



Makes Maths Fun

# Level 7

## VOLUME & CAPACITY

Bloomsmath is a comprehensive mathematics program which provides a fun way for every student to be learning to the best of their ability.

By Rachel McCann (B.Teach; B.Ed Hons; M.ED (Special Ed.))

## Volume & Capacity

Level 7 is designed for students in their seventh year at school often called Year 6. Students will select and use the appropriate unit to estimate and measure volume and capacity, including the volume of rectangular prisms.

**Knowledge:** Students will calculate the volume of various prisms.



Students who demonstrate proficiency in this activity move on to Comprehension.



Students stop here as they require additional teacher support to master this activity.

**Comprehension:** Students will use 2 known container to create a third volume.



Students who demonstrate proficiency in this activity move on to Application.



Students stop here if time has run out or they require additional support with this activity.

**Application:** Students will explore capacity of vats in "Don't Cry Over Spoilt Milk" - Part 1.



Students who demonstrate proficiency in this activity move on to Analysis.



Students stop here if time has run out or they require additional support with this activity.

**Analysis:** Students will answer more capacity questions in "Don't Cry Over Spoilt Milk" Part 2.



Students who demonstrate proficiency in this activity move on to Synthesis.



Students stop here if time has run out or they require additional support with this activity.

**Synthesis:** Students will solve the final part of the puzzle 'Don't Cry Over Spoilt Milk'.

**Evaluation:** Suggested questions provide a starting point for discussions related to Volume and Capacity.



Students may complete more or fewer activities for each learning outcome depending on the time allocated and their strength in the area being covered.

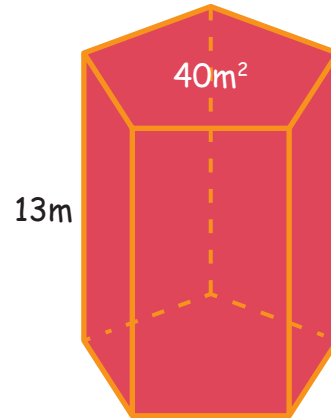
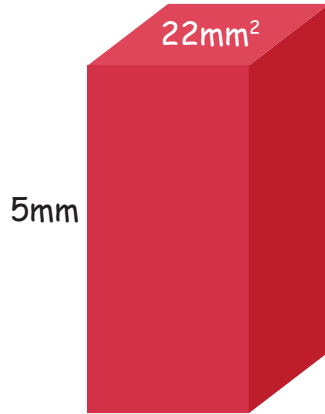
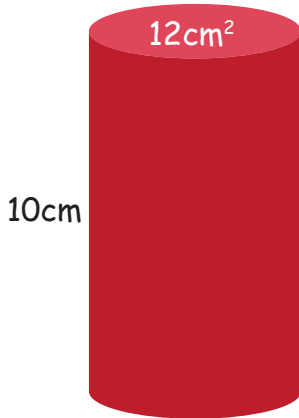


All students should participate in the Evaluation discussion to encourage the use of mathematical language, logical reasoning and reflection on that which they have completed.

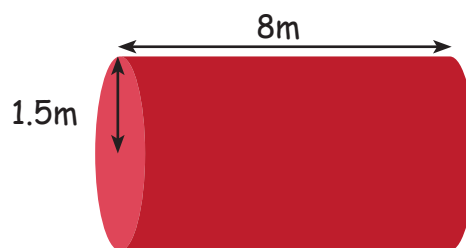
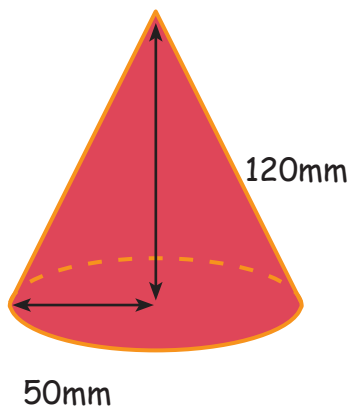
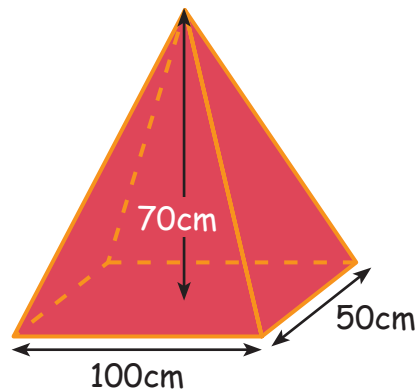
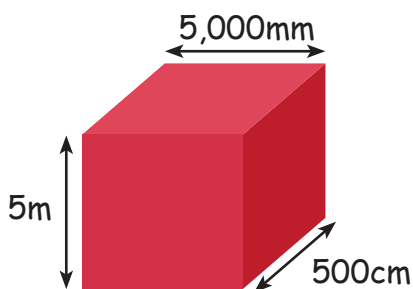
Name: \_\_\_\_\_

# Knowledge

Find the volume of each container below by multiplying the base area by the container's height.



Now multiply all 3 dimensions to find each container's volume.



Let's Try This Again



Progress To Comprehension

VC 7 KN

Knowledge

Comprehension

Application

Analysis

Synthesis

Evaluation

Volume & Capacity - Level 7 - Students will estimate and measure volume and capacity.



Name: \_\_\_\_\_

# Comprehension

## You will need:

- A 3 Cup jug
- A 5 Cup jug
- A bucket of water

In the space below show how a 3 cup and a 5 cup jug can be used to accurately measure 1 cup of water. The jugs can be filled multiple times if required.

This time show how 4 cups can be measured with a 3 cup and a 5 cup jug.

Knowledge  
Comprehension  
Application  
Analysis  
Synthesis  
Evaluation

Volume & Capacity - Level 7 - Students will estimate and measure volume and capacity.



Let's Try This Again



Progress To Application

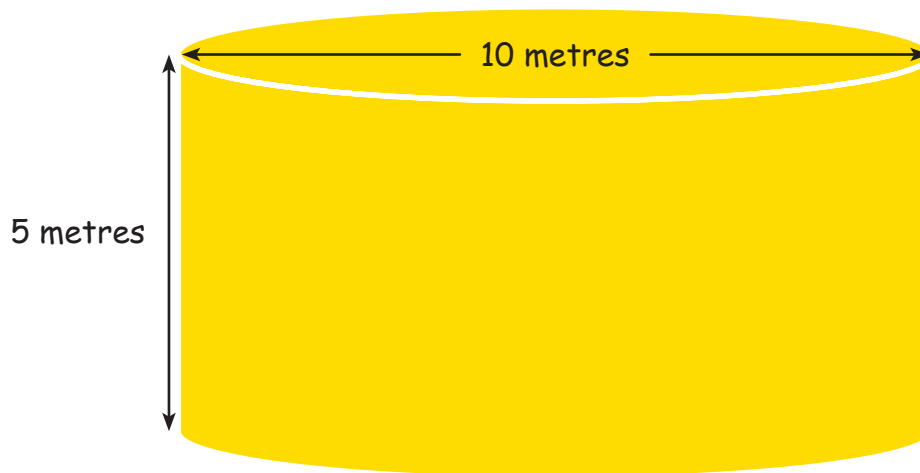
Name: \_\_\_\_\_

# Application

## "Don't Cry Over Spoilt Milk" - Part 1

Last month in Bega there was a natural disaster when the Bega River burst its banks. Unfortunately a cheese factory located next to the river lost 5 of its milk vats when they became diluted with tainted river water. Luckily though the cheese factory had insurance so they were able to recover the costs of the lost milk and unmade cheese.

Using the diagram below can you help the cheese factory fill in the questions posed by the insurance company.



If each of the 5 vat were filled to capacity how much milk was ruined?

Knowledge  
Comprehension  
Application  
Analysis  
Synthesis  
Evaluation

Volume & Capacity - Level 7 - Students will estimate and measure volume and capacity.



Let's Try This Again



Progress To Analysis

Name: \_\_\_\_\_

# Analysis

## "Don't Cry Over Spoilt Milk" - Part 2

If each vat had water 80 centimetres deep in it and we know that 1 cubic metre of water is 1000 litres how much water was in each vat in litres and as a percentage of each vat?

Volume & Capacity - Level 7 - Students will estimate and measure volume and capacity.

Knowledge

Comprehension

Application

Analysis

Synthesis

Evaluation



Let's Try This Again



Progress To Synthesis

Name: \_\_\_\_\_

# Synthesis

## "Don't Cry Over Spoilt Milk" - Part 3.

If the water and milk mix was pumped out of the vats at a rate of 10 litres per minute how long did it take to pump out the vats?

## "Don't Cry Over Spoilt Milk" - Part 4

If the pump's container was able to hold 2000 litres of water/milk mixture how many containers of mixture were filled from the vats.

Knowledge  
Comprehension  
Application  
Analysis  
Synthesis  
Evaluation

Volume & Capacity - Level 7 - Students will estimate and measure volume and capacity.



Let's Try This Again



Progress To Evaluation

# Evaluation

The following questions and activities are provide as a starting point for fun discussions related to Volume and Capacity. During these conversations students will have an opportunity to use appropriate mathematical language in its correct context, to engage in reflection on the Volume and Capacity activities they have completed and to use logical reasoning to tie their in-class mathematics to its everyday context.



See if students can find the volume of various rectangular prism tubs.



Can students find the volume or items such as cans or tins given the area of the top of the can?



How does this differ to the advertised volume of each can or tin?



When would the information used in Don't Cry Over Spoilt Milk be applicable is the real world?



Look at the size of a paint tin and the square meterage it is expected to cover. Can students calculate the volume of paint per square meter using these details?



Can students calculate the cost of painting 1 wall of the classroom?

