re(Solve) MATHS BY INQUIRY **Licorice Lines**

Summary of learning goals

- This sequence is designed to develop students' concept of statistical variation. They perform experiments, draw graphs, compare results and analyse their findings.

Australian Curriculum: Mathematics (Year 3)

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

ACMSP069: Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies.

ACMSP070: Interpret and compare data displays.

Summary of lessons

Who is this sequence for?

- Students will need some experience with data collection, creating simple column graphs and conducting experiments.

Lesson 1: Making Licorice

Students observe variation in machine-made and handmade products, then make licorice sticks by hand and using the Play-Doh Fun Factory®. They record and compare the attributes of both types of licorice sticks by plotting their findings and comparing the shapes of the two plots.

Lesson 2: Are Machines Better?

Students are challenged to use the Play-Doh Fun Factory® to produce identical licorice sticks. They experiment with strategies to restrict variation and consider the importance of maintaining consistency.

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Reflection on this sequence

Rationale

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

Students learn about variation by making licorice sticks with a machine and then by hand. They record their results and display their data using dot plots. By comparing the shapes of the two dot plots, students can appreciate that variation is natural. They then experiment with strategies to restrict variation when making their licorice sticks.

The focus on variability is what distinguishes statistics from mathematics.

reSolve mathematics is purposeful

- The lesson builds students' understanding of data variation.
- The context of a licorice factory is both intriguing and easily imagined by students.

reSolve tasks are inclusive and challenging

- The collaborative, hands-on nature of this task provides access for all students.
- Students are asked to make inferences and draw conclusions of varying complexity based on the data presented.

reSolve classrooms have a knowledge-building culture

- The task is completed as a class, allowing students to learn from others' contributions. This allows students to build on the collective knowledge of the class while also extending their individual understanding.

Acknowledgements