

Summary of learning goals

- Students explore the place-value patterns on the number chart as they move along rows and columns. They use place value to aid and model the difference between numbers.

Australian Curriculum: Mathematics (Year 3)

ACMNA053: Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems.

ACMNA054: Recognise and explain the connection between addition and subtraction.

ACMNA055: Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation.

Summary of lessons

Who is this sequence for?

- Students should be able to count in 10s, on and off the decade. They should be familiar with different addition and subtraction strategies when working with one- and two-digit numbers.
- It is also expected that they are familiar with the 1–100 number chart and its use as a tool to find and justify patterns, such as place value.

Lesson 1: Number Chart Chess – The Rook

This resource uses the moves of the rook in chess to look at place value and the addition and subtraction of numbers. Students explore the different ways that the rook can move between numbers on a number chart, using the same movements that are possible in chess. This builds an understanding of how the number chart can be used as a tool to aid and model addition and subtraction using 10s and 1s.

Reflection on this sequence

Rationale

The number chart is a powerful tool for exploring patterns, including place value, and to model the addition and subtraction of numbers.



reSolve mathematics is purposeful

- This task draws on the context of chess to explore place value and the addition and subtraction of numbers. In particular, it provides an opportunity to look at the key developmental understandings of compensation and equivalence as students look at different pathways between two numbers.
- The task also draws on spatial reasoning skills, as students consider all the squares that are possible to pass through as they move between two numbers in a specified number of moves.



reSolve tasks are inclusive and challenging

- This task draws on a common experience for many children, which is playing chess. At a basic level, students are able to explore the different ways in which the value of the numbers change as the rook moves on the number chart and explore some of the place-value patterns that these moves generate.
- At a more complex level, students develop understandings around equivalence and compensation as they realise the difference between two numbers remains constant, regardless of the pathway chosen.



reSolve classrooms have a knowledge-building culture

- This task draws on the multiple approaches used by students to build the understanding of the class community. Students are asked to record, in a way of their choosing, the different ways in which the value of the numbers change as the rook moves. Although the recording methods might look different, their similarities reveal key number concepts. Discussion is used to promote a shared understanding of these concepts in the class.