**VOLUME AND CAPACITY 1 – STAGE 1**

**OUTCOMES**

A student:

* MA1-1WM - describes mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols
* MA1-3WM - supports conclusions by explaining or demonstrating how answers were obtained
* MA1-11MG - measures, records, compares and estimates volumes and capacities using uniform informal units

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| **CONTENT** | **plan** |
| **Measure and compare the [capacities](http://syllabus.bos.nsw.edu.au/glossary/mat/capacity/?ajax" \t "_blank" \o "Click for more information about 'capacities') of pairs of objects using uniform [informal units](http://syllabus.bos.nsw.edu.au/glossary/mat/informal-unit/?ajax" \t "_blank" \o "Click for more information about 'informal units') (ACMMG019)** |  |
| use uniform informal units to measure the capacities of containers by counting the number of times a smaller container can be filled and emptied into the container being measured | 2 |
| select appropriate uniform informal units to measure the capacities of containers, eg using cups rather than teaspoons to fill a bucket (Problem Solving) | 2 |
| explain the relationship between the size of a unit and the number of units needed, eg more cups than ice cream containers will be needed to fill a bucket (Communicating, Reasoning) CT | 2 |
| record capacities by referring to the number and type of uniform informal unit used http://syllabus.bos.nsw.edu.au/wsimages/cca/l.png | 2,3 |
| compare the capacities of two or more containers using appropriate uniform informal units | 2,3 |
| recognise that containers of different shapes may have the same capacity (Reasoning) | 2 |
| estimate capacities by referring to the number and type of uniform informal unit used and check by measuring | 3 |
| pack cubic units (eg blocks) into rectangular containers so that there are no gaps | 3 |
| recognise that cubes pack better than other objects in rectangular containers (Reasoning) | 3 |
| measure the [volume](http://syllabus.bos.nsw.edu.au/glossary/mat/volume/?ajax" \t "_blank" \o "Click for more information about 'volume') of a container by filling the container with uniform informal units and counting the number of units used, eg the number of blocks a box can hold | 1 |
| devise and explain strategies for packing and counting units to fill a box, eg packing in layers and ensuring that there are no gaps between units (Communicating, Problem Solving) CT | 1 |
| explain that if there are gaps when packing and stacking, this will affect the accuracy of measuring the volume (Communicating, Reasoning) CT | 1 |
| record volumes by referring to the number and type of uniform informal unit used http://syllabus.bos.nsw.edu.au/wsimages/cca/l.png | 1 |
| estimate volumes of containers by referring to the number and type of uniform informal unit used and check by measuring | 4 |
| explain a strategy used for estimating a volume (Communicating, Problem Solving) CT | 4 |
| predict the larger volume of two or more containers and check by measuring using uniform informal units (Reasoning) | 4 |
| estimate the volume of a pile of material and check by measuring, eg estimate how many buckets would be used to form a pile of sand | 4 |

**VOLUME AND CAPACITY 2 – STAGE 1**

**OUTCOMES**

A student:

* MA1-1WM - describes mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols
* MA1-2WM - uses objects, diagrams and technology to explore mathematical problems
* MA1-3WM - supports conclusions by explaining or demonstrating how answers were obtained
* MA1-11MG - measures, records, compares and estimates volumes and capacities using uniform informal units

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| **CONTENT** | **plan** |
| **Compare and order several objects based on [volume](http://syllabus.bos.nsw.edu.au/glossary/mat/volume/?ajax" \t "_blank" \o "Click for more information about 'volume') and [capacity](http://syllabus.bos.nsw.edu.au/glossary/mat/capacity/?ajax" \t "_blank" \o "Click for more information about 'capacity') using appropriate uniform [informal units](http://syllabus.bos.nsw.edu.au/glossary/mat/informal-unit/?ajax" \t "_blank" \o "Click for more information about 'informal units') (ACMMG037)** |  |
| make and use a measuring device for capacity calibrated in uniform informal units, eg calibrate a bottle by adding cups of water and marking the new level as each cup is added | 5 |
| compare and order the capacities of two or more containers by measuring each container in uniform informal units | 5 |
| compare and order the volumes of two or more models by counting the number of blocks used in each model | 6 |
| recognise that models with different appearances may have the same volume (Reasoning) | 6 |
| compare and order the volumes of two or more objects by marking the change in water level when each is submerged | 7 |
| recognise that changing the shape of an object does not change the amount of water it displaces (Reasoning)CT | 7 |
| record volume and capacity comparisons informally using drawings, [numerals](http://syllabus.bos.nsw.edu.au/glossary/mat/numeral/?ajax" \t "_blank" \o "Click for more information about 'numerals') and words, and by referring to the uniform informal unit used http://syllabus.bos.nsw.edu.au/wsimages/cca/l.png | 5-7 |