

# PHYSICS PROJECT

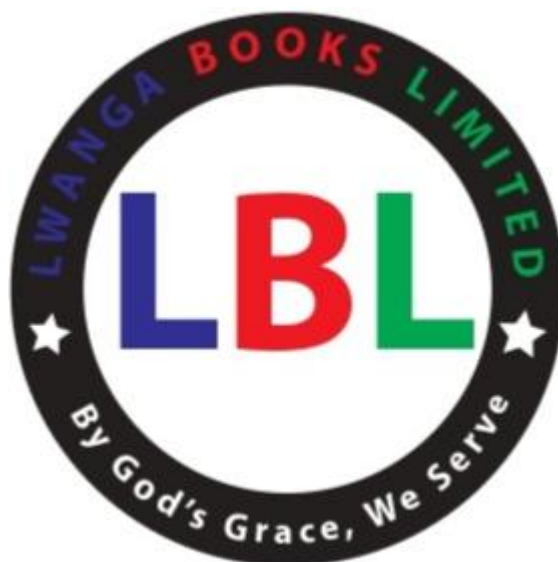
## WORK BOOK

( C.B.C & C.B.A EDITION )

**SENIOR ONE TO SENIOR FOUR**

BASED ON THE NEW LOWER SECONDARY CURRICULUM

By



NAME: \_\_\_\_\_ CLASS: \_\_\_\_\_

SCHOOL: \_\_\_\_\_ YEAR: \_\_\_\_\_



**LWANGA BOOKS LTD**

**" By God's Grace, We Serve"**

**\*\* Project Work Books (Simplified), Research Books (detailed new curriculum notes) and Practical Work Books \*\***

**Kawempe - Tula Road, Kampala**

**Near Kakungulu Police**

**Tel: +256771803014 (WHATSAPP) / +256750549201**

**E-mail: [lwangawilliam11@gmail.com](mailto:lwangawilliam11@gmail.com)**

**You can also locate " Lwanga Books Ltd" easily using the " Google search" or " Google maps".**

**All rights reserved. No reproduction, copy of this publication may be made without written permission of the copyright owner.**

**No paragraph of this publication may be reproduced, copied, transmitted, or saved without the written permission or in accordance with the provision of the copyright Act of 2006 and Design patents Act of 1988, or under the terms of license permitting limited copying issued by the licensing agency in Uganda.**

**Any person who does any unauthorised act in relation to this publication may be liable to criminal prosecution and civil claims for damages.**

## **Table of contents**

<b>Preface.....</b>	<b>I</b>
<b>Acknowledgement.....</b>	<b>II</b>
<b>Introduction to projects.....</b>	<b>1</b>
<b>Marking guide for project work.....</b>	<b>7</b>
<b>Summary of project work marking guide.....</b>	<b>13</b>
<b>Detailed mark allocation for each phase.....</b>	<b>16</b>
<b>Sample project work plan for teachers.....</b>	<b>18</b>
<b>Competence based assessment of projects.....</b>	<b>21</b>
<b>Project observation checklist.....</b>	<b>46</b>
<b>Community problem.....</b>	<b>55</b>
<b>Competence based assessment project themes.....</b>	<b>62</b>
<b>Projects under each project theme.....</b>	<b>66</b>
<b>Subjects under each project theme.....</b>	<b>69</b>
<b>Societal problems solved by physics projects.....</b>	<b>70</b>
<b>Project titles in physics.....</b>	<b>72</b>
<b>Projects under each theme of physics.....</b>	<b>73</b>
<b>Questionnaire to aid learners.....</b>	<b>89</b>

# Preface

This learner's project work book has been written in line with the revised physics syllabus for the new lower secondary curriculum. A scenario community problem situation has been incorporated into this work book.

A learner is supposed to design a project using locally available environmental resources to come up with a tangible product that solves the scenario community problem situation designed in this work book.

Through this scenario community problem situation provided, the learner is able to produce new knowledge, values and skills required in the 21<sup>st</sup> century. The learners are expected to be able to work as individuals, in pairs or groups according to the nature of the situation community problem in order to be able to share learning experiences with their colleagues.

The learners are supposed to write only in the spaces provided in the portfolio which the facilitator (teacher) has to score, for the students to keep them as proof of their project developmental stages (work) and scores.

The scenario community problem will be updated (revised) annually for the new enrolled learners in the New Lower Secondary Curriculum to test new project ideas. We have also included a rescue plan for the scenario community problem that is, failure to interpret the community problem, a learner should just select a societal problem of his or her interest, its project title and chapter or theme with in this work book, then use the worksheet ( portfolio) to workout his or her project of interest.

This learner's workbook is one of the materials which are to be used to support the teaching and learning process of the new lower secondary curriculum.

**We feel confident that this Book will be of immense value to both the learners and the teachers.**

Any suggestions for improvement of this book are most welcomed, thanks.

# Acknowledgement

**Lwanga Books Limited** is deeply indebted to all those who participated in the development of **Lwanga William S1-S4 Physics Project Work Book**.

Special thanks go to **Mr. Lwanga William**, the CEO Lwanga Books Ltd for his valuable insights and advice on all publishing matters.

We would like to express our sincere appreciation to all those who worked tirelessly towards the production of this learner's project work book.

First and foremost, we would like to thank our families and friends for supporting all our initiatives both financially and spiritually, Lwanga William's parents; **Mr. William Lwanga** and **Mrs. Harriet Lwanga**, his brother; Mr. Nsubuga Grace.

The initiative and guidance of the publishing partners, Ministry of Education and Sports (MoES) and National Curriculum Development Centre (NCDC) in development and implementation of the New Lower Secondary Curriculum are highly appreciated.

We thank God for the wisdom He has given us to produce this volume of work. May the Almighty God bless all the students that will use this book with knowledge to encounter the physics scenario problem situation.....**AMEN**.

We welcome any suggestions for improvement to continue making our service delivery better.

**NB: "Search" {lwanga william} on youtube and subscribe ( also tap on the notification bell) to that you-tube channel and watch the subject based project lessons that are on-going. " subscription is for free"**

## **Introduction to projects**

**Contact Lwanga Books Ltd** on +256750549201 or +256771803014 to get a complete copy for your self. You can also email on [lwangawilliam11@gmail.com](mailto:lwangawilliam11@gmail.com)

**OR** : You can also visit Lwanga Books Ltd for more business, thank you.

❖ **All New Ordinary Level Practical Work Books are available that is;  
Physics, Biology, Chemistry and ICT.**

**NB: “Search” {lwanga william} on youtube and subscribe ( also tap on the notification bell) to that you-tube channel and watch the subject based project lessons that are on-going. “ subscription is for free”**

**“THERE’S NO LIMIT TO YOUR SUCCESS”**

- Excel In Ordinary Level Mathematics( S.4 2023)
- S.1-S.2 Physics Project Work Book
- S.1-S.4 Sciences Project Work Books
- ✓ ( Physics, Chemistry, Biology & Mathematics)
- S.1-S.4 Humanities Project Work Books
- ✓ ( Geography, History, CRE & IRE)
- S.1-S.4 Vocational Project Work Books
- ✓ ( ICT, Agriculture, Entrepreneurship, P.E, Art & Design, Technology & Design, Nutrition & Food Technology, Performing Arts)
- S.1-S.4 Languages Project Work Books
- ✓ ( English, Literature in English)
- S.1-S.4 CBA Physics Practical Work Book
- S.1-S.4 CBA Mathematics Topical Items Book
- S.1-S.4 Physics Learner's Research Book( Detailed)
- S.1-S.4 Biology Learner's Research Book( Detailed)
- S.1-S.4 Mathematics Learner's Research Book( Detailed)
- S.1-S.4 Chemistry Learner's Research Book( Detailed)
- S.1-S.4 Geography Learner's Research Book( Detailed)
- S.1-S.4 History Learner's Research Book( Detailed)
- S.1-S.4 Agriculture Learner's Research Book( Detailed)

Books by the  
same company

**NB: “Search” {lwanga william} on youtube and subscribe ( also tap on the notification bell) to that you-tube channel and watch the subject based project lessons that are on-going. “ subscription is for free”**

**\*\* END \*\***