
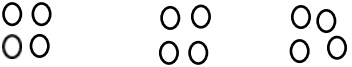
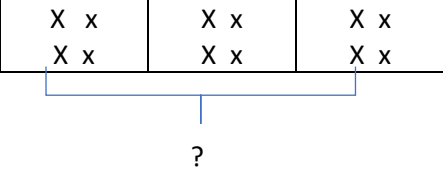

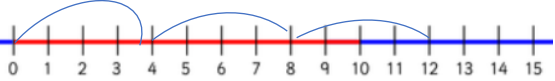
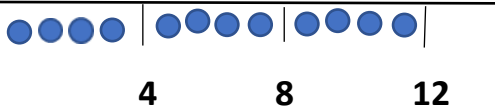
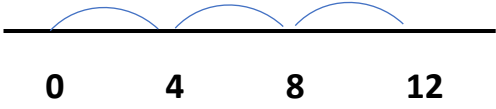
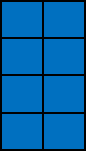



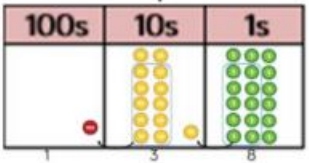




Multiplication

Key Vocabulary: double, times, multiplied by, the product of, factor, groups of, lots of, equal groups, multiple.

CONCRETE	PICTORIAL	ABSTRACT
<p>Repeated grouping/repeated addition 3×4 $4+4+4$ There are 3 equal groups, with 4 in each group.</p> 	<p>Children to represent the practical resources in a picture and use a bar model.</p>  	<p>$3 \times 4 = 12$</p> <p>$4 + 4 + 4 = 12$</p>
<p>Number lines to show repeated groups 3×4</p>  	<p>Represent this pictorially alongside a number line e.g.</p> 	<p>Abstract number line showing three jumps of four.</p> 
<p>Use arrays to illustrate commutativity counters and other objects can also be used.</p> <p>$4 \times 2 = 2 \times 4$</p>   <div style="border: 1px solid black; padding: 2px; display: inline-block;">4×2</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 100px;">2×4</div>	<p>Children to represent the concrete manipulatives Pictorially.</p>  	<p>Children to be encouraged to show the steps they have taken.</p> <p style="text-align: center;"> $8 = 2 \times 4$ $4 \times 2 = 8$ $2 + 2 + 2 + 2 = 8$ $8 = 4 + 4$ </p>

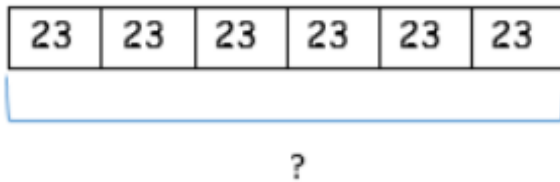


80 + 12 = 92
230 + 92 = 322

		2	3
x		1	4
		1	2
		8	0
		3	0
	₁ 2	0	0
	3	2	2

		2	3
x		₁ 1	4
		9	2
	₁ 2	3	0
	3	2	2

Conceptual variation; different ways to ask children to solve



Mai had to swim 23 lengths, 6 times a week.
How many lengths did she swim in one week?
With the counters, prove that $6 \times 23 = 138$

Find the product of 6 and 23.

6×23

= 6×23

$$\begin{array}{r} 23 \\ \times 6 \\ \hline \end{array}$$

What is the calculation? What is the product?

