# Resource in focus – Mathematics – Stage 3 Unit 1

## Effective in-class questioning

This resource showcases an excerpt from sample unit [Mathematics – Stage 3 Unit 1 (DOCX 1.9 MB)](https://education.nsw.gov.au/content/dam/main-education/en/home/schooling/curriculum/mathematics/mathematics-s3-unit-01.docx). Sample units are optional resources that present **one way** of designing teaching and learning experiences. They can be adopted and adapted for your school context.

The example below demonstrates **one way** that activities in a lesson may be adapted to strengthen opportunities for effective questioning. It focuses on Lesson 1 – Core lesson 1: Ordering large numbers. This lesson sits within a 2-week unit with 8 lessons.

Possible adaptations are represented in **bold red**.

### Lesson 1

**Note:** Daily number sense section omitted.

### Core lesson 1: Ordering large numbers – 30 mins

The table below contains suggested learning intentions and success criteria. These are best co-constructed with students.

|  |  |
| --- | --- |
| Core concept learning intentions | Core concept success criteria |
| Students are learning to:   * arrange numbers in the millions in ascending and descending order * name numbers in the millions using the place value grouping of ones, tens and hundreds. | Students can:   * arrange sets of place value variation cards in ascending order * write large numbers and read them out loud using the place value grouping of ones, tens and hundreds. |

This activity is an adaptation of [Place value with whole numbers](https://nzmaths.co.nz/resource/place-value-whole-numbers) from [NZ Maths](https://nzmaths.co.nz/) by New Zealand Ministry of Education.

1. Discuss big numbers with the class. Ask students:

* Where do you see big numbers?
* Why are they useful?
* Where are large numbers used in real life?
* How do we name them? [note any students who may benefit from support with place value]
* How do we write them? **(note any students who may benefit from support in representing numbers in numerals and words)**

**Add a questioning activity to clarify prior knowledge and determining instructional priorities.**

**Use a statement to cause thinking. For example, ‘2 569 704 is not a big number’. Invite students to agree or disagree with this statement. Students Think–Pair–Share in response.**

**On individual whiteboards, students record a ‘big number’ as a numeral, in expanded notation, and in words. For example, 258 372; 200 000 + 50 000 + 8000 + 300 + 70 + 2; two hundred and fifty-eight thousand, three hundred and seventy-two.**

**Provide time for students to share and discuss their number. Ask:**

* **Why did you pick that number?**
* **What makes it a big number?**
* **How do you know?**

**Optional: in small groups or as a class, students organise their numbers in ascending order and explain their thinking.**

**Observe, record and use student responses to inform next steps in teaching and learning.**

[lesson continues as is...]

## References

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