

Math on the Job... p. 204

What is the total cost to ship her envelopes???

$$\begin{array}{r}
 \text{1 oversized 195g} \quad \$2.06 \\
 \\
 2.2/5 = 0.44 \text{ kg} \\
 \quad 440 \text{g ea} \quad \$3.50 \times 5 = 17.50 \\
 \\
 0.8/2 = 0.4 \text{ kg} \\
 \quad 400 \text{g} \quad \$3.25 \times 2 = 6.50 \\
 \\
 \text{Total} \quad \underline{\hspace{10em}} \quad \$26.06
 \end{array}$$

5.3 Mass in the Systeme International

- **Mass** - a measure of the quantity of matter in an object.
 - "the amount of *stuff*".
 - in the SI system the kilogram is the measure of mass.
 - * use of the pound is commonly used as a measure of mass.
- **Weight** - a measure of the force of gravity on an object.
 - in the SI system the Newton is the measure of weight.

Complete Activity 5.5 on p. 205



NOTES:

- 'kg' is the mass of one litre of water at 4°C
- a tonne (t) IS NOT THE SAME as a ton (tn).
- a tonne is often referred to as a 'metric ton'.

DISCUSS THE IDEAS

GROSS VEHICLE WEIGHT RATING

Truckers and others who transport loads in their vehicles need to be aware of their Gross Vehicle Weight Rating (GVWR). The GVWR is the maximum recommended weight of a vehicle, including everything it is carrying: the vehicle itself, cargo, passengers, other accessories, and fuel. The base curb weight is the weight of the vehicle with a full tank of fuel. The difference between these two weights is the cargo capacity.

You and your friend rent a truck with a 3016 kg GVWR and a base curb weight of 2255 kg, so that you can help your friend haul a load of bricks for a construction project. The combined weight of you, your friend, and your accessories is 160 kg. If one brick weighs 2.7 kg, how many bricks can your truck carry?

$$3016 - 2255 - 160 = 601 \text{ kg}$$

$$\frac{601}{2.7} = 222.5925\dots$$

Bring 222 bricks

EXAMPLE 1:

A recipe for cornbread calls for 120 g of flour, 170 g of cornmeal, and 50 g of sugar. If you want to double the recipe, what is the total weight of the dry ingredients?

Solution is... 680 g

$$(120\text{g} + 170\text{g} + 50\text{g}) \times 2 = 680\text{g}$$

EXAMPLE 2:

Mrs. MacAllister is baking apple pies. According to her recipe, she needs 6 pounds of apples. The bag of apples she bought only shows the weight in kilograms. Can you help her out???

Solution is... 2.7 kg

Remember... 1 kg = 2.2 lbs

$$6 \text{ lbs} \times \frac{1 \text{ Kg}}{2.2 \text{ lbs}} = 2.7 \text{ Kg}$$

NOTE: To estimate a conversion from pounds to kilograms you can think of a pound being about 1/2 kg.

EXAMPLE 3:

The cost of bananas at the Irving is \$0.49/lb, but you see an advertisement for bananas on sale at Sobey's for \$1.03/kg. Which is a better buy?

Solution is..

$$\text{Method I} \quad \frac{\$0.49}{\text{lb}} \times \frac{2.2 \text{ lb}}{\text{Kg}} = \$1.078/\text{Kg} \quad \text{Irving}$$

Sobey's is cheaper. (\$1.03/kg)

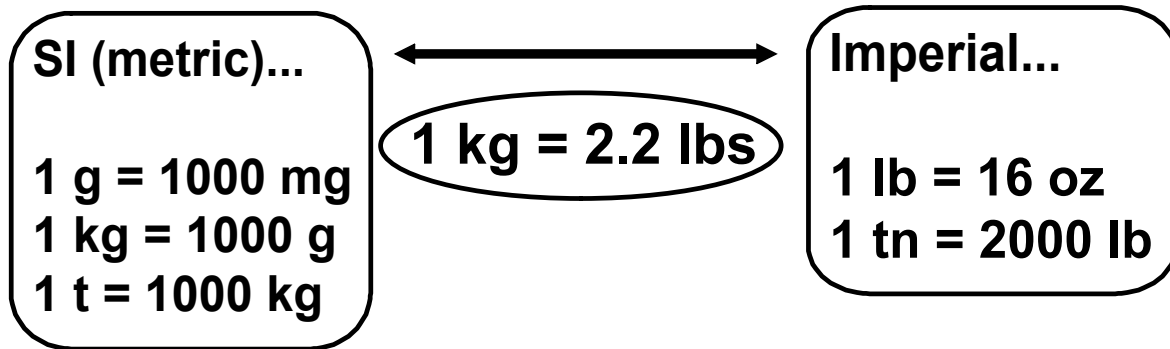
$$\text{Method II} \quad \frac{\$1.03}{\text{Kg}} \times \frac{1 \text{ Kg}}{2.2 \text{ lb}} = \$0.468/\text{lb}$$

Sobey's is cheaper.

Work on these...

5.3 Worksheet - Mass in a SI System.docx

Remember...



Section 5.3 - Mass in a SI System

PRACTISE YOUR NEW SKILLS

1. Convert the following weights.

a) 2.5 t = _____ kg

c) 125 g = _____ kg

e) 1 t = _____ lb

HOMWORK QUESTIONS???

b) 2.8 kg = _____ g

d) 2.4 g = _____ kg

f) 3.6 tn = _____ kg

2. How many tons are in 1 tonne?

3. What is the total weight in grams of 3 packages of nuts weighing 1.2 kg, 0.75 kg, and 1.5 kg?

4. Win weighs 78 kg and his dog weighs 18 kg. If his truck weighs 1.9 t and there are 5 boxes of books each weighing 9.8 kg in the truck, what is the total weight of the truck, including Win, his dog, and the books?

5. Karen is making a batch of potato soup. She needs 8 potatoes, and each potato weighs about 375 g. How many pounds of potatoes does she need?

6. If a 10-lb bag of grass seed costs \$75.45, how much does the seed cost per kilogram?

7. How many quarter-pound (before cooking) hamburgers can you make from 1.9 kg of ground beef?

PRACTISE YOUR NEW SKILLS, P. 200

1. a) 2500 kg b) 2800 g

c) 0.125 kg d) 0.0024 kg

e) 2200 lb f) 3272.4 kg

2. 1 tonne (t) = 1.1 tons (tn)

3. 3450 g

4. 2045 kg

5. 6.6 lb

6. \$16.61/kg

7. 16 hamburgers

HOMEWORK...

p. 209 #1 - 7

NEED ANSWERS???

Section 5.3 Detailed Solutions.pdf



Attachments

5.3 Worksheet - Mass in a SI System.docx

Section 5.3 Detailed Solutions.pdf