Can I count on from any given number in whole-number steps, extending beyond zero when counting backwards?

Teaching guidance

Key vocabulary

positive, negative, above/below zero, multiple, count, sequence

Models and images

Use number grids to explore sequences.

43	38		28	23
	13		3	
-7	-12			-27
	-37		-47	
-57	-62		-72	
	-87	-92		-102
-107			-122	
	-137			-152
-157		-167	-172	
	-187		-197	-202

Show/hide start number

Start number ☐

Step ☐

Show/hide step

Show all numbers

Hide all numbers

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Decreasing number grid generator spreadsheet

Counting stick

Number lines

−7   −4   −1   2   5   8   11

Teaching tips

- Ensure children have frequent practice in counting in steps of any size, including starting points that are not multiples of the step size. Use resources to support counting, for example, a counting stick or a projected calculator that has been set to count in given steps, using the constant function.

- Children need frequent opportunities to practise their counting skills. Practising counting in different step sizes underpins children's understanding of place value and their skills in calculation. Encourage children to look for patterns in sequences and to use these to predict the next term, for example, explaining how they know the next number when counting on or back in 9s.

- Ensure that counting in sequences sometimes starts with negative numbers as well as with positive numbers, and that sequences involve counting back as well as counting forward.

- Demonstrate how to find a missing term in a sequence by finding the step size. Give children opportunities to find missing terms in sequences. For example, find the difference between the numbers on either side of the missing term below. The difference between the two numbers is 8 so the step size is 4.

5	1		−7	−11
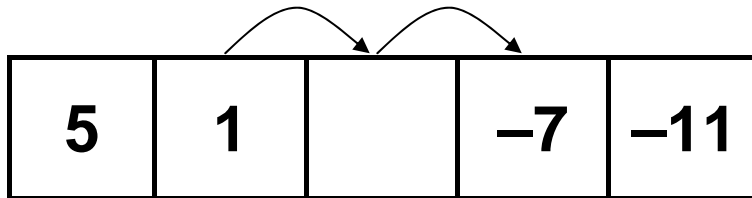
- Emphasise that there can be any number of missing terms in a sequence.

    In the example below, the difference between the known numbers is 12 and this represents four jumps, so the step size is 3.

−6				6