



Provincial Department Of Education – Sabaragamuwa  
WEEKLY SCHOOL

Subject : Mathematics

Grade 7

Week : 7<sup>th</sup> of 2<sup>nd</sup> Term

### Unit 13 – Mass(1)

- Complete the following activities using the textbook or other appropriate learning resources.

In addition to kilogramme (kg) and gramme (g), the unit milligramme which is smaller than the other two units is also used to measure a mass more precisely. “Milligramme” is denoted by mg.

1 gramme is 1000 milligrammes. That is,  $1 \text{ g} = 1000 \text{ mg}$

$$\begin{aligned} \text{Since } 1 \text{ g} &= 1000 \text{ mg,} \\ 2 \text{ g} &= 2 \times 1000 \text{ mg} = 2000 \text{ mg} \\ 3 \text{ g} &= 3 \times 1000 \text{ mg} = 3000 \text{ mg} \end{aligned}$$

$$\begin{aligned} \text{Express } 7.656 \text{ g in milligrammes} \\ 7.656 \text{ g} &= 7.656 \times 1000 \text{ mg} \\ &= 7656 \text{ mg} \end{aligned}$$

$$\begin{aligned} \text{Express } 2 \text{ g } 650 \text{ mg in milligrammes} \\ 2 \text{ g } 650 \text{ mg} &= 2 \times 1000 \text{ mg} + 650 \text{ mg} \\ &= 2000 \text{ mg} + 650 \text{ mg} \\ &= 2650 \text{ mg} \end{aligned}$$

$$\begin{aligned} \text{Express } 2758 \text{ mg in grammes} \\ 2758 \text{ mg} &= \frac{2758}{1000} \\ &= 2.758 \text{ g} \end{aligned}$$

$$\begin{aligned} \text{Express } 2225 \text{ mg in grammes and milligrammes.} \\ 2225 \text{ mg} &= 2000 \text{ mg} + 225 \text{ mg} \\ &= \frac{2000}{1000} \text{ g} + 225 \text{ mg} \end{aligned}$$

$$\begin{aligned} \text{Express } 3 \text{ g } 675 \text{ mg in grammes.} \\ 3 \text{ g } 675 \text{ mg} &= 3 \text{ g} + 675 \text{ mg} \\ &= 3 \text{ g} + \frac{675}{1000} \text{ g} \\ &= 3 \text{ g} + 0.675 \text{ g} \\ &= 3.675 \text{ g} \end{aligned}$$

- Addition of masses

#### Method I

g	mg
15	350
+ 750	800
766	150

Let us add the quantities in the milligrammes column.

$$\begin{aligned} 350 \text{ mg} + 800 \text{ mg} &= 1150 \text{ mg} \\ 1150 \text{ mg} &= 1000 \text{ mg} + 150 \text{ mg} \\ &= 1 \text{ g} + 150 \text{ mg} \end{aligned}$$

Let us write 150 mg in the milligrammes column.

Let us carry the 1 g to the grammes column and add the amounts in the grammes column.

$$1 \text{ g} + 15 \text{ g} + 750 \text{ g} = 766 \text{ g}$$

Let us write 766 g, in the grammes column.

#### Method II

Let us express each of the masses in grammes, and then simplify.

$$\begin{aligned} 15 \text{ g } 350 \text{ mg} &= 15.350 \text{ g} \\ 750 \text{ g } 800 \text{ mg} &= 750.800 \text{ g} \\ 766.150 \text{ g} &= 766 \text{ g} + 150 \text{ mg} \end{aligned}$$

g
+ 15 . 350
750 . 800
766 . 150

➤ Subtraction of masses

**Method I**

$$\begin{array}{r}
 \text{g} \quad \text{mg} \\
 500 \quad 250 \\
 - 100 \quad 750 \\
 \hline
 399 \quad 500 \\
 \hline
 \end{array}$$

Since 750 mg cannot be subtracted from 250 mg, let us carry 1 g, that is 1000 mg, from the 500 g in the grammes column to the milligrammes column and add it to the 250 mg in the milligrammes column.

Then,  $1000 \text{ mg} + 250 \text{ mg} = 1250 \text{ mg}$ .

$1250 \text{ mg} - 750 \text{ mg} = 500 \text{ mg}$

Let us write the 500 mg in the milligrammes column.

Let us subtract 100 g from the 499 g remaining in the grammes column.

Then,  $499 \text{ g} - 100 \text{ g} = 399 \text{ g}$

Let us write the 399 g, in the grammes column.

**Method II**

Let us express each of the masses in grammes, and then simplify.

$$500 \text{ g} \quad 250 \text{ mg} = 500.250 \text{ g}$$

$$100 \text{ g} \quad 750 \text{ mg} = 100.750 \text{ g}$$

$$399.500 \text{ g} = 399 \text{ g} \quad 500 \text{ mg}$$

$$\begin{array}{r}
 \text{g} \\
 500 . 250 \\
 - 100 . 750 \\
 \hline
 399 . 500 \\
 \hline
 \end{array}$$

➤ Complete all the exercises in the Exercise 13.1, 13.2 and 13.3