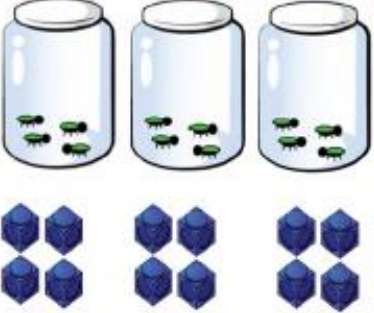
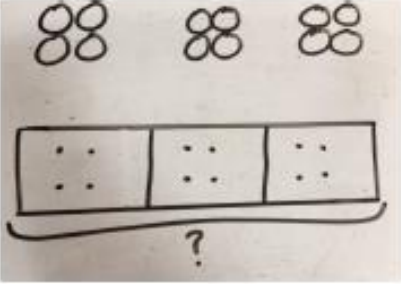
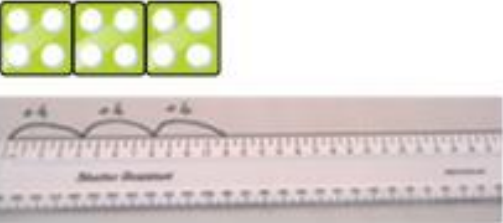
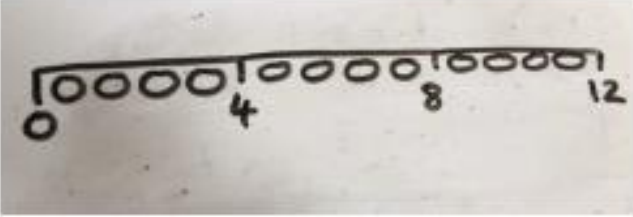
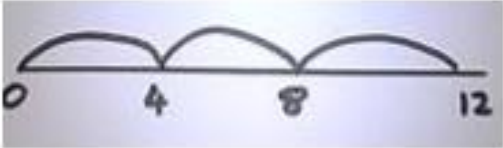


# Calculations Policy: Multiplication

Key Language: double, times, multiplied by, groups of, lots of, equal groups

Concrete	Pictorial	Abstract
<p>Repeated grouping/repeated addition <math>3 \times 4</math> <math>4 + 4 + 4</math> 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> 	$3 \times 4 = 12$ $4 + 4 + 4 = 12$
<p>Number lines to show repeated groups- <math>3 \times 4</math></p>  <p>Cuisenaire rods can be used too.</p>	<p>Represent this pictorially alongside a number line e.g.:</p> 	<p>Abstract number line showing three jumps of four.</p> $3 \times 4 = 12$ 

# Calculations Policy: Multiplication

Use arrays to illustrate commutativity counters and other objects can also be used.

$$2 \times 5 = 5 \times 2$$

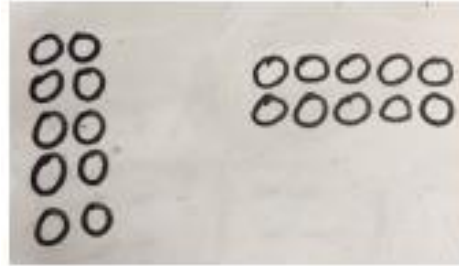


2 lots of 5



5 lots of 2

Children to represent the arrays pictorially.



Children to be able to use an array to write a range of calculations e.g.

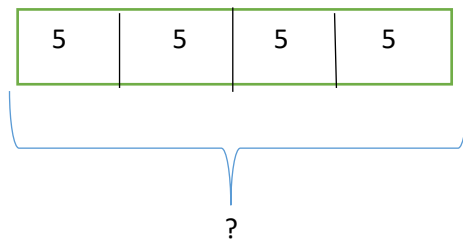
$$10 = 2 \times 5$$

$$5 \times 2 = 10$$

$$2 + 2 + 2 + 2 + 2 = 10$$

$$10 = 5 + 5$$

## Conceptual Variation; different ways to ask children to solve $4 \times 5$



Worded Problems:

Sam swam 5 lengths of the pool 4 times a week.

How many lengths did he swim in one week?

$$4 \times 5 = \square$$

$$\square = 4 \times 5$$