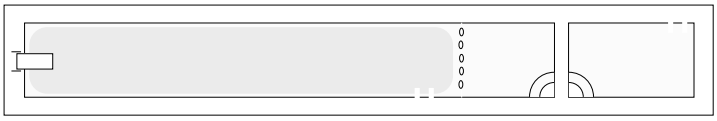
PhyzSpringboard: Conversions



1. Consider the following pairs of units.
a. Is it possible to convert a number of **feet** to a number of **inches**? _____

b. Is it possible to convert a number of **inches** to a number of **feet**? _____

c. Is it possible to convert between **hours** and **seconds**? _____

d. Between **seconds** and **decades**? _____

f. Between **meters** and **seconds**? _____

g. Between **kilograms** and **seconds**? _____

2.a. Compare the pairs of quantities that can be converted between to those that cannot. What do all the **convertible** pairs have in common that **inconvertible** pairs do not have?

b. So can **kilograms** be converted to **pounds** (and vice versa)? _____

3.a. It's about 400 miles from Sacramento to Los Angeles. How far is that in meters?

b. How far is a light-year in inches?

4.a. The speed limit on American River Drive is 35mph. How fast is that in m/s?

b. If a glacier advances at 2m/century, what's its speed in mph?

5.a. How many days pass during one Ms?

b. What's the handiest unit of measure to use in counting out a nanomillenium (seconds, minutes, hours, weeks, months, years)? (A handy unit would allow easy expression of the value without the use of scientific notation.)

6. What is 75mph in ångströms per fortnight? Show work on back.

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