

# Unit 3

## 3.2 Converting Measurements

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### Objective

Understand how to work between multiple measurement systems

### Start

#### Intro

It would be much simpler if everyone used the same measurement system, or if everyone spoke the same language, or if everyone ran linux, but we live in a fallen world, and part of that is that man seeks to do things their own way.

And yes there is beauty in diversity, but unfortunately for you students, it means a lot more work

### Proportional Reasoning

Remember rates from Unit 1? Essentially we're doing something very similar. We are comparing two things of different units in a fraction.

Last class I partially introduced it, with 2.54 cm in 1 inch.

But we can do that for more of the measurements:

Now if we can remember this one conversion, we can figure out any length!

We know that  $1 \text{ inch} = 2.54 \text{ cm}$

We also know that  $12 \text{ inches} = 1 \text{ foot}$ .

So if we multiply 2.54 by 12, we get 30.48 cm in one foot, or 0.3048 meters (remember: centi-meters)

and if we wanted to go the other way around, from 1 cm to inches, we would just change the formula

Instead of

$$\frac{2.54cm}{1inch}$$

, we would have

$$\frac{1inch}{2.54cm}$$

, or 0.393700787 inches in 1 cm.

But why stop here, try and figure out the rest on your own!

Find:

- mm to in
- m to feet
- m to yards
- km to mile
- in to mm
- yards to m
- mile to km

### **Example 1**

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### **Example 2**

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### **Assignment**

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### **End activity**