MEASUREMENT AND GEOMETRY – UNDERSTANDING UNITS OF MESUREMENT (UuM)

UuM1 – DESCRIBING LENGTH

- ☐ I can identify the attribute of length using gestures
- ☐ I can identify the longest object using direct comparison
- ☐ I can compare the length of two objects by matching the ends
- ☐ I can use everyday language to describe measurement

UuM2 – COMPARING AND ORDERING OBJECTS

- ☐ I can compare objects using comparative language such as longer, shorter, lighter, heavier, the same as, etc.
- ☐ I can order three or more objects by comparing their size
- ☐ I can make a copy of the length of one object (with fingers) and compare this with another object

UuM3 – USING INFORMAL UNITS OF MEASURE

- ☐ I can estimate the total number of units needed to measure an object, e.g. the book is three pop sticks in length
- ☐ I can use different informal units to measure length, mass or capacity, such as paper clips, blocks or counters
- ☐ I can use a selection of the same size object to measure length, area and volume without gaps or overlaps
- ☐ I can count (by ones) the number of units I have used to measure an object to find the total and then make comparisons

UuM4 – USING EQUAL UNITS FOR INDIRECT COMPARISON

- ☐ I can describe the relationship between the size and number of units (with bigger units you need fewer of them)
- ☐ I can use a selection of the same size and type of unit to make indirect comparisons of mass and capacity

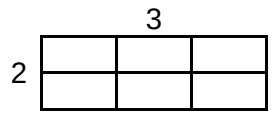
UuM5 – REPEATING A SINGLE INFORMAL UNIT TO MEASURE

- ☐ I can measure the length of a shape using a single informal unit repeatedly, e.g. use one paper clip when measuring the length of a line by marking its place then moving the clip along the line
- ☐ I can estimate the length or area by visualising how many units I think will fill the space being measured
- ☐ I can explain that the distance measured is the space between the marks of each unit, not the marks themselves
- ☐ I can use appropriate uniform units when measuring mass and capacity

This document has been adapted from the National Numeracy Learning Progression (NSW Syllabuses – May 2018)
http://educationstandards.nsw.edu.au/wps/wcm/connect/7a7c08ac-8c7b-43db-934b-4a71f46a790e/national-numeracy-learning-progression.pdf?MOD=AJPERES&CVID

UuM6 – IDENTIFYING THE STRUCTURE OF UNITS

- ☐ I can draw and describe the row and column structure to represent area as an array, e.g.



This is a 2 x 3 array

- ☐ I can calculate the total area using my knowledge of multiplication, e.g. a 2 x 3 array has a total area of 6
- ☐ I can use familiar items as benchmarks when estimating mass and capacity, e.g. the capacity of the cup is less than my drink bottle
- ☐ I can estimate lengths that lie between full units by visualising, e.g. the length of the book is 10 and a half blocks

UuM7 – USING THE STRUCTURE OF UNITS

- ☐ I can explain the difference between different measures of the same shape or object (area and perimeter, volume and mass, volume and capacity)
- ☐ I can use rows, columns and layers to find the number of units needed to measure volume
- ☐ I can create and use the structure of repeated layers to determine the volume of a rectangular prism
- ☐ I can use dissection and rearrangement to calculate the area of unfamiliar shapes

UuM7 – USING INFORMAL UNITS

- ☐ I can measure, compare and estimate length, area, mass, volume and capacity using standard formal units
- ☐ I can calculate the perimeter using the properties of two-dimensional shapes to determine unknown lengths

UuM8 – CONVERTING UNITS

- ☐ I can convert between formal units of measurement
- ☐ I can recognise the relationship between metric units of measurement and the base-ten place value system, e.g. there are 100 centimetres in 1 metre
- ☐ I can use a diagram to explain why having 100 cm in a metre results in 10 000 cm^2 in a square metre

UuM9 – CALCULATING MEASUREMENTS

- ☐ I can use dissection and rearrangement to calculate the volume of objects
- ☐ I can measure objects with a high level of precision, e.g. use decimal values

UuM9 – CIRCLE MEASUREMENTS

- ☐ I can understand the relationship between the circumference and the diameter of a circle is constant (π)
- ☐ I can use the constant (π) to determine the circumference and area of a circle

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