

Study Guide for SS1 Physics

SS1 Term 1

Week	Topic (Content)	Remark(s)
1	Introduction to physics as a science of measurement Fundamental and Derived Quantities; Fundamental and Derived Units	
2	Measurements/Measuring instruments: Length ; Volume ; Mass and Weight ; Time, etc.	
3	Motion: Concept of motion. Types of motion – Translational; Random; Rotational/Circular; Oscillatory/Vibratory. Concept of Relative motion.	
4	Cause of motion: Force. Concept of force. Types of force – (i) Contact forces (ii) Force fields. Frictional force as an example of contact forces; Solid and Dynamic frictional forces; Laws of solid friction; Advantages and Disadvantages of friction; Methods of reducing friction.	

References Materials: New School Physics (Anyakoha M. W.), Principles of Physics (Nelkon M. N.), Secondary School Physics (Okeke P.N.), Internet.

Guideline questions:

Week 1:

1. What do you understand by the subject 'Physics'?
2. Differentiate between Fundamental and Derived quantities and give 6 examples of each with their S.I. units.
3. Show how you would derive four quantities listed in (2) above.

Week 2:

1. Which instruments are best for the following measurements:
 - (i) Diameter of a pendulum bob.
 - (ii) External diameter of a test-tube.
 - (iii) Thickness of a strand of hair.
 - (iv) Length of a football field.
2. What are the reading accuracies of the following measuring instruments?
 - (i) Tape rule.
 - (ii) Metre rule.
 - (iii) Micrometer screw gauge.
 - (iv) Stop clock.
 - (v)
3. Distinguish between mass and weight.
4. List four means of measuring time known to you.