1. Determine the volume of two boxes on the table using cubes, and then confirm by measuring and multiplying.

<table>
<thead>
<tr>
<th>Box Number</th>
<th>Number of Cubes Packed</th>
<th>Length</th>
<th>Measurements Width</th>
<th>Height</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>32</td>
<td>4cm</td>
<td>4cm</td>
<td>2cm</td>
<td>32 cm³</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>2cm</td>
<td>5cm</td>
<td>2cm</td>
<td>20 cm³</td>
</tr>
</tbody>
</table>

2. Using the same boxes from Problem 1, record the amount of liquid that your box can hold.

<table>
<thead>
<tr>
<th>Box Number</th>
<th>Liquid the Box Can Hold</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>32 mL</td>
</tr>
<tr>
<td>2</td>
<td>20 mL</td>
</tr>
</tbody>
</table>

3. Shade to show the water in the beaker.

At first: \( 8 \) mL

After 1 mL water added: \( 5 \) mL

After 1 cm cube added: \( 10 \) mL
4. What conclusion can you draw about 1 cubic centimeter and 1 mL?

\[ 1 \text{ cm}^3 = 1 \text{ mL} \]

5. The tank, shaped like a rectangular prism, is filled to the top with water.

\[ V = 8\text{cm} \times 13\text{cm} \times 10\text{cm} \]
\[ V = 104\text{cm}^2 \times 10\text{cm} \]
\[ V = 1040\text{ cm}^3 \times 10\text{cm} \]

\[ \frac{2 \times 13}{104} \]

Will the beaker hold all the water in the tank? If yes, how much more will the beaker hold? If no, how much more will the tank hold than the beaker? Explain how you know.

No, because the volume of the tank is 1,040 cm\(^3\) and the beaker can only hold 1,000 mL, which is \(=\) to 1,000 cm\(^3\).

6. A rectangular fish tank measures 26 cm by 20 cm by 18 cm. The tank is filled with water to a depth of 15 cm.

a. What is the volume of the water in mL?

\[ V_{\text{water}} = 15\text{cm} \times 26\text{cm} \times 20\text{cm} = \frac{2910\text{ cm}^2 \times 20\text{cm}}{2} \]
\[ V_{\text{water}} = 1,800\text{ cm}^3 = \frac{1,800\text{ mL}}{1,000} \]

b. How many liters is that?

\[ \frac{1,800\text{ mL}}{1,000} = 1.8\text{L} \]

c. How many more mL of water will be needed to fill the tank to the top? Explain how you know.

\[ V = 26\text{cm} \times 20\text{cm} \times 3\text{cm} \]
\[ V = 78\text{ cm}^2 \times 20\text{cm} = 1,560\text{ cm}^3 \]
\[ 1,560\text{ cm}^3 \text{ are needed to fill the remaining amount.} \]

\[ \frac{26 \times 20 \times 3}{2} = \frac{1,560\text{ cm}^3}{150} = \frac{10}{2} = \frac{10}{12} = \frac{1}{2} \]

7. A rectangular container is 25 cm long and 20 cm wide. If it holds 1 liter of water when full, what is its height?

\[ V = 25\text{cm} \times 20\text{cm} \times \_\text{cm} = 500\text{ cm}^2 \times 2\text{ cm} = 1,000\text{ cm}^3 = 1,000\text{ mL} \]

It is 2 cm tall.