

Can I count on and back in equal steps and explain the patterns?

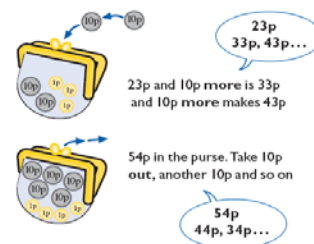
Teaching guidance

Key vocabulary

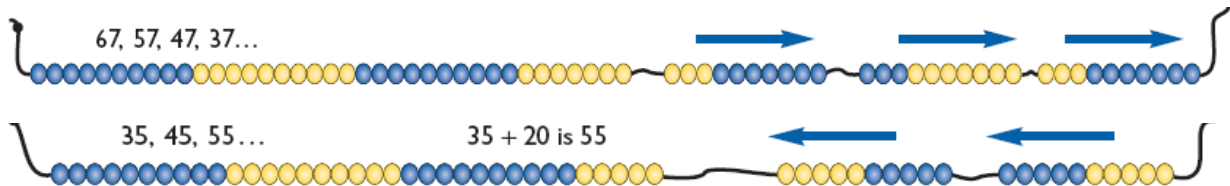
count on, count back, step, sequence, pattern, multiple, odd, even, digit, count in ones, twos..., every other, continue

Models and images, resources and equipment

Counting on and back in ones, twos, fives and tens using money as a context



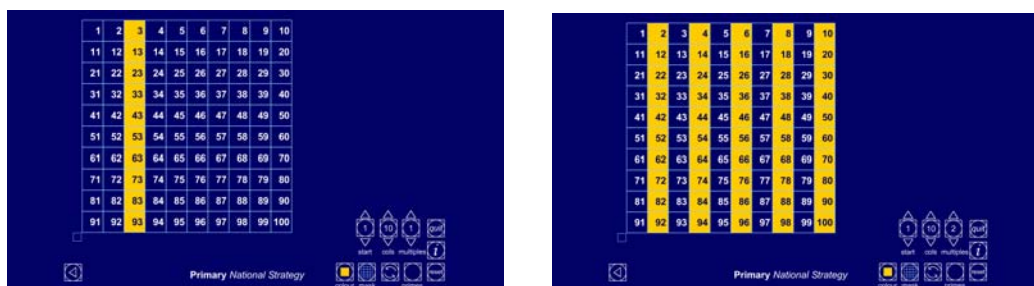
Bead strings for counting on and back in tens



Counting stick for counting on and back in equal steps



Number grid ITP to show patterns created when counting in equal steps



Number grid ITP

Teaching tips

- Ensure that children can confidently count on and back in ones before counting on and back in other equal steps. Look out for children who can accurately recite the counting numbers when starting from one or zero, but have difficulty counting from other starting numbers and when counting backwards.
- Make sure children regularly encounter and use the vocabulary of counting, such as 'backwards', 'forwards', 'up', 'down', 'on', 'back', 'from', etc.,
- Use a range of approaches when counting with children, for example:
 - Count with actions – e.g. count in ones but clap or tap shoulders when you say every fifth number;
 - Point to the numbers on a number line as children count;
 - Listen to a puppet count and spot any errors it makes.
- Use resources such as a 100-bead string, 10p coins and a 100-square to support counting in tens from a given number. Encourage children to explain what they notice in the pattern of numbers they generate. Help them to refine their explanations, for example 'When I count in tens from a number the units number stays the same'. Modelling the refining of explanations and encouraging children to use appropriate mathematical vocabulary in complete sentences is good practice for all children and very supportive of EAL learners. It allows them to hear an explanation expressed more than once and helps embed their own understanding of language structures.
- Encourage children to predict whether a given number will appear in their count, for example: If we carry on counting in tens from ten, will we ever get to 65? What if we count in fives from five? EAL learners may find the language of prediction challenging, particularly if it involves modal verbs (e.g. 'If... will' or 'If ...would').
- Using the Number grid ITP, ask children to click on the numbers they say when counting on and back in equal steps. Encourage them to verbalise anything that they notice about the pattern of numbers this generates.
- When identifying missing numbers in a sequence, help children to realise that they can count forwards or backwards, for example to find the missing number in this sequence, 18, 16, 14, , 10, 8, they may find it easier to count on from right to left than to count back from left to right.