HOMEWORK ???

5.2 Worksheet - Mass in an Imperial System.docx

5. Harinder is concerned about the weight that paint might add to a delicate structure he built. He estimates that he needs 1.5 gal of paint and that the structure can withstand 15 lb of weight. The weight of a particular paint is 9 lb/gal. When it dries, the weight is only 5.4 lb/gal. Can Harinder paint his structure without having it collapse?

WET $\frac{9\text{ lb}}{1\text{ gal}} \times 1.5\text{ gal} = 13.5\text{ lbs}$ SAFE UNDER 15 lbs

7. What is the true cost per pound of a 10-pound box of oranges if the original price of the box was $12.99 and $\frac{1}{4}$ of them had to be thrown away because they were mouldy?

$10\text{ lbs} \times \frac{1}{4} = 2.5\text{ lbs}$ mouldy OR $10 \times \frac{3}{4}$

Actual $\Rightarrow$ $10 - 2.5 = 7.5\text{ lbs}$ Good

$\$12.99 / 7.5\text{ lbs} = \$1.73/\text{lb}$

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.

NOTES:

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

SI System...

1000 grams (g) = 1 kilogram (kg)

1000 milligrams (mg) = 1 gram

1 tonne (t) = 1000 kilograms

ACTIVITY 5.6
EQUIVALENT MASSES

Work with a partner to discuss the following situations. Note that the megagram is generally referred to as a **tonne**, a metric ton, or a long ton.

1. Use your understanding of weights to determine a referent for:

   a) 1 tonne (t) truck
   b) 1 kilogram (kg) bag of sugar
   c) 1 gram (g) eraser
   d) 1 milligram (mg) sand

2. The masses 2.8 t, 2800 kg, and 2 800 000 g are equivalent. Each represents the mass of a truck. Which would be the most appropriate unit to use if you were discussing the mass of a truck? Why?

3. When you are cooking, there is more than one way to determine how much of an ingredient to use. Some recipes give amounts in volume and others use mass, especially those from Europe. If you use a measuring cup, you are measuring volume. To measure mass, you need a scale.

   You are measuring the amount of flour you need to make a cake, but some of your batter has splashed on your recipe and hidden the unit of measurement. You can see that the number is 250. Would this be tonnes, kilograms, grams, or milligrams? Give examples of items that might weigh each of these amounts. Do not use the same referents you suggested in question 1.

EXAMPLE 1:

340 g x 2

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

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 i kilograms. Can you help her out???

Solution is... 2.7 kg

Remember... 1 kg = 2.2 lbs

$6 \text{ lbs} \times \frac{1 \text{ kg}}{2.2 \text{ lbs}}$

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

Let's make some conversion factors...

1) 1 oz = 28.4 g

$1\,oz \times \frac{1\,lbs}{16\,oz} \times \frac{1\,kg}{2.2\,lbs} \times \frac{1000\,g}{1\,kg}$

2) 1 t = 1.1 tn (metric tonne, imperial ton)

$1\,t \times \frac{1000\,kg}{1\,t} \times \frac{2.2\,lbs}{1\,kg} \times \frac{1\,tn}{2000\,lbs}$

EXAMPLE 3:

The cost of bananas at the Irving is $0.69/lb, but you see an advertisement for bananas on sale at Sobey's for $1.33/kg. **Which is a better buy?**

Solution is... Sobey's

$$\frac{\$1.33}{1\,kg} \times \frac{1\,kg}{2.2\,lbs} = \$0.60/lb$$

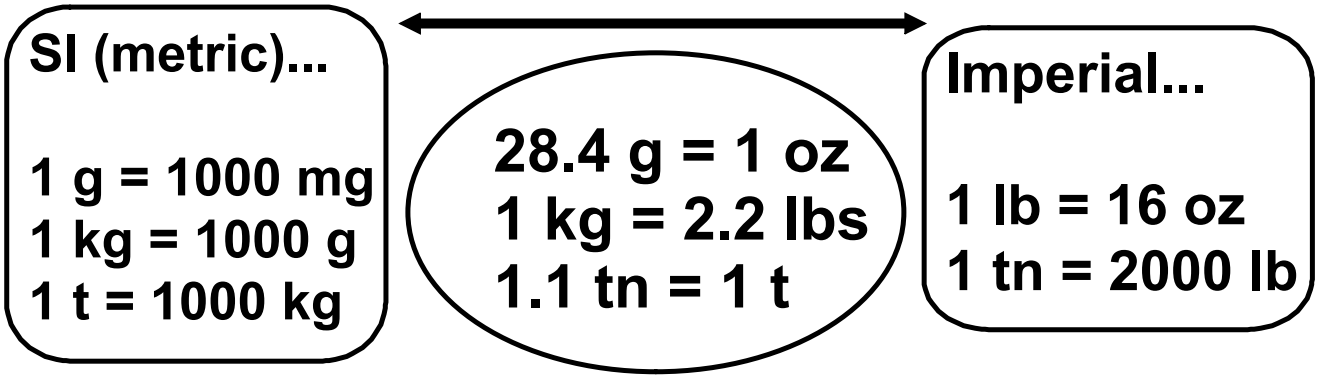
Work on these...

5.3 Worksheet - Mass in a SI System.docx

Worksheet - Converting Imp_Metric Masses.pdf

Remember...

Do the even #'s



Attachments

5.3 Worksheet - Mass in a SI System.docx

Worksheet - Converting Imp_Metric Masses.pdf

5.2 Worksheet - Mass in an Imperial System.docx