re(Solve) MATHS BY INQUIRY

What a Load of Rubbish!

Y2

Summary of learning goals

- Students learn to use a column graph to display data so they can draw conclusions and make inferences. They use a dataset to make informed decisions and consider the ways in which they can best respond as responsible citizens.

Australian Curriculum: Mathematics (Year 2)

ACMSP048: Identify a question of interest based on one categorical variable. Gather data relevant to the question.

ACMSP049: Collect, check and classify data.

ACMSP050: Create displays of data using lists, table and picture graphs and interpret them.

Summary of lessons

Who is this sequence for?

- Students who have had previous experience constructing picture graphs.
- This sequence has strong connections to the cross-curriculum priority of sustainability.

Lesson 1: Recording Rubbish

Students conduct an audit of the rubbish they find in their playground. They use a range of categories to sort and display the data, then interpret the data and make simple inferences.

Lesson 2: Reducing Rubbish

Students learn about different ways of recycling and composting. They sort collected rubbish according to whether it can be recycled, composted or if it needs to go into the bin. Students create a graph based on the data and make inferences.

Lesson 3: Put it in the Bin

Students audit the bins in different areas of the playground. They compare the number of bins to the amount of general rubbish and recyclable rubbish found in the different areas. They are asked to consider if the school rubbish bins are in the right place.

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Australian Academy of Science

Reflection on this sequence

Rationale

This sequence focuses on developing the fundamental understanding of variation in data through a meaningful context.

By sorting the rubbish they collect from different areas of the school playground, students learn to classify their data and consider whether their categories represent all the data they have collected. Comparing each other's graphs, students can appreciate the extent of the variation between the number of pieces of rubbish in each category, depending on where the rubbish was collected. Students compare their column graphs and use the data to justify the placement of rubbish bins in their school playground.

The focus on variability is what distinguishes statistics from mathematics.

reSolve mathematics is purposeful

- The sequence builds students' understanding of data variation.
- The context of rubbish in the playground is personally significant to students. This context is extended to a real-world issue, as students are asked to consider recycling and the ways in which they can help their school reduce waste.

reSolve tasks are inclusive and challenging

- Students are asked to make inferences and draw conclusions of varying complexity based on the data presented.

reSolve classrooms have a knowledge-building culture

- This sequence relies on collaborative problem-solving.