# Maths Unit Plan – Measurement Level 2

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| **New Zealand Curriculum Links**  *In a range of meaningful contexts, students will be engaged in thinking mathematically and statistically. They will solve problems and model situations that require them to:* | | | |
| * Create and use appropriate units and devices to measure length, area, volume and capacity, weight (mass), turn (angle), temperature, and time. * Partition and/or combine like measures and communicate them, using numbers and units. | | | |
| **National Standard link:** *In contexts that require them to solve problems or model situations, they will be able to:* | | | |
| After 3 years   * measure the lengths, areas, volumes or capacities, and weights of objects and the duration of events, using linear whole-number scales and applying basic addition facts to standard units | | End Year 4   * measure the lengths, areas, volumes or capacities, weights, and temperatures of objects and the duration of events, reading scales to the nearest whole number and applying addition, subtraction, and simple multiplication to standard units | |
| **Big Ideas** | | | |
| * units can be used to measure objects, standard and non-standard | | | |
| **Numeracy Links** | | | |
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| **Learning Outcomes** | | | |
| **AO1**   * use non-standard volume units (cups, spoons, bowls) to fill a container and count the number used * recognise the need for a standard unit of volume * measure to the nearest litre and half litre by using litre containers to fill and count accurately measure volume using standard kitchen measuring cup * estimate volume using litres and millilitres * accurately measure volume using litres and millilitres * use objects of 1 litre volume to estimate the volume of other objects * discuss the need for having and using standard measures of volume * make sensible estimates about the volume of given objects * carry out conversions between basic standard measures of volume (millilitres to litres) * explain the meaning of metric prefix terminology (e.g kilo) | | | |
| **Key mathematical language** | | | |
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| **Possible tasks** | | | |
| * use a range of arbitrary units to measure the volume of a box e.g. marbles, match boxes, cm cubes, Lego bricks, golf balls etc. Describe the volume of your box, compare with others who have boxes with the same volume : “My box must be bigger because I’ve got 29 marbles” “But my box holds 5 golf balls and they’re bigger than marbles”. Need for *standard units.* * A rectangular box is made out of cubes. The end of the box looks like this. What might the volume of the box be? * A cubic structure is made out of 27 smaller cubes. Two of the smaller cubes are removed from the arger structure. What might the structure look like then? * Estimate and then measure the volume of suitable small classroom objects in cubic centimetres – pencil boxes, cubes, game boxes etc * Use a 1L jug(container A), a 3L jug (Container B) and a 500mL jar. How many jars will fit into each jug? Estimate. Check. Points to discuss – is there a quicker way using less water, once you know the capacity of Container A & B. * Order a series of cans by volume – guess and check. (Cans of different shapes). | | | |
| **Assessment** | | | |
| **Diagnostic**  Making reasonable predictions. | **Formative**  Observtion  Listening to conversations/language used.  Listening to groups report back on the task. | | **Summative**  Can the students use the correct language in context?  Cna the students record using standard untis?  Can students describe relationships between standard units? e.g. 4 cups = 1L; 1000mL = 1L |