

**MINISTRY OF EDUCATION**  
**SECONDARY ENGAGEMENT PROGRAMME**  
**GRADE 10**  
**PHYSICS**

**WEEK 1**

**LESSON 1 – WORKSHEET 2**

1. Complete the table of fundamental quantities by filling in the missing spaces.

Fundamental Quantity	Symbol for Quantity	SI Unit	Unit Symbol
		second	
			<i>m</i>
	<i>n</i>		
LUMINOUS INTENSITY			
		Kelvin	
MASS			
			<i>A</i>

2. Arrange the following multiple and sub-multiple prefixes in *DESCENDING* order.

a) GIGA                      MEGA                      TERA                      KILO

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b) MILLI                      PICO                      MICRO                      NANO

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3. Convert the following values to the unit given

a) 0.78 Mg to g

b) 74.95 km → m

d) 765 374 000 mA to A

c) 457500  $\mu$ s → s

4. **Short Answer Questions**

- Discuss the difficulties associated with using grains of corn as the standard of mass
- What problems are likely to arise if measured values of physical quantities are expressed without units?
- Explain ways in which standard measurements would be especially important to Scientists working on a cure for the COVID-19 disease.

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**Week 1: Worksheet 2 – Answer sheet**

1.

Fundamental Quantity	Symbol for Quantity	SI Unit	Unit Symbol
<b>TIME</b>	$t$	second	$s$
<b>LENGTH</b>	$l$	Metre	$m$
<b>AMOUNT OF SUBSTANCE</b>	$n$	Mole	$mol$
LUMINOUS INTENSITY	$I_v$	Candela	$cd$
<b>TEMPERATURE</b>	$T$	Kelvin	$K$
MASS	$m$	Kilogram	$kg$
<b>CURRENT</b>	$I$		$A$

2. Arrange the following multiple and sub-multiple prefixes in *DESCENDING* order.

- |          |       |      |      |
|----------|-------|------|------|
| a) TERA  | GIGA  | MEGA | KILO |
| b) MILLI | MICRO | NANO | PICO |

3. Convert the following values to the unit given

- $0.78 \text{ Mg} = 780\,000 \text{ g}$
- $74.95 \text{ km} = 74\,950 \text{ m}$
- $457\,500 \mu\text{s} = 0.4575 \text{ s}$
- $765\,374\,000 \text{ mA} = 765\,374 \text{ A}$

4. **Short Answer Questions**

- Many varieties which have differently sized grains  
Size of grain is dependent on weather and soil conditions and fluctuates with crop season.
- Many errors in measurement would occur since the standard used is not stated. Hence, processes would be inefficient and ineffective. Additionally, there will be wastage of many resources and potential destruction/failure of equipment due to ambiguous values.
- The sharing of important information across the scientific community which would help to fast track the rate at which a cure can be found.

**N.B: Any additional appropriate response will be accepted for Question 4. Listed above are the guidelines.**