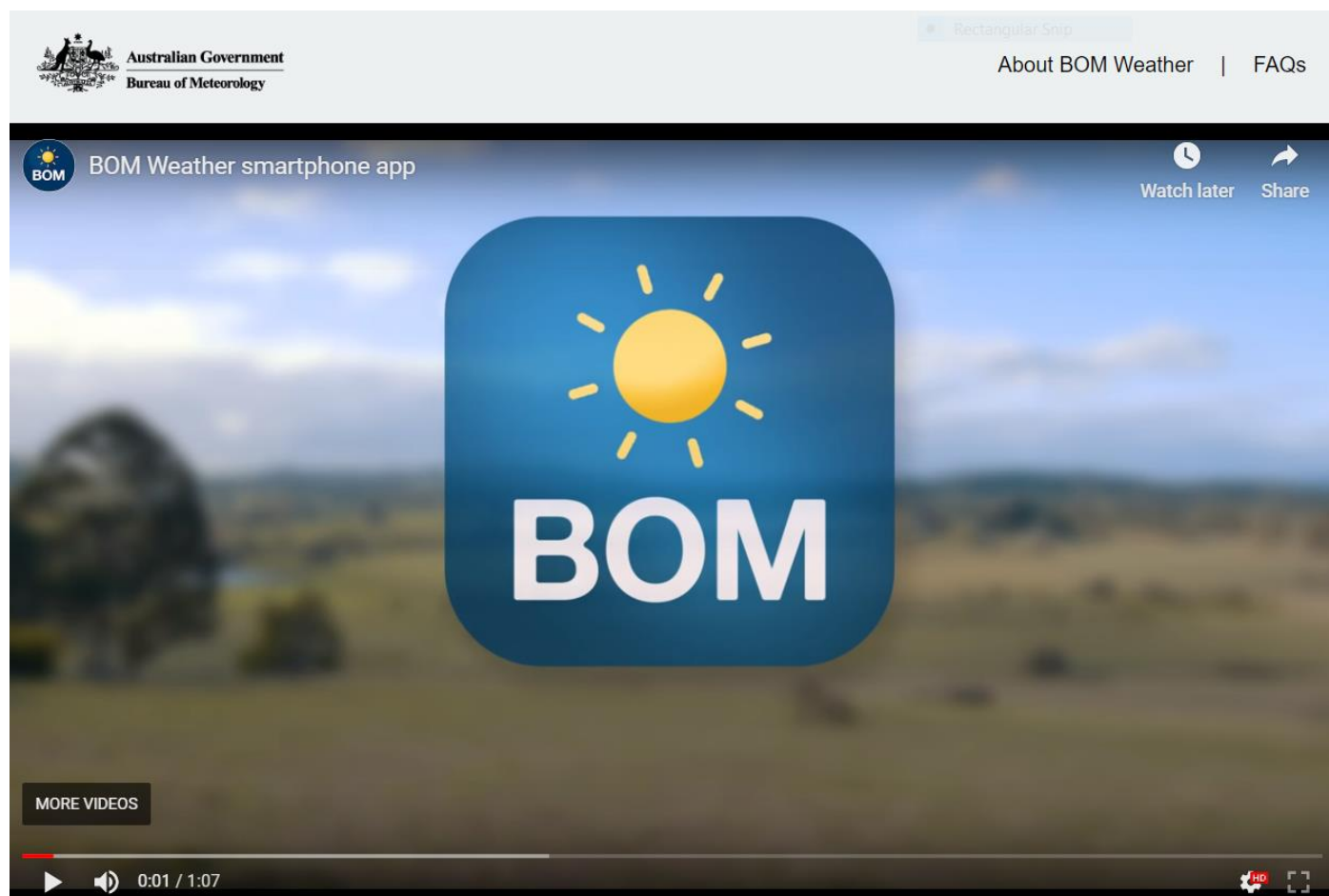


## Flooding Project – Mathematics Activity

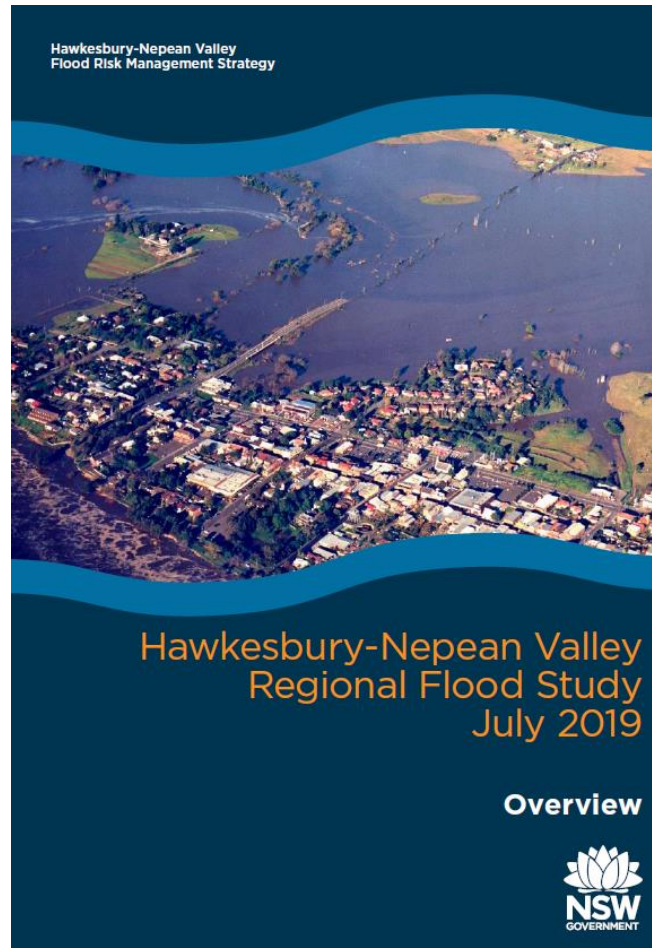
- Students investigate, interpret and analyse graphs from authentic data
- Students choose appropriate units of measurement for volume and convert from one unit to another
- Students recognise and solve problems involving simple ratios
- Students solve a range of problems involving ratios and rates, with and without the use of digital technologies

**Download the Bureau of Meteorology Water Storage app**

Go to <http://www.bom.gov.au/app/>

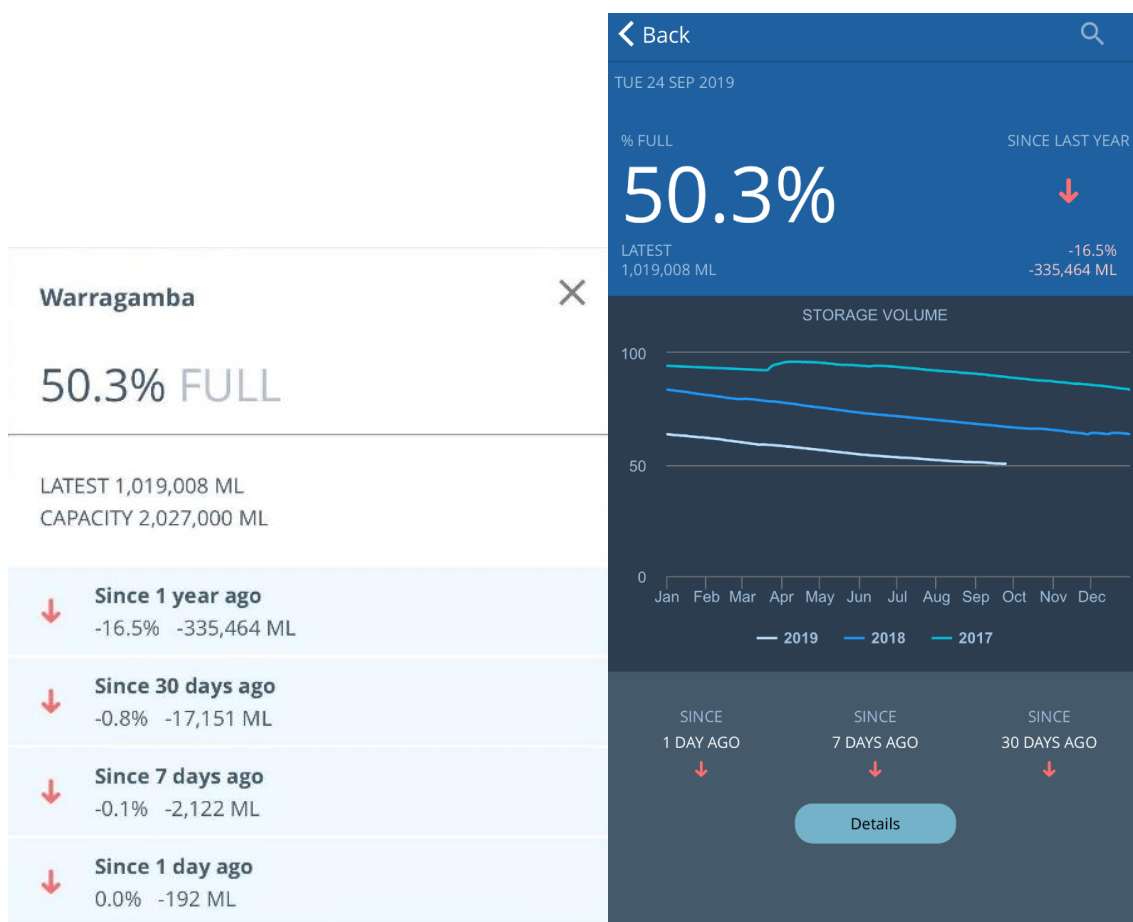


**Task:** Refer to the information about Warragamba Dam and catchment in the following document.



Warragamba Dam is located on a narrow gorge on the lower section of the Warragamba River, 3.3 kilometres before it joins the Nepean River near Wallacia. The catchment above Warragamba Dam makes up around 80% of the total catchment to Penrith and 70% to Windsor. Therefore, it has a major influence on flooding in the valley, contributing the majority of flows in the largest floods. If the storage level behind Warragamba Dam is very low, it can help hold back the inflows during floods. However, in large rainfall events, the dam can fill and spill quickly. This happened in 1998, when the dam went from 56% storage level to full and spilling in around two weeks. If the storage is close to full, the dam cannot hold inflows back. History shows that most of the large floods occur during wet periods when the dam is already nearly full.

Using the Bureau's app find the latest storage data and graphs for Warragamba Dam (the screen shots below were taken on Sept 26th 2019).



## Inquiry Questions:

1. How does the water storage this year compare to the storage volume in previous years?
2. The app uses ML – megalitres as the unit of measurement for volume. How many litres are in one ML? How many ML are in one GL (gigalitre)?
3. A standard Olympic swimming pool contains 2.5ML. How many swimming pools could be filled using the water in Warragamba Dam today?
4. Sydney Harbour contains approximately 500 000ML of water. How many Sydney Harbours could be filled using the water in Warragamba Dam today?
5. Using today's volume as a starting point, how much more water can Warragamba Dam hold before it overflows?
6. **CHALLENGE:** Design a swimming pool that would hold 1ML of water. Show your working.