SUVA SANGAM COLLEGE

YEAR 11

PHYSICS

WORKSHEET 1

STRAND 1 MECHANICS

<table>
<tr><td>NO.</td><td>CONCEPT IN BRIEF: MEASUREMENT
INTERNATIONAL SYSTEM OF UNITS
• International System of Units, abbreviated as SI (in French) units were established by international agreement.
• The fundamental units of SI base units are mass in kilogram, length in meter and time in seconds.</td></tr>
<tr><td>1</td><td>Complete the given table shown below
<table>
<tr><th>QUANTITY</th><th>UNIT NAME</th><th>UNIT SYMBOL</th></tr>
<tr><td>MASS</td><td></td><td></td></tr>
<tr><td>LENGTH</td><td></td><td></td></tr>
<tr><td>TIME</td><td></td><td></td></tr>
<tr><td>TEMPERATURE</td><td></td><td></td></tr>
<tr><td>LUMINOUS INTENSITY</td><td></td><td></td></tr>
<tr><td>AMOUNT OF SUBSTANCE</td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td></td><td>CONCEPT IN BRIEF: MEASUREMENT
DERIVED UNITS
• SI units are divided into fundamental units and derived units.
• Derived units are products and or ratio of fundamental units.
• Example, velocity is the change in length per unit of time. The unit of speed is similarly the ratio of the unit of length to the unit of time (i.e. m/s).
$$\textbf{Speed} = \frac{\textbf{distance (m)}}{\textbf{time (s)}}$$</td></tr>
<tr><td>2.</td><td>State 5 derived units that you have studied.
1.
2.
3.
4.
5.</td></tr>
</table>

CONCEPT IN BRIEF: MEASUREMENT

UNIT PREFIXES

- Unit prefixes are symbols placed before a unit to specify the order of magnitude of a quantity.

Common Unit Prefixes

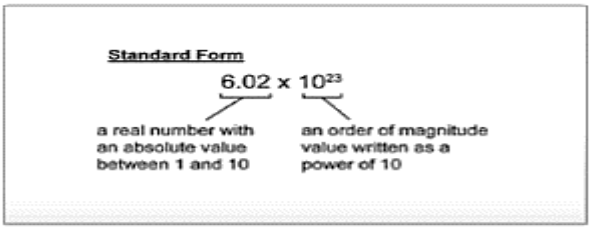
Prefix	Symbol	Multiple of unit	Prefix	Symbol	Multiple of unit
femto	f	10^{-15}	deca	da	10^{1}
pico	p	10^{-12}	hector	h	10^{2}
nano	n	10^{-9}	kilo	k	10^{3}
micro	μ	10^{-6}	mega	M	10^{6}
milli	m	10^{-3}	giga	G	10^{9}
centi	c	10^{-2}	tera	T	10^{12}
deci	d	10^{-1}	peta	p	10^{15}

3 a)

1. Express **12000000000000** into**Tb**.
2. Express **1200000000** into**Mb**.
3. Express **0.0000000003** into ***nm***.
4. Express **0.0004** into ***mm***.

CONCEPT IN BRIEF: MEASUREMENT

SCIENTIFIC NOTATION



Scientific notation is a way of expressing either very large or very small numbers as factors of the power of 10.

$$A \times 10^{y}$$

where A = *number between 1 and 10* and y = *number in which the decimal point move*

b) Convert the following figures to scientific notation.

1. 3900000 _____
2. 23560 _____
3. 0.00042 _____
4. 125003 _____