

G4-M2-Lesson 2

1. Complete the conversion table.

Mass	
kg	g
3	3,000
5	5,000
7	7,000

I know that 1 kilogram equals 1,000 grams.

2. Convert the measurements.

a. $4 \text{ kg } 650 \text{ g} = \underline{4,650} \text{ g}$

b. $\underline{51} \text{ kg } \underline{45} \text{ g} = 51,045 \text{ g}$

In 51,945, there are 51 thousands 945 ones. 1 thousand grams equals 1 kilogram, so 51 thousand grams 945 grams equals 51 kilograms 945 grams.

3. Solve.

a. $7 \text{ kg} - 860 \text{ g}$

$7 \text{ kg} = 7,000 \text{ g}$

I make like units. 7 kilograms is equal to 7,000 grams.

Sample Student A Response:

$$\begin{array}{r} \overset{9}{10} \\ 7, \overset{6}{10} \overset{10}{0} \\ - \\ \hline 6, \\ \end{array}$$

I subtract grams from grams.

Sample Student B Response:

$$\begin{array}{l} + 40 \text{ g} \quad + 100 \text{ g} \quad + 6,000 \text{ g} \\ 860 \text{ g} \longrightarrow 900 \text{ g} \longrightarrow 1,000 \text{ g} \longrightarrow 7,000 \text{ g} \end{array}$$

$$40 \text{ g} + 100 \text{ g} + 6,000 \text{ g} = 6,140 \text{ g}$$

Just like in Lesson 1, I add up using the arrow way.

b. Express the answer in the smaller unit: $23 \text{ kg } 625 \text{ g} + 526 \text{ g}$.*Sample Student A Response:*

$$\begin{array}{r} 23 \text{ kg} \quad 625 \text{ g} \\ + \phantom{23 \text{ kg}} \quad 526 \text{ g} \\ \hline 23 \text{ kg} \quad 1,151 \text{ g} \end{array}$$

$23 \text{ kg} = 23,000 \text{ g}$

$23,000 \text{ g} + 1,151 \text{ g} = 24,151 \text{ g}$

I add and then convert the answer to grams.

Sample Student B Response:

$$\begin{array}{r} 23,625 \text{ g} \\ + \quad 526 \text{ g} \\ \hline 24,151 \text{ g} \end{array}$$

I rename 23 kg 625 grams as grams before adding.

c. Express the answer in mixed units: $18 \text{ kg } 604 \text{ g} - 3,461 \text{ g}$.

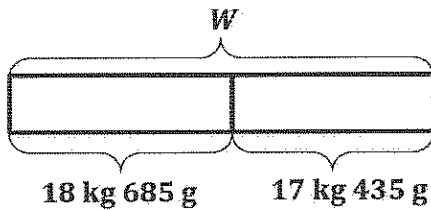
$$\begin{array}{r}
 18 \text{ kg } \overset{5}{\cancel{0}} \overset{10}{\cancel{0}} 4 \text{ g} \\
 - \quad \quad 3 \text{ kg } \quad 4 \text{ g } 6 \text{ g } 1 \text{ g} \\
 \hline
 15 \text{ kg } \quad 1 \text{ kg } 4 \text{ g } 3 \text{ g}
 \end{array}$$

$$3,461 \text{ g} = 3 \text{ kg } 461 \text{ g}$$

I convert grams to kilograms before subtracting.

Use a tape diagram to model each problem. Solve using a simplifying strategy or an algorithm, and write your answer as a statement.

4. One crate of watermelon weighs 18 kilograms 685 grams. Another crate of watermelon weighs 17 kilograms 435 grams. What is their combined weight?



$$18 \text{ kg } 685 \text{ g} + 17 \text{ kg } 435 \text{ g} = W$$

$$\begin{array}{r}
 18 \text{ kg } \quad 685 \text{ g} \\
 + 17 \text{ kg } \quad 435 \text{ g} \\
 \hline
 35 \text{ kg } \quad 1120 \text{ g}
 \end{array}$$

\swarrow
~~1,000 g~~ 120 g
 1 kg

I can leave my answer as 35 kg 1,120 g, but I choose to rename in largest units. 1,120 g is equal to 1 kg 120 g.

$$36 \text{ kg } 120 \text{ g}$$

The combined weight of the crates of watermelon is 36 kg 120 g.