

# SCRABBLE STATS: Sequence Overview

## Summary of learning goals

Students collect data about letter frequency in a variety of text sources. They use their findings to critically evaluate letter point values in Scrabble and to decipher an encoded excerpt of text.

**Australian Curriculum: Mathematics (Year 6)**

**ACMNA131:** Make connections between equivalent fractions, decimals and percentages.

**ACMSP146:** Compare observed frequencies across experiments with expected frequencies.

**ACMSP147:** Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables.

## Summary of lessons

### Who is this Sequence for?

This sequence is for students who are familiar with calculating relative frequency. Students should have experience using data to make and justify conclusions.

### Lesson 1: Scrabble Values

Students collect data about letter frequency in newspapers and use this data to propose new letter point values for Scrabble.

### Lesson 2: Scrabble Sources

Students design a themed variation on Scrabble by collecting data on letter frequency in a chosen text source and using their data to determine new letter point values.

### Lesson 3: Scrabble Decoding

Students use their knowledge of letter frequencies in English to decode an excerpt of text.

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We value your feedback after these lessons via our website.

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## Reflection on this sequence

### Rationale

This sequence uses the real-world challenge of “fixing” scrabble to structure an investigation into data collection and analysis. Students explore different methods for collecting letter frequency data from text, using both analogue and digital counting methods. They draw conclusions from their data and apply their findings to design new scoring systems and to crack ciphers. The final task is an engaging activity that requires students to draw on their understanding of the previous tasks in different ways.

The first two lessons could also be used as an introduction to the implications of collecting data through sampling for later years.

### reSolve Mathematics is Purposeful

- This is a cross-curriculum sequence that explores connections between literacy and numeracy, drawing on students’ knowledge of spelling and grammar as well as data collection and percentages. Students come to see that investigating letter frequency may be a literacy activity, but making decisions based on the letter frequency makes it a maths lesson.

### reSolve Tasks are Inclusive and Challenging

- The tasks in this sequence are all low floor, high ceiling activities that allow students to investigate as deeply as they wish.
- The final task in this sequence allows for a variety of problem-solving strategies that can then be compared and discussed.

### reSolve Classrooms Have a Knowledge Building Culture

- Students share strategies and see that they can compile individual data to create a collated database much bigger than they could have collected independently
- Students investigate separate contexts and then compare and contrast their findings in order to draw generalised conclusions