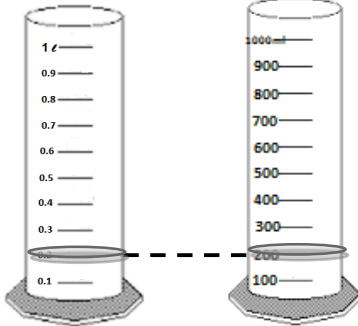


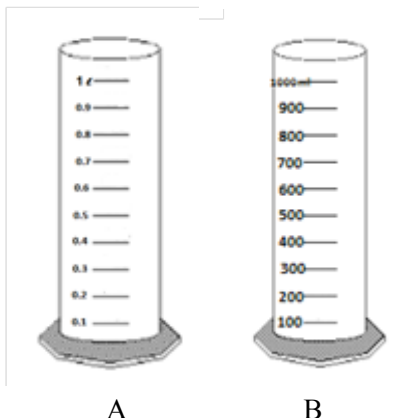
Maths Learning Design

Topic:	Measurements	Class:	Year 6	Duration:	2 – 3 periods
Subtopic :	Conversion of volume				
Content Learning Objectives:	Pupils should be able to: <ul style="list-style-type: none"> • Convert 1 litre to 1000 millilitres • Convert 1000 millilitres to 1 litre • Convert > litre to > millilitres and vice versa. 				

	Teaching & Learning Activities	Resources	Summary
<p>Tuning in (Introduction) <i>Determine prior knowledge and prepare pupils</i></p>	<ol style="list-style-type: none"> 1. Review on operations $N \times 1000$, $N \div 1000$ Eg: $0.2 \times 1000 = 200$ (shifting decimal points) $300 \div 1000 = 0.3$ (shifting decimal points) 2. Recap previous knowledge by asking questions. Example of questions: <ul style="list-style-type: none"> • What type of instrument do we use to measure liquid? • What unit do we use to measure liquid? • Does anyone know how many millilitres are there in 1 litre? 3. Provides two identical measuring cylinders with different labels. One with litre and the other one in millilitre. 4. From the two cylinders, it can be shown that the 1000 ml measuring cylinder is the same as the 1 litre cylinder. 5. Give further examples to explain how to convert 1 litre to 1000 ml and vice versa. Examples 200 ml on one cylinder is the same as 0.2 litre on the other cylinder. <div style="text-align: center; margin-top: 20px;">  </div>	<ul style="list-style-type: none"> • Measuring cylinders 	

Finding out & Sorting out (Lesson Development)
Time to locate, gather information, organise and process ideas.

1. Group the pupils (2 to 4 pupils)
2. Teacher provides two measuring cylinders and an observation sheet in each group.



3. Each group is given an observation sheet.

4. Pupils will have to fill the measuring cylinder A in millilitres with different volumes of liquid
5. Pupils pour the liquid from measuring cylinder A into the measuring cylinder B in litre.

<i>ml</i>	<i>l</i>
250	
300	
370	
400	
850	
1000	

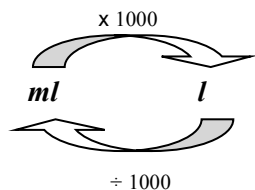
6. Pupils record their findings in an observation sheet given.
7. Repeat the same procedure for conversion of litre to millilitre
8. Pupils put up their findings on the white board
9. Ask the pupils to look at the information gathered. Observe the patterns and discuss with the pupils by asking questions :

Example of questions :

- a. How can we convert ml to l?
What must we do?
- b. How can we convert l to ml?
What must we do?
- c. How many ml make one litre

<i>l</i>	<i>ml</i>
0.2	
0.45	
0.5	
0.7	
0.85	
1	

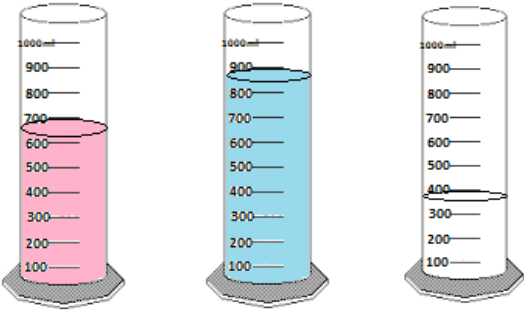
10. As pupils give the answers, write the operation.



- 2 measuring cylinders
- Observation sheets
- liquid
- Markers

Pupils should be able to

- Measure and record volumes
- Convert between l and ml, and ml and l

<p>Making Conclusions <i>Draw conclusion and consolidate understanding</i></p>	<p>1. Asks questions to check their understandings. Example of questions :</p> <ul style="list-style-type: none"> • How many litres are there in 2500 ml? • How many millilitres are there in 1.5 litre? <p>2. Discuss the relationship of their findings. 1 litre = 1000 ml 1000ml = 1 litre</p>		<p>Pupils should be able to convert larger volumes from l to ml and vice versa</p>
<p>Go further (Enrichment) <i>Apply knowledge to develop further understanding</i></p>	<p>1) Two or more coloured liquids in millilitres are provided (cards)</p> <p>2) Asks pupils to add any two volumes and convert it to litre (guided worksheet)</p> <div style="text-align: center;">  <p>620ml 870ml 350ml</p> </div>	<ul style="list-style-type: none"> • Picture Cards • Worksheet 	<p>Pupils should be able to add volumes and express the volumes in l and ml</p>
<p>Evaluation (with respect to the Content Learning Objectives)</p>			
<p>What worked well?</p>	<p>What would make it even better next time?</p>		