Making Conversions

During class today you will learn how to convert a unit of volume to a unit of weight.

One More Example...

How many bushels (bu) of flax seed are there in 2.4 tonnes, if the conversion factor is 39.368 bushels/tonne?

$39.368\ bu = 1\ t$

Solution:

2.4 t X 39.368 bu/t = 94.5 bu

$$2.4\ t \times \frac{39.368\ bu}{1\ t} = 94.5\ bu$$

Try this one!

Laila bought 5 bushels of sunflower seeds. If the conversion is 73.487 bu/t, what is the weight of sunflower seeds:

a) in kilograms?
b) in pounds?

Remember: 1000 kg = 1 t
1 kg = 2.2 lbs

a) $5\ bu \times \frac{1\ t}{73.487\ bu} \times \frac{1000\ kg}{1\ t}$

$= 68.0\ kg$

b) $68\ kg \times \frac{2.2\ lbs}{kg} = 149.6\ lbs$

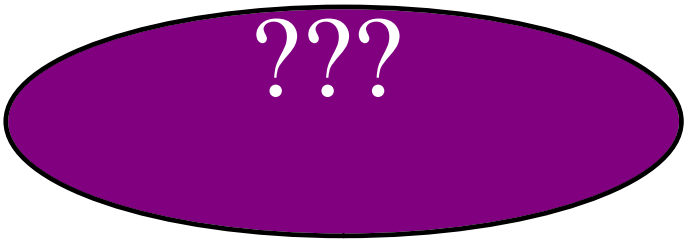
a) 67.9 kg
b) 149 lbs

How many ounces are in a gram...
let's make a conversion factor!

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

$= 28.4\ g$

1 oz = 28.4 g



EXERCISE: Convert the following...

a) 56 g = 1.97 oz $56\,g \times \frac{1\ oz}{28.4\ g}$

b) 120 lbs = 54.55 kg $120\,lbs \times \frac{1\ kg}{2.2\ lb}$

c) 34 oz = 965.6 g $34\,oz \times \frac{28.4\ g}{1\ oz}$

What does a conversion factor tell you???

EXAMPLE #1...

The conversion factor for white beans is 36.744 bu/t, and for corn it is 39.368 bu/t. Which weighs more per unit volume?

White Beans

EXAMPLE #2

Alphonse is making chicken kebabs for 14 people. His recipe suggests about 7 oz of chicken per person. At the grocery store, the weight of the chicken is labelled in kilograms. How much chicken does Alphonse need to buy?

Remember: 1 kg = 2.2 lbs
1 oz = 28.4 g

$14 \times 7 = 98\,oz$

$98\,oz \times \frac{28.4\,g}{1\,oz} \times \frac{1\,kg}{1000\,g} = 2.78\,kg$

2.8 kg

EXTRA PRACTICE???

5.4 - Practice Problems.doc

1. $8\text{ ft} \times \frac{12\text{ in}}{1\text{ ft}} = 96\text{ in}$

$4\text{ ft} \times \frac{12\text{ in}}{1\text{ ft}} = 48\text{ in}$

$V = l \times w \times h$
$= (96)(96)(48)$
$= 442\,368\text{ in}^3$

$\#\text{bu} = \frac{442\,368}{2200}$

$=$

Chapter 5 Sample Test.pdf

*** Corrections... MC #3 → 7.2°C
OR #22 → 8.3°C ≈ 80.6°F

Attachments

5.4 - Practice Problems.doc

Chapter 5 Sample Test.pdf