

Multiplication Workshop 1

12/10/16

Reception and Year 1

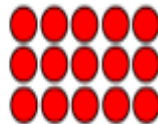
practical problem solving activities involving equal sets or groups.

In Year 1 they need to make connections between arrays, number patterns and counting in twos, fives and tens.

* Children understand that multiplication is repeated addition and that can be done by counting in equal steps/groups.



or



Repeated addition – visual arrays

$$3 \times 5 = 15$$

$$5 + 5 + 5 = 15$$

3 times 5 is = 3 lots of 5 or 3 groups of 5

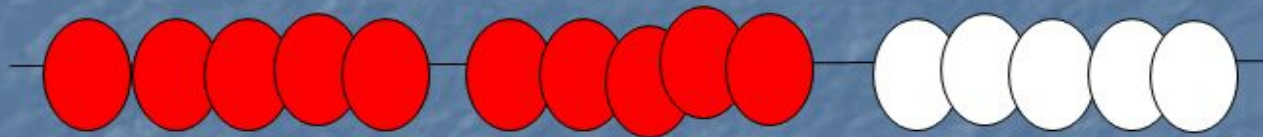
$$5 \times 3 =$$

$$3 + 3 + 3 + 3 + 3 = 15$$

5 times 3 is = 5 lots of 3 or 5 groups of 3

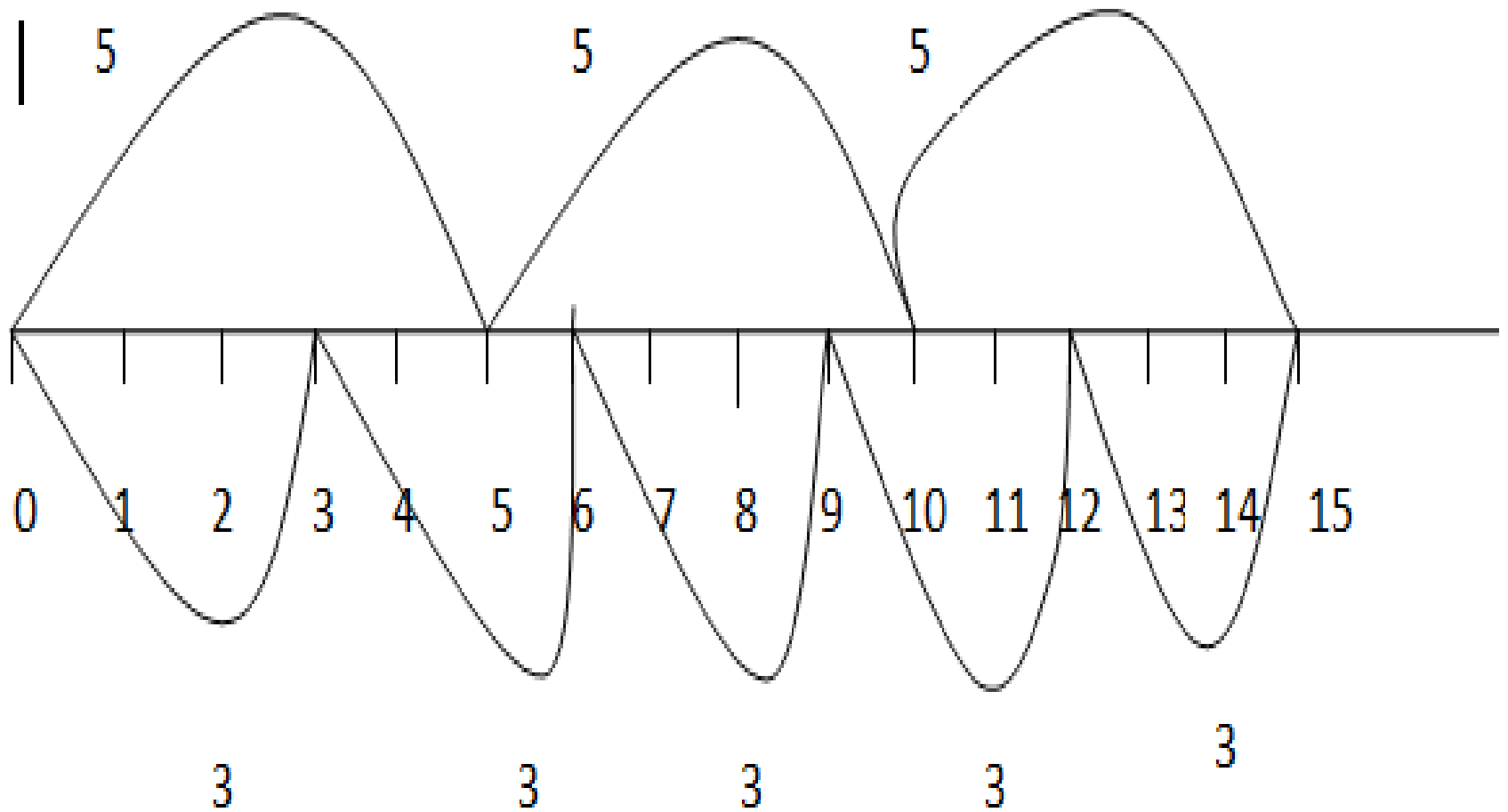
Show on bead bar or on a number line:

$$3 \times 5 = 5 + 5 + 5$$



Children need to learn through practise that multiplication can be done in any order. For example: $3 \times 5 = 15$ and $5 \times 3 = 15$

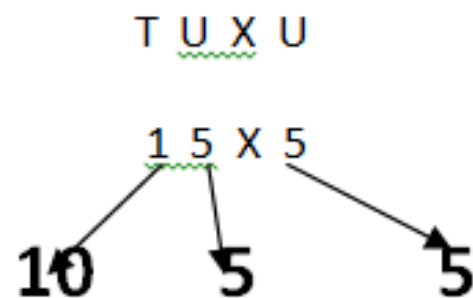
Year 2



Year 3

P.P. = **P**lace value/ **P**artition

15×5



$$15 \times 5 = (10 \times 5) + (5 \times 5)$$

$$= 50 + 25$$

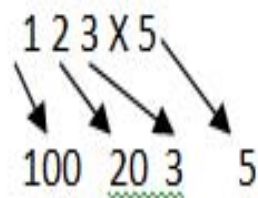
$$= 75$$

When secure on multiplication using partitioning, start grid method:

P.P.P.P = Place value/ Partition/ Put in grid/ Plus it

Place value/ **P**artition

HTU X U



Put in grid/ **P**lus it

$$123 \times 5$$

x	100	20	3
5	500	100	15

$$\begin{array}{r} 500 \\ + 100 \\ + 15 \\ \hline 615 \end{array}$$

Using symbols to stand for unknown numbers to complete equations using inverse operations:

$$\square \times 5 = 20$$

$$3 \times \triangle = 18$$

$$\square \times \triangle = 32$$

Year 5/6

$$\begin{array}{r} \cancel{8} \\ 64 \\ \times 8 \\ \hline 512 \end{array}$$

$$\begin{array}{r} \overset{2}{2} \quad \overset{1}{1} \\ \overset{7}{7} \quad \overset{5}{5} \\ 286 \\ \times 29 \\ \hline 2574 \\ + 5720 \\ \hline 8294 \end{array}$$

Multiplying Decimal Numbers is very easy and simple. Just follow these three simple steps.....

Step 1: Rewrite decimal numbers without decimal points.

Step 2. Multiply normally as we multiply the regular whole numbers.

Step 3: Count the number of decimal places for both numbers.

In other words, count how many digits are after the decimal point in both the numbers you are multiplying. Then add those number of decimal points to the answer.

Now, lets **Multiply** $1.2 \times 0.3 = ?$

Step 1:

$$\begin{array}{r} 12 \\ \times 03 \\ \hline 36 \end{array}$$

Step 2: 1.2 has 1 decimal places.
and 0.3 has 1 decimal places.

So, answer will have 2 decimal places

$$1.2 \times 0.3 = 0.36$$

Now lets **Multiply** $0.25 \times 0.3 = ?$

Step 1:

$$\begin{array}{r} 25 \\ \times 3 \\ \hline 75 \end{array}$$

Step 2: 0.25 has 2 decimal places.
and 0.3 has 1 decimal places.

So, answer will have 3 decimal places.

The product 75 has only 2 digits. There aren't enough digits in 75 to place decimal point. Hence, we add Zero to the left of the product to place decimal point.

$$0.25 \times 0.3 = 0.075$$

Year Group	Autumn	Spring	Summer
Reception	Number bonds to 10	Number to 20	1 or 10 more and less than
Year 1	Counting steps x1, x 2	x1, X10	x5, x10
Year 2	x1, x10, x5	x2, x4	x2, x4, x8
Year 3	x11, x3, x6	x6, x12	x3, x6, x12
Year 4	$x2 + x 5 = x7$	x3, x9, x12	all
Year 5	All times and division facts eg. $4 \times 3 = 12$ $12 \div 3 = 4$ etc.		
Year 6	<p>Include decimal fact families, explore = as equivalence, include missing numbers and identify relationships on either side of = sign</p> <p>$12 \div 4 = 3$, $1.2 \div 0.4 = 3$, $12 \div 0.4 = 30$, $120 \div 0.04 = 3000$</p>		

Future Workshops

Date	Group	✓ time attending	
		2.30pm	4.30pm
October 26	Addition (All year groups)		
November 2	Subtraction (All year groups)		
November 9	Division (All year groups)		
November 23	Year 6		
November 30	Year 2 & 3		
December 7	Year 4 & 5		
December 14	Year 1 & Early Years		