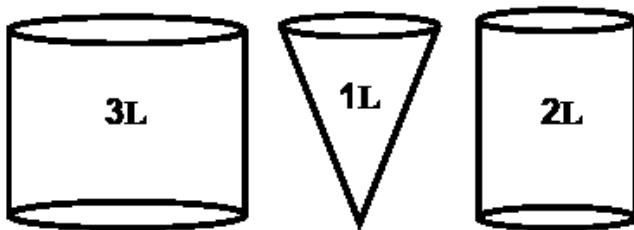


**What is Volume?**

Volume is the quantity that all three-dimensional object has. It is the space occupied by an object.



**Formula:**

1) 1 kiloliter (kL) = 1000 Liter (L)

$$1 \text{ Liter (L)} = \frac{1}{1000} = 0.001 \text{ kiloliter (kL)}$$

2) 1 hectoliter (hL) = 100 Liter (L)

$$1 \text{ Liter (L)} = \frac{1}{100} = 0.01 \text{ hectoliter (hL)}$$

3) 1 decaliter (daL) = 10 Liter (L)

$$1 \text{ Liter (L)} = \frac{1}{10} = 0.1 \text{ decaliter (daL)}$$

4) 1 Liter (L) = 10 deciliter (dL)

$$1 \text{ deciliter (dL)} = \frac{1}{10} = 0.1 \text{ Liter (L)}$$

5) 1 Liter (L) = 100 centiliter (cL)

$$1 \text{ centiliter (cL)} = \frac{1}{100} = 0.01 \text{ Liter (L)}$$

6) 1 Liter (L) = 1000 milliliter (mL)

$$1 \text{ milliliter (mL)} = \frac{1}{1000} = 0.001 \text{ Liter (L)}$$

7) 1 Liter (L) = 1000 cubic centimeter (cm<sup>3</sup>)

8) 1 Liter (L) = 1 m<sup>3</sup>

**\*\*Fill in the blanks:**

1) 4050L =  kL  daL

**Solution:**

$$\begin{aligned} 4050\text{L} &= (4050 \div 1000) \text{ kL } [\because 1\text{L} = \frac{1}{1000} \text{ kL}] \\ &= 4\text{kL} + 50\text{L} \end{aligned}$$

$$= 4\text{kL} + (50 \div 10) \text{ daL} [\because 1\text{L} = \frac{1}{10} \text{ daL}]$$

$$= 4\text{kL} + 5\text{daL}$$

$$= 4\text{kL } 5\text{daL}$$

$$\therefore 4050\text{L} = \boxed{4} \text{ kL } \boxed{5} \text{ daL}$$

$$2) 5\text{L } 585\text{mL} = \boxed{\phantom{000}} \text{ cL}$$

**Solution:**

$$5\text{L } 585\text{mL} = (5 \times 100) \text{ cL} + 585\text{mL} [\because 1\text{L} = 100\text{cL}]$$

$$= 500\text{cL} + 585\text{mL}$$

$$= 500\text{cL} + (585 \div 10) \text{ cL} [\because 1\text{mL} = \frac{1}{10} \text{ cL}]$$

$$= 500\text{cL} + 58.5\text{cL}$$

$$= 558.5\text{cL}$$

$$5\text{L } 585\text{mL} = \boxed{558.5} \text{ cL}$$

$$3) 21.56 \text{ L} = \boxed{\phantom{000}} \text{ daL} = \boxed{\phantom{000}} \text{ cL}$$

**Solution:**

$$21.56 \text{ L} = (21.56 \div 10) \text{ daL} [\because 1\text{L} = \frac{1}{10} \text{ daL}]$$

$$= 2.156 \text{ daL}$$

Again,

$$21.56 \text{ L} = (21.56 \times 100) \text{ cL} [\because 1\text{L} = 100\text{cL}]$$

$$= 2156 \text{ cL}$$

$$\therefore 21.56 \text{ L} = \boxed{2.156} \text{ daL} = \boxed{2156} \text{ cL}$$

## 1. Exercise (Do yourself)

**\*\*Fill in the blanks:**

a)  $4\text{kL } 5\text{L} = \square \text{ L}$

b)  $8\text{L } 20\text{mL} = \square \text{ mL}$

c)  $750\text{mL} = \square \text{ L} = \square \text{ cL}$

**\*\* Write, > or <, in the blank boxes:**

a)  $6350\text{daL} \square 2\text{kL}$

b)  $300\text{L} \square 1\text{m}^3$

**Solution:**

a) Here,  $2\text{kL} = (2 \times 100) [\because 1\text{kL} = 100\text{daL}]$   
 $= 200\text{daL}$

$\therefore 6350\text{daL} > 200\text{daL}$

$\therefore 6350\text{daL} \square > 2\text{kL}$

b) Here,  $1\text{m}^3 = 1\text{L}$

$\therefore 300\text{L} > 1\text{L}$

$\therefore 300\text{L} \square > 1\text{m}^3$

## 2. Exercise (Do yourself)

**\*\* Write, > or <, in the blank box:**

$50\text{L} \square 5000\text{mL}$

**\*\*Calculate the following addition and subtraction, and express the answer using the units in the bracket:**

a)  $21\text{L } 540\text{mL} + 12\text{L } 625\text{mL}$  (L, cL)

b)  $325\text{cL} - 12.5\text{cL}$  (L, mL)

**Solution:**

$$\begin{aligned} \text{a) } & 21\text{L } 540\text{mL} + 12\text{L } 625\text{mL} \\ & = (21 + 12) \text{L} + (540 + 625) \text{mL} \\ & = 33\text{L} + 1165\text{mL} \\ & = 33\text{L} + (1165 \div 1000) \text{L} \left[ \because 1\text{mL} = \frac{1}{1000} \text{L} \right] \\ & = 33\text{L} + 1\text{L} + 165\text{mL} \\ & = 34\text{L} + (165 \div 10) \text{cL} \left[ \because 1\text{mL} = \frac{1}{10} \text{cL} \right] \\ & = 34\text{L} + 16.5\text{cL} \\ & = 34\text{L } 16.5\text{cL} \end{aligned}$$

Ans: 34L 16.5cL.

$$\begin{aligned} \text{b) } & 325\text{cL} - 12.5\text{cL} \\ & = 312.5\text{cL} \\ & = (312.5 \times 10) \text{mL} \left[ \because 1\text{cL} = 10\text{mL} \right] \\ & = 3125\text{mL} \\ & = (3125 \div 1000) \text{L} \left[ \because 1\text{mL} = \frac{1}{1000} \text{L} \right] \\ & = 3\text{L} + 125\text{mL} \\ & = 3\text{L } 125\text{mL} \end{aligned}$$

Ans: 3L 125mL.

### 3. Exercise (Do yourself)

**\*\*Calculate the following addition and subtraction, and express the answer using the units in the bracket:**

a)  $3283\text{mL} + 2649\text{mL}$  (L, dL, cL, mL)

b)  $852\text{L} - 349.8\text{L}$  (kL)