

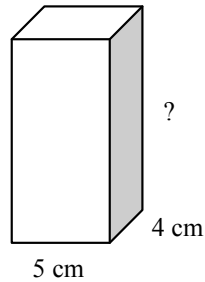
### Maths Learning Design

<b>Topic:</b>	Measurement	<b>Class:</b>	Year 6	<b>Duration:</b>	4 periods
<b>Subtopic :</b>	Finding the unknown length (using volume)				
<b>Content Learning Objectives:</b>	Pupils should be able to: <ul style="list-style-type: none"> <li>• find the unknown length of a cuboid with a given volume</li> </ul>				

Teaching & Learning Activities		Resources	Summary
<b>Tuning in (Introduction)</b> <i>Determine prior knowledge and prepare pupils</i>	<ol style="list-style-type: none"> <li>1. Teacher recaps previous knowledge on:                             <ul style="list-style-type: none"> <li>• Division</li> <li>• Formula on volume (length x breadth x height)</li> </ul> </li> <li>2. Today you will learn how to find the length of a cuboid with a given volume</li> </ol>		
<b>Finding out &amp; Sorting out (Lesson Development)</b> <i>Time to locate, gather information, organise and process ideas.</i>	<ol style="list-style-type: none"> <li>1. Pupils will be grouped (3 or 4 pupils) in mixed abilities.</li> <li>2. Each group will be given a tissue box of the same size, and their task is to calculate its volume.</li> <li>3. Pupils will make a plan on their approach. Next, they share and discuss their methodology and findings.</li> <li>4. Pupils organise their information based on their findings by using the visualizer.</li> </ol>	<ul style="list-style-type: none"> <li>• Stationaries</li> <li>• Tissue box</li> <li>• visualizer</li> </ul>	The pupils should be able to measure the dimensions of a cuboid (tissue box)
<b>Making Conclusions</b> <i>Draw conclusion and consolidate understanding</i>	<ol style="list-style-type: none"> <li>1. Recheck their findings using the formula of volume to make sure each group has the same volume.</li> <li>2. Teacher will make sure that the pupils understand based on their given task on finding the volume.</li> <li>3. Ask question and discuss further the presented data.</li> </ol>	<ul style="list-style-type: none"> <li>•</li> </ul>	Apply the formula to find the unknown length

1. Pupils will be grouped into mixed abilities.
2. Teacher writes the formula for finding volume on the board. Next, teacher manipulates the formula by asking, "If we know the volume of a cuboid and its length and breadth, can we calculate its height?"
3. Teacher goes through the manipulation to find unknown side when volume and any other sides are known.
4. The pupils will apply the knowledge on volume to solve the problem.

For example,  
*The volume of a cuboid is  $180 \text{ cm}^3$ . Given the length and breadth, find the height.*



5. Then ask the students to complete the given table (Appendix 1).

Length	Breadth	Height	Volume
5 cm	4 cm	?	$180 \text{ cm}^3$
?	3 cm	8 cm	$72 \text{ cm}^3$
4 cm	?	12 cm	$288 \text{ cm}^3$

**Go further  
(Enrichment)**

*Apply knowledge to develop further understanding*

- Appendix 1
- Activity worksheet

**Evaluation** (with respect to the Content Learning Objectives)

**What worked well?**

**What would make it even better next time?**

**Appendix 1:**

**Complete the table by finding the missing values.**

Length	Breadth	Height	Volume
5 cm	4 cm	?	180 cm <sup>3</sup>
?	3 cm	8 cm	72 cm <sup>3</sup>
4 cm	?	12 cm	288 cm <sup>3</sup>

## Activity Worksheet

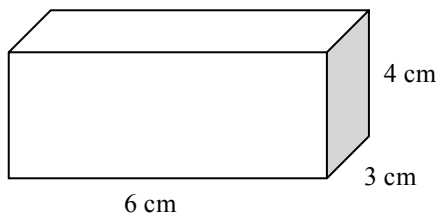
### VOLUME

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

Class: \_\_\_\_\_ Date: \_\_\_\_\_

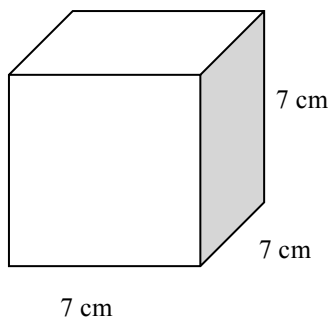
#### Solve the following:

- 1) Find the volume of the cuboid given below,



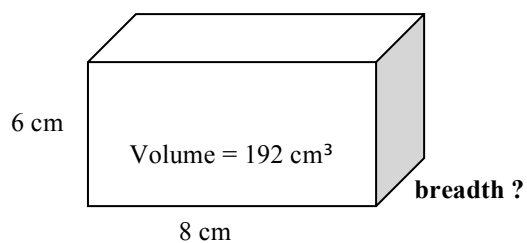
Answer = \_\_\_\_\_  $\text{cm}^3$

- 2) Find the volume of the cube shown below.



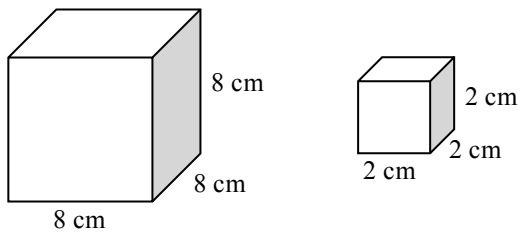
Answer = \_\_\_\_\_  $\text{cm}^3$

- 3) The volume of a solid is  $192 \text{ cm}^3$ . If the height is 6 cm and the length is 8 cm. Find the breadth.



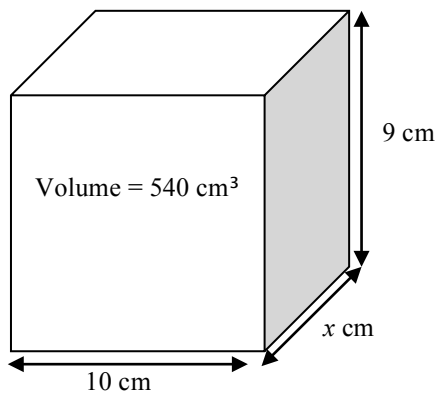
Answer = \_\_\_\_\_ cm

4) How many 2-cm cubes make up 8-cm cube?



Answer = \_\_\_\_\_ cubes

5) Given that the volume of a cuboid below is  $540 \text{ cm}^3$ . Find the length of side marked  $x$ .



Answer = \_\_\_\_\_  $\text{cm}^3$

6) The volume of a cube is  $512 \text{ cm}^3$ . What is the length of each side of the cube?

