

LAMINGTONS: Sequence Overview

Summary of learning goals

This sequence explores the important mathematical idea that fractions represent division. Students are invited to solve problems involving fair shares. Through the tasks, students will recognise that the denominator represents how many shares and the numerator represents the number being shared. The second task also explores the idea that any fraction can be represented as the sum of unit fractions.

Australian Curriculum: Mathematics (Year 5)

ACMNA102: Compare and order common unit fractions and locate and represent them on a number line.

ACMNA103: Investigate strategies to solve problems involving addition and subtraction of fractions with the same denominator.

Summary of lessons

Who is this Sequence for?

This task is designed for students in Year 5. Students should recognise fractions as representing part of a whole and have generalised definitions for numerator and denominator. Students should also recognise division as a method for sharing objects fairly and have developed strategies for division.

Lesson 1: Where Will You Stand?

This task explores fractions as division through a whole class problem. Three tables of lamingtons are at the front of the room: the first table has one lamington, the second has two and the third has three. Ten students are asked, one at a time, to stand at the table where they will receive the largest share of lamington, knowing that they will need to share with the other students standing at that table. At the end, students calculate how much lamington each person receives.

Lesson 2: Sharing Lamingtons

Students are presented with the story of four different groups of children sharing different numbers of lamingtons. They are asked to determine if the children in any group received a greater share of lamington than in other groups. Students use unit fractions to compare quantities.

Lesson 3: Fairer Shares

Students review the findings from the previous lesson. They determine a fairer way to share the lamingtons across all four groups.

We value your feedback after these lessons via our website.

Reflection on this sequence

Rationale

Fractions represent multiple ideas and can be represented in different ways. To gain a strong understanding of fractions, students need to explore the multiple meanings of fractions and to make connections between different fractional constructs. This sequence explores *fraction as quotient*. This notion of fractions relates to the idea of sharing equally and emphasises that fractions are multiplicative relations where the numerator and denominator express a ratio of the part to whole.

reSolve Mathematics is Purposeful

- The sequence explores that the representation $\frac{a}{b}$ is equivalent to $a \div b$.
- While the task focuses on the idea of fractions as division, students have opportunity to investigate other important ideas about fractions.

reSolve Tasks are Inclusive and Challenging

- The sequence draws on low floor, high ceiling tasks. Multiple strategies of varying sophistication are unpacked. The sequence highlights how connections can be made between each strategy and to the overarching mathematical learning goal, allowing all students to make meaningful contributions to each lesson.

reSolve Classrooms Have a Knowledge Building Culture

- Clear links are made between anticipated student strategies and important mathematical ideas.
- Multiple opportunities are afforded to students to share their thinking on fair shares to help others form their own thinking and ideas on the concept of fractions as division.