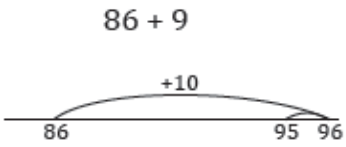
Step back

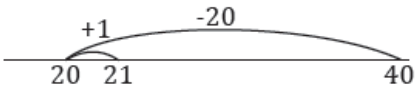
Purpose
To understand and use the strategy of jumping ten and then stepping back one

Outcomes
NS1.2: Uses a range of mental strategies and informal recording methods for addition and subtraction involving one- and two-digit numbers
MA1- 5NA

Framework reference
To move students to Place value level 2

	Outline	Questions
Introduction	Write on the board: 86 + 9 Establish the correct answer with the class. Have some of the students record their solution strategies on the board. If no student suggests jumping ten and then stepping back one, draw on the board the following diagram:  Have the students work in pairs and discuss which operations are represented by the diagram. If needed, prompt students to reflect upon other numbers that could be added to 86 using this method. If the students are unable to give this method a name, suggest calling it the *Step back method*.	*What is the answer to this question?* *How did you work out the answer?* *Why is this method easy to use?* *With which numbers would you use this method? Why?* *With which numbers wouldn't you use this method? Why?* *What could this method be called?*

	Outline	Questions
Concept development	Write on the board: 47 + 10 47 + 9 Select a student to draw the diagram on the board. Repeat the process with the following additions: 74 + 20 74 + 19 Write on the board: 37 + 19 Provide the students with paper and pens. Have them work in pairs to use the *Step back method* to represent the solution on an empty number line and determine the answer. Select one or two students to share their recordings and solutions. Have each student write two or three additions that could be solved using the *Step back method* and swap these with a partner. Have each student solve the additions provided by his or her partner.	*How would you use the first addition to solve the second one?* *How would you draw this solution method on an empty number line?* *What other additions could you solve using the* Step back method*?* *How did you solve the additions?* *Did you need to represent the method on an empty number line to solve the addition? Why?*

	Outline	Questions
Strengthening the concept	Write on the board: 40 – 20 40 – 19 Select a student to draw the diagram on the board. If the students are unable to represent the subtraction correctly, then draw the following diagram on the board:  Have the students work in pairs and discuss which operations are represented by the diagram. Repeat the process with the following subtractions: 75 – 20 75 – 19 75 – 18 If necessary, repeat using different numbers. Write on the board: 87 – 18 Have the students work in pairs to use the *Step back method* to represent the solution on an empty number line and determine the answer. Select one or two students to share their recordings and solutions. Have each student write three subtractions that could be solved using the *Step back method* and swap these with a partner. Have each student solve the subtractions provided by his or her partner.	*How would you use the first subtraction to solve the second one?* *How would you draw this on an empty number line?* *How did you solve the subtractions?* *Did you need to represent the method on an empty number line to solve each one? Why?*