

NEW SKILLS: WORKING WITH CONVERSIONS BETWEEN MEASURES OF VOLUME AND WEIGHT

You have converted measures from one unit to another, within the SI or imperial system, or between them.

Here, you will convert from a unit of volume to a unit of weight. For example, grain is often measured in bushels, a volume measure, but its weight may be needed to judge whether it is a safe load for a truck. Each grain has a different weight, so conversions between bushels and weight depend on knowing the conversion factor.

For more details, see page 162 of *MathWorks 10*.

Example 1

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

SOLUTION

A conversion factor of 39.368 means that there are 39.368 bushels of flax seed per tonne. To find the number of bushels, multiply.

There are approximately _____ bushels of flax seed.

1 bushel = 2220 in³
or approximately
8 gallons.

BUILD YOUR SKILLS

1. Laila bought 5 bushels of sunflower seeds. If the conversion factor is 73.487 bu/t, what is the weight of the sunflower seeds:
 - a) in kilograms?

 - b) in pounds?

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

3. If Jore gets \$195.76 per metric ton for wheat, how much does he earn per bushel (conversion factor 36.744 bu/t)?

- Josephine is sending a gift of a bottle of maple syrup that weighs 3 lb, and 3 packages of smoked salmon jerky that each weigh 100 g. If the package's total weight is less than 2 kg, she can ship it at a cheaper rate. Will she be able to do so?

PRACTISE YOUR SKILL

- If 1 bushel is approximately 2220 cubic inches, approximately how many bushels of grain are there in a bin that is 8 feet by 8 feet by 4 feet?

