re(Solve) MATHS BY INQUIRY What's in a Name?

Y7

Summary of learning goals

- Students examine trends in the names of students in the class, as well as trends in popular names from 2017 and 1957. They look at data associated with these names and explore the use and significance of the mode as a measure of central tendency.

Australian Curriculum: Mathematics (Year 7)

ACMSP171: Calculate mean, median, mode and range for sets of data. Interpret these statistics in the context of data.

ACMSP172: Describe and interpret data displays using median, mean and range.

Summary of lessons

Who is this sequence for?

- This sequence is for students who are familiar with measures of central tendency, including mean, median and mode. Students should be able to use statistics to creatively interpret data.

Lesson 1: How Popular Are We?

Students review the 100 most popular boys' and girls' baby names for 2017, use spreadsheets to analyse these names, and compare their findings to the names of students in the class or school. There is a focus on finding meaningful ways to evaluate the datasets, as students use modal values to develop new representative 'composite' names.

Lesson 2: How Popular Were They?

Students compare datasets of popular names in 2017 and 1957 to see how the popularity of names has changed over time. They hypothesise about the reasons for these changes.

reSolve: Mathematics by Inquiry is funded by the Australian Government and is managed by the Australian Academy of Science.

Reflection on this sequence

Rationale

The sequence of lessons provides a personal context in which to examine and determine measures of central tendency. There are opportunities for students to be creative when designing a 'composite' class name, and for them to develop hypotheses to explain why names become more or less popular over time. There are opportunities for open exploration of data to identify interesting trends.

reSolve mathematics is purposeful

- This sequence uses real data to develop concepts associated with measures of central tendency.
- Students examine when a particular measure may or may not be appropriate.

reSolve tasks are inclusive and challenging

- All students are included through the collaborative use of each student's name to generate data for examination.
- The 'create a composite name' task has a low floor and high ceiling. Students determine their own method for completing the task based on their own skills and understanding, making this activity a useful assessment tool.
- The lessons make extensive use of spreadsheets, allowing students who are ready to learn sophisticated techniques to devise their own strategies and formulas.

reSolve classrooms have a knowledge-building culture

- Students share their unique strategies and reasoning for creating their composite names and learn from each other's strategies.
- Students are provided with opportunities to develop, share and debate their own hypotheses about how names have changed over time.

Acknowledgements

The data for popular baby names in 1957 comes from the NSW Registry of Births Deaths & Marriages, the South Australian Government Data Directory, and the Registry of Births, Deaths and Marriages Victoria.