

# Unit 3

## 3.1 Systems of Measurement

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### Objective

To understand different systems of measurement, and work with them

### Definitions

**base unit:** the unit that defines a length for a measurement system

**volume:** the space that a 3d object occupies

**conversion factor:** what to multiply by to get another measurement length

### Start

#### Intro

<https://www.youtube.com/watch?v=ZMByI4s-D-Y>

The SI system started development in 1791, and its purpose was to create a logical system for measurement.

This system, unlike the imperial system, worked in bases of 10 (which you will soon learn to love)

Oddly enough, the imperial system was created after the SI system was in 1824.

Now the imperial system is more complicated to convert with as

- 12 inches = 1 foot
- 3 feet = 1 yard
- 1760 yards = 1 mile

Fun eh?

However, when working construction, mostly everything is still in imperial as opposed to metric

Q: can anyone think why?

## How tall am I?

I'm 5 feet 7 inches: what is that in meters?

Well, first we need to get everything into one form of measurement, because feet and inches together don't work well with conversions.

Lets make everything into inches, because thats a smaller unit, and I don't feel like working with half a foot.

so

$$5 \times 12 = 60$$

$$60 + 7 = 67\text{inches}$$

Now we need to look up in a conversion table what one inch is in cm

1 inch = 2.54 cm.

So now we use the same method we've been using for the last 2 units.

$$\frac{67\text{inches}}{1} \times \frac{2.54\text{cm}}{1\text{inch}} = 150.08$$

Conversions in the SI system is easy. Its always in bases of 10. So 100 centi(factor of 100)meters = 1 meter.

So I am 1.5 meters tall

## Example 1

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## Example 2

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## **Assignment**

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## **End activity**

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