3 = 24$ and add the 4 which makes 28.

Step 3 – Add $720 + 288 = 1,008$

$$\begin{array}{r} 36 \\ \times 28 \\ \hline 720 \\ + 288 \\ \hline 1008 \end{array}$$

- Practice the Short Division method e.x. $156 \div 12 =$

- Step 1** – Does 12 go into 1? No, so write 0 above the 1.
- Step 2** – Does 12 now go into 15? Yes, so write 1 above the 5, and put the remainder 3 between the 5 & 6.
- Step 3** – Finally, does 12 go into 36? Yes, so write 3 above the 6.

$$\begin{array}{r} 013 \\ 12 \overline{) 156} \\ \underline{12} \\ 36 \\ \underline{36} \\ 0 \end{array}$$

To check your answer
 $(12 \times 13) = 156$

- Practice the Long Division method e.x. $192 \div 12 =$

- Step 1** – Think of a number that you can easily multiply with 12, in your head e.x 5 or 10.

- Step 2** – Take away that sum from the total. Repeat this process until you reach 0.

$$\begin{array}{r} 16 \\ 12 \overline{) 192} \\ \underline{12} \\ 72 \\ \underline{72} \\ 0 \end{array}$$

$10 \times 12 =$ $6 \times 12 =$

Knowing your times tables fluently is beneficial here!

- Problem Solving using multiplication & division

e.x. There were 18 animals on a farm. Some were Chickens and the others were Sheep. The total number of legs were 50. How many of the animals were chickens & sheep?

Year 6 Multiplication & Division



- Use mental strategies to recall multiplication tables up to 10×10 and use to solve division problems.
- Practice Multiplying & Dividing numbers and decimals by 10, 100 a 1000.

e.x. $6.5 \times 10 = 65$ $6.5 \times 100 = 650$ $6.5 \times 1000 = 6,500$
 $0.3 \times 10 = 3$ $0.3 \times 100 = 30$ $0.3 \times 1000 = 300$
 $80 \div 10 = 8$ $80 \div 100 = 0.8$ $80 \div 1000 = 0.08$
 $27 \div 10 = 2.7$ $27 \div 100 = 0.27$ $27 \div 1000 = 0.027$

- Practice multiplying and dividing 2 digit numbers with 2 digit and 3 digit numbers e.x. $123 \times 32 =$

Grid Method

	30	2
100	3000	200
20	600	40
3	90	6

$$\begin{array}{r} 3000 \\ 600 \\ 200 \\ 90 \\ 6 \\ \hline 3936 \end{array}$$

- Continue to use the Long Multiplication method with larger numbers e.x. 3×2 digits.

$$\begin{array}{r} 245 \\ \times 36 \\ \hline 7350 \\ + 1470 \\ \hline 8820 \end{array}$$

- **Step 1** – Write **0** underneath the 6. Then multiply $3 \times 5 = 15$. Write 5, and remember the 1. Next multiply $3 \times 4 = 12$, add 1 = 13. Now write 3 and remember the 1. Finally multiply $3 \times 2 = 6$ and add 1 = 7.
- **Step 2** – Multiply $6 \times 5 = 30$. Write 0, and remember the 3. Then multiply $6 \times 4 = 24$, and add 3 = 27. Write 7 down and remember the 2. Finally multiply $6 \times 2 = 12$, and add 2 = 14.
- **Step 3** – Add $7350 + 1470 = \underline{8820}$.

Year 6 Multiplication & Division



- Practice the Short Division method e.x. $1674 \div 13 =$

• **Step 1** – Does 13 go into 1? No, so write 0 above number 1.

• **Step 2** – Does 13 go into 16? Yes, so write 1 above the 6, and place the remaining **3** between the 6 & 7.

• **Step 3** – Does 13 go into 37? Yes, so write 2 above the 7, and the remaining **11** between 7 & 4.

• **Step 4** – Does 13 go into 114? Yes, so write 8 above the 4, and the remaining **10** in front of the 0. Here add a decimal point and three **000**.

• **Step 5** – Now place a decimal point on the top after the 8. Does 13 now go into 100? Yes, so write 7 above the first 0, and the remaining 9 in front of the second 0.

• **Step 6** – Does 13 go into 90? Yes, so write 6 above the second 0 and place the remainder **12** in front of the last 0.

• **Step 7** – Finally, does 13 go into 120? Yes, so write 9 above the last 0. This is your answer = **128.769**.

$$\begin{array}{r} 0128.769 \\ 13 \overline{) 1674.000} \\ \underline{13} \\ 37 \\ \underline{26} \\ 114 \\ \underline{114} \\ 00 \\ \underline{00} \\ 100 \\ \underline{90} \\ 100 \\ \underline{90} \\ 100 \end{array}$$

We only calculate the answers, to 3 decimal places.

- Multiply numbers and decimals by a multiple of 10, e.x. $1.4\text{cm} \times 20$.

Grid Method

	1	0.4
20	20	8
2	2	0.80

$$\begin{array}{r} 20 \\ 8 \\ 2 \\ \hline + 0.80 \\ \hline 30.80 \end{array}$$

Year 6 Multiplication & Division



- Problem Solving using multiplication & division.

e.x. If a shirt and tie costs £45, a shirt and jacket costs £155, and a jacket and tie costs £120. How much does each item cost?

- Practice the Long Division method with larger numbers.

e.x. $286 \div 14$

• **Step 1** – Think of a number which is easy to multiply with 14 in your head and is less than the total (2455), e.x. 10 or 100.

• **Step 2** – Subtract this amount from the total.

• **Step 3** – Repeat the first process and subtract it from the total.

• **Step 4** – If the number that is left is less than the number being divided ex 5 is less than 14. You have finished.

$$\begin{array}{r}
 14 \overline{) 2455} \\
 \underline{1400} \\
 1055 \\
 \underline{700} \\
 355 \\
 \underline{140} \\
 215 \\
 \underline{140} \\
 75 \\
 \underline{70} \\
 5
 \end{array}$$

$100 \times 14 = 1400$
 $50 \times 14 = 700$
 $10 \times 14 = 140$
 $10 \times 14 = 140$
 $+ 5 \times 14 = 70$
175 r 5

To check your answer

$$(175 \times 14) + 5 = 2455$$

Here the answer is 175 remainder 5.

Table 2

$0 \times 2 = 0$
$1 \times 2 = 2$
$2 \times 2 = 4$
$3 \times 2 = 6$
$4 \times 2 = 8$
$5 \times 2 = 10$
$6 \times 2 = 12$
$7 \times 2 = 14$
$8 \times 2 = 16$
$9 \times 2 = 18$
$10 \times 2 = 20$

Table 4

$0 \times 4 = 0$
$1 \times 4 = 4$
$2 \times 4 = 8$
$3 \times 4 = 12$
$4 \times 4 = 16$
$5 \times 4 = 20$
$6 \times 4 = 24$
$7 \times 4 = 28$
$8 \times 4 = 32$
$9 \times 4 = 36$
$10 \times 4 = 40$

Table 8

$0 \times 8 = 0$
$1 \times 8 = 8$
$2 \times 8 = 16$
$3 \times 8 = 24$
$4 \times 8 = 32$
$5 \times 8 = 40$
$6 \times 8 = 48$
$7 \times 8 = 56$
$8 \times 8 = 64$
$9 \times 8 = 72$
$10 \times 8 = 80$

Times Tables

Table 5

$0 \times 5 = 0$
$1 \times 5 = 5$
$2 \times 5 = 10$
$3 \times 5 = 15$
$4 \times 5 = 20$
$5 \times 5 = 25$
$6 \times 5 = 30$
$7 \times 5 = 35$
$8 \times 5 = 40$
$9 \times 5 = 45$
$10 \times 5 = 50$

Table 10

$0 \times 10 = 0$
$1 \times 10 = 10$
$2 \times 10 = 20$
$3 \times 10 = 30$
$4 \times 10 = 40$
$5 \times 10 = 50$
$6 \times 10 = 60$
$7 \times 10 = 70$
$8 \times 10 = 80$
$9 \times 10 = 90$
$10 \times 10 = 100$

Table 3

$0 \times 3 = 0$
$1 \times 3 = 3$
$2 \times 3 = 6$
$3 \times 3 = 9$
$4 \times 3 = 12$
$5 \times 3 = 15$
$6 \times 3 = 18$
$7 \times 3 = 21$
$8 \times 3 = 24$
$9 \times 3 = 27$
$10 \times 3 = 30$

Table 6

$0 \times 6 = 0$
$1 \times 6 = 6$
$2 \times 6 = 12$
$3 \times 6 = 18$
$4 \times 6 = 24$
$5 \times 6 = 30$
$6 \times 6 = 36$
$7 \times 6 = 42$
$8 \times 6 = 48$
$9 \times 6 = 54$
$10 \times 6 = 60$

Table 7

$0 \times 7 = 0$
$1 \times 7 = 7$
$2 \times 7 = 14$
$3 \times 7 = 21$
$4 \times 7 = 28$
$5 \times 7 = 35$
$6 \times 7 = 42$
$7 \times 7 = 49$
$8 \times 7 = 56$
$9 \times 7 = 63$
$10 \times 7 = 70$

Table 9

$0 \times 9 = 0$
$1 \times 9 = 9$
$2 \times 9 = 18$
$3 \times 9 = 27$
$4 \times 9 = 36$
$5 \times 9 = 45$
$6 \times 9 = 54$
$7 \times 9 = 63$
$8 \times 9 = 72$
$9 \times 9 = 81$
$10 \times 9 = 90$

It is important that your children know their Times Tables fluently.

