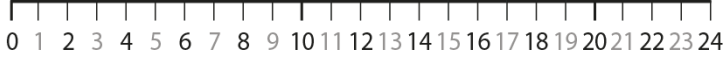



Teaching point 1:

For equally grouped objects, the number of groups is a factor, the group size is a factor, and the overall number of objects is the product; this can be represented with a multiplication equation. Counting in multiples of two can be used to find the product when the group size is two.

Steps in learning

	Guidance	Representations																																				
<p>1:1</p>	<p>Begin by briefly reviewing counting in multiples of two, which was introduced in segment 2.1 <i>Counting, unitising and coins</i>. At this point, you can extend the counting up to twelve twos.</p> <p>Use familiar representations, including those from segment 2.1, including:</p> <ul style="list-style-type: none"> • a number line • the Gattegno chart (have children tap the chart as they count: one tap for the single-digit numbers; two taps for the two-digit numbers, for example, tap '10' then '2' on the count of 12) • objects that come in pairs (for example pairs of shoes, eyes, ears and so on; 2 p pre-money tokens) • using skip counting to find the value of a number of 2 p coins. <p>As in segment 2.1, count in two ways:</p> <ul style="list-style-type: none"> • 'Zero groups of two, one group of two, two groups of two, three groups of two...' • 'Zero, two, four, six...' <p>You can begin to shorten the former to: 'Zero twos, one two, two twos, three twos...'</p> <p>Skip counting in twos beyond 20 may be new to children, but as they are procedurally familiar with both the</p>	<p>Skip counting in twos – number line:</p>  <p>Gattegno chart:</p> <table border="1" data-bbox="805 952 1532 1187"> <tbody> <tr> <td>1000</td><td>2000</td><td>3000</td><td>4000</td><td>5000</td><td>6000</td><td>7000</td><td>8000</td><td>9000</td> </tr> <tr> <td>100</td><td>200</td><td>300</td><td>400</td><td>500</td><td>600</td><td>700</td><td>800</td><td>900</td> </tr> <tr> <td>10</td><td>20</td><td>30</td><td>40</td><td>50</td><td>60</td><td>70</td><td>80</td><td>90</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td> </tr> </tbody> </table> <p>Skip counting in twos – objects in pairs:</p> 	1000	2000	3000	4000	5000	6000	7000	8000	9000	100	200	300	400	500	600	700	800	900	10	20	30	40	50	60	70	80	90	1	2	3	4	5	6	7	8	9
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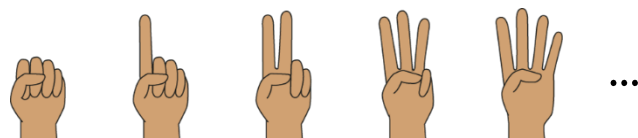
pattern and the representations used, they should be able to do this and discuss how they know what comes next.

Practise counting both forwards and backwards in twos from different multiples of two. During forwards counting with number names ('Zero, two, four, six...') encourage children to keep a tally with their fingers of the number of groups of two counted; note that the image opposite illustrates, for teachers only, how each finger represents one *group of two* (not one) – here children will be unitising in groups of two using their fingers to 'silently' note the number of groups of two as they count out the number names. Follow a similar process for backward counting.

Skip counting in twos – two-pence coins:



Skip counting in twos – keeping a 'silent' tally of the number of groups of two using fingers:



'Zero, two, four, six, eight ...'

Extracted from NCETM Mastery Professional Development Materials *Multiplication and Division*

2.3 The 2 times table and commutativity

https://www.ncetm.org.uk/files/99596005/ncetm_spine2_segment03_y2.pdf

Part of article <https://www.ncetm.org.uk/resources/53991>