

## Summary of learning goals

- This sequence focuses on developing students' skills in measuring metres and centimetres. It also develops students' appreciation for distance as they make estimates and compile and compare data from experiments.
- Students also explore and apply the concept of 'times as many'.

### 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.

**ACMNA057:** Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies.

**ACMMG061:** Measure, order and compare objects using familiar metric units of length, mass and capacity.

## Summary of lessons

### Who is this sequence for?

- Students who can use appropriate tools to measure metres and centimetres.
- Students who have knowledge of multiplication and multiply numbers using doubling,  $10 \times$  and  $100 \times$ .

### Lesson 1: How Far?

Students estimate the distance they can jump and then undertake an investigation by jumping, using a range of techniques. Class data are recorded and displayed. Students compare their jumping distance with each other.

### Lesson 2: What If?

Students learn about the jumping distance of several animals and then estimate the lengths of jumps they would make if they were those animals.

## Reflection on this sequence

### Rationale

One of the first measurement contexts introduced in the *Australian Curriculum: Mathematics* is length. Students start measuring using informal units and then in Year 3 standard metric units for length are introduced. This sequence uses metres and centimetres to emphasise the power of a formal unit.

These include:

- A standard unit provides a common language for measurements to be quantified and compared.
- Smaller units allow for more precision.
- Appropriate tools need to be selected according to the distance being measured.
- Particular tools produce more accurate measurements.

The sequence also asks students to estimate lengths. The purpose of estimation is to help develop a sense of the size and structure of the unit. Sharing estimation strategies promotes estimation as an informed, but informal, form of measurement. It also emphasises that estimation is not a 'guess' that is either right or wrong. Estimation is a powerful tool that can be used by a teacher to assess students' understanding of a unit.



### reSolve mathematics is purposeful

- The formal units of metres and centimetres are used to measure and quantify distance.
- Estimations and comparisons between measurements help students build an appreciation for the size and structure of the units being used.



### reSolve tasks are inclusive and challenging

- The activity of jumping and the class graph in Lesson 1 provides a common experience for all students.
- Access is provided through enabling prompts and the extending prompts allow students to explore the concept more deeply.
- Students are asked to use their own strategies to multiply small and large numbers. The numbers that are to be multiplied in Lesson 2 have been carefully chosen so that the calculations build on each other.



### reSolve classrooms have a knowledge-building culture

- Discussions and collaboration around the selection and use of tools for measuring help build shared understandings and provide practise when measuring length.
- Students are asked to share and refine strategies for calculating 'times as many'. They are introduced to the ratio table as a tool to assist in sense-making and to aid calculations.