

# Mathematics Calculation Strategies

**multiplication and division**

**Tuesday 8th May 2018**






Multiplication  
Workshop


# EYFS

I can solve problems involving doubling.

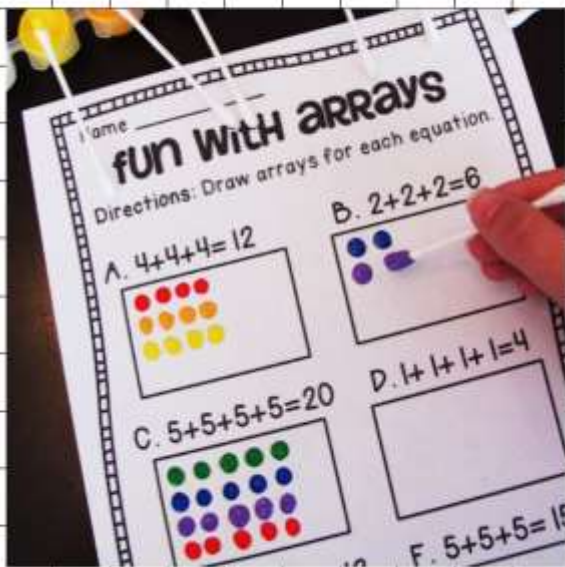
To make one smoothie I need

1	glass of milk	
3	blueberries	
2	bananas	

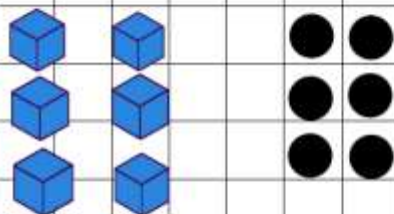
I need to double it to make 2 smoothies

2	glasses of milk	$2 + 2 = 4$ 
6	blueberries	$3 + 3 = 6$
4	bananas	$2 + 2 = 4$

Year 1 I can solve 1 step problems using concrete objects, pictorial representations and arrays (with support of teacher)



$2 + 2 + 2 =$



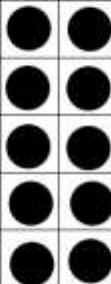
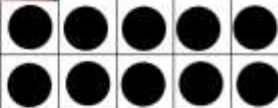
$5 + 5 + 5 + 5 =$

2  
5

**Year 2** I can complete a multiplication calculation using the 2, 5 and 10 timestables (using arrays).



### Real Maths



### Story Maths

$$2 \times 5 =$$

$$5 \times 2 =$$

An array is a systematic arrangement of similar objects, usually in rows and columns.

**Year 3** I can multiply a 2 digit number by a single digit mentally.

### Real Maths

### Story Maths

$$\begin{array}{r} 36 \\ \times 4 \\ \hline 30 \\ 6 \end{array}$$

$$30 \times 4 = 120$$

$$6 \times 4 = 24 +$$

$$\begin{array}{r} 54 \\ \times 8 \\ \hline 50 \\ 4 \end{array}$$

$$50 \times 8 = 400$$

$$4 \times 8 = 32 +$$

Because this is a mental method, we wouldn't use Real Maths. However, we still keep this column free, should a child need it to check or correct a question.

Year 4

I can use a formal written method to multiply 3 digit numbers by a 1 digit number.

Real Maths

H	T	O
100	10 10 10	0 0 0 0
100	10 10 10	0 0 0 0
100	10 10 10	0 0 0 0

Story Maths

1 3 4 x 3 =

H	T	O
1	3	4
x		3
4	0	2
+	+	

Start in the ones place.

Year 5

I can use long multiplication to multiply a 4 digit number by a 2 digit number.

274 x 34 = 9316

2614 x 43 = 112,402

Informal method:

Compact (efficient) method:

274
x 34
1096 (274 x 4)
+ 8220 (274 x 30)
9316

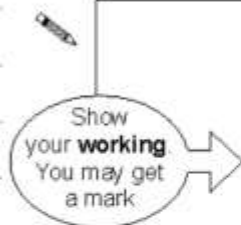
2614
x 43
7842
+ 104560
112402

## Year 6 I can solve multi-step problems.

Mr Todd buys 7 drinks at 48p each and 8 drinks at 52p each.

What is the **total** cost of the 15 drinks?

You **must** show your working.



£ 7.52

1) Have I read the question carefully and picked out the correct information?

2) What knowledge do I need?

3) What skills do I need?

4) Does my answer, answer the original question?

	48		52		4.16
	X 7		x 8		+3.36
£	<u>3.36</u>	£	<u>4.16</u>		<u>£7.52</u>