

HO HUYEN

# **ENGLISH FOR STUDENTS OF PHYSICS**

(VOLUME I)

NHÀ XUẤT BẢN ĐẠI HỌC QUỐC GIA HÀ NỘI

## **ACKNOWLEDGEMENTS**

My profound gratitude would go first to Mr. Nguyen Van Mau; Mr. Mai Trong Nhuan; Mr. Tran Huy Ho; Mr. Bui Duy Cam; Mr. Nguyen Chi Dung and Mrs. Tran Thi Nga at Hanoi University of Sciences who have made it possible for my work to be carried out and accomplished so far.

My sincere thanks would specially go to Mr. Ton Tich Ai for his help and supervision on Physics matters dealt with throughout the book; without which, my book would have been completely invalid in Physics.

I would like to express my profound gratefulness towards Mr. Le The Que and Mrs. Do Ngoc Nga for their invaluable suggestions and comments on my work.

My students of Physics from Class 41 to Class 44 at Hanoi University of Sciences where I have been working on English in Physics would be those for whom my thanks go for all that they have suggested and required from me during their course of English study.

In particular, I am very grateful to my colleagues who have been working cooperatively with me so far. Their criticism and opinions of my work when it was under progress have still proved to be valuable, thanks to which my work has been better refined.

I am indebted to many of my dear friends who have been very patient for all the trouble that I may have caused to them over the time I was busy with the work.

**Author**



## ABOUT THE VOLUME

This volume is the first volume, which focuses on general language in science (and physics as a science), of a two-book set for students of physics. The volume is composed of 5 units, each concerning with one general and simple topic about science and physics and being solved in within 10 -12 class - contact hours.

Each unit will be presented in the same frame as follows:

Each unit consists of five (5) main parts with its own aim(s) in improving students' language skills.

### **Part one: *Reading passage***

This part mainly focuses on improving the students' reading skills. The comprehension tasks will range from skimming to scanning, from sensitizing to anticipating, from guessing to analyzing, etc. All is to support the aim.

The reading passage will also introduce new grammar pattern(s) to students.

### **Part two: *Grammar in use***

This part gives a thorough explanation of the new grammar pattern(s) present in the reading passage.

Students will get more chance to practice those patterns in the practice part – the subpart in this part, and which will help to improve their writing skills.

### **Part three: *Problem – solving***

In this part, students are acquainted with simple description of side, shape, and measurements of objects. Furthermore, they have a chance to practice building simple sentences and transforming the structure of a sentence to another one in a way that the sentence retains its meaning. These are the very simple level of writing skill practice. It is the base for students to develop their writing skills later on.

### **Part four: *Translation***

This part is subdivided into two smaller tasks, one dealing with English – Vietnamese translation and the other for Vietnamese-English translation.

The aim of this part is to reinforce students' intake of new grammatical as well as vocabulary items.

Students study the ways/rules of transferring information from...to or to...from with their two concerned languages.

The part leaves a subpart for presenting vocabulary items relating to the reading and translating topics, hence helping the students enrich their vocabulary.

### **Part five: *Free – reading passage***

This part is designed for the students to have more chance to read an authentic writing dealing with the same topic presented throughout the unit. Normally, the task dealing with this is simply requiring students to do translation on the passage, hence helping them with improving their vocabulary.

## TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	3
ABOUT THE VOLUME.....	5
TABLE OF CONTENTS.....	6
SYMBOLS AND ABBREVIATIONS USED.....	9

<b>Unit One: SCIENCE</b> .....	11
READING PASSAGE.....	11
Science and fields of science.....	11
GRAMMAR IN USE.....	13
Review of relative clauses	13
Practice	15
PROBLEM SOLVING.....	17
I - Writing definitions	17
II - Reading basic formulae	18
TRANSLATIONS .....	20
Task one: English – Vietnamese translation.....	20
Task two: Vietnamese – English translation.....	21
VOCABULARY ITEMS .....	21
FREE-READING PASSAGE.....	22
Scientific communication .....	22

<b>Unit Two: PHYSICS</b> .....	ERROR! BOOKMARK NOT DEFINED.
READING PASSAGE.....	ERROR! BOOKMARK NOT DEFINED.
Physics and scopes of Physics .....	Error! Bookmark not defined.
GRAMMAR IN USE.....	ERROR! BOOKMARK NOT DEFINED.
I - Participle phrases replacing relative clauses	ERROR! BOOKMARK NOT DEFINED.
II - Participles replacing relative clauses	ERROR! BOOKMARK NOT DEFINED.
Practice	ERROR! BOOKMARK NOT DEFINED.
PROBLEM SOLVING.....	ERROR! BOOKMARK NOT DEFINED.
I - Reading complex formulae	ERROR! BOOKMARK NOT DEFINED.
II – Adjectives order	ERROR! BOOKMARK NOT DEFINED.

TRANSLATION ..... **ERROR! BOOKMARK NOT DEFINED.**

Task one: English – Vietnamese translation..... **Error! Bookmark not defined.**

Task two: Vietnamese – English translation..... **Error! Bookmark not defined.**

VOCABULARY ITEMS     **ERROR! BOOKMARK NOT DEFINED.**

FREE – READING PASSAGE ..... **ERROR! BOOKMARK NOT DEFINED.**

Albert Einstein: 1879-1955 ..... **Error! Bookmark not defined.**

### **Unit Three: MATTER AND MEASUREMENT ..... **ERROR! BOOKMARK NOT DEFINED.****

READING PASSAGE..... **ERROR! BOOKMARK NOT DEFINED.**

Matter and Measurement..... **Error! Bookmark not defined.**

GRAMMAR IN USE..... **ERROR! BOOKMARK NOT DEFINED.**

I - Relative clauses with relative adverbs **ERROR! BOOKMARK NOT DEFINED.**

II - Participle adjectives     **ERROR! BOOKMARK NOT DEFINED.**

Practice     **ERROR! BOOKMARK NOT DEFINED.**

PROBLEM SOLVING..... **ERROR! BOOKMARK NOT DEFINED.**

I - Asking and describing dimensions of objects **ERROR! BOOKMARK NOT DEFINED.**

II - Describing shapes of objects     **ERROR! BOOKMARK NOT DEFINED.**

TRANSLATION ..... **ERROR! BOOKMARK NOT DEFINED.**

Task one: English – Vietnamese translation ..... **Error! Bookmark not defined.**

Task two: Vietnamese – English translation ..... **Error! Bookmark not defined.**

VOCABULARY ITEMS..... **ERROR! BOOKMARK NOT DEFINED.**

FREE- READING PASSAGE..... **ERROR! BOOKMARK NOT DEFINED.**

National Institute of Standards and Technology ..... **Error! Bookmark not defined.**

### **Unit Four: INTERNATIONAL SYSTEM OF UNITS .. **ERROR! BOOKMARK NOT DEFINED.****

READING PASSAGE..... **ERROR! BOOKMARK NOT DEFINED.**

International System of Units ..... **Error! Bookmark not defined.**

GRAMMAR IN USE..... **ERROR! BOOKMARK NOT DEFINED.**

Adverbial clauses of time, place and reason     **ERROR! BOOKMARK NOT DEFINED.**

Practice     **ERROR! BOOKMARK NOT DEFINED.**

PROBLEM SOLVING..... **ERROR! BOOKMARK NOT DEFINED.**

Task one: Sentence building     **ERROR! BOOKMARK NOT DEFINED.**

Task two: Sentences transformation     **ERROR! BOOKMARK NOT DEFINED.**

TRANSLATION..... **ERROR! BOOKMARK NOT DEFINED.**

Task one: English-Vietnamese translation..... **Error! Bookmark not defined.**

Task two: Vietnamese-English translation..... **Error! Bookmark not defined.**

VOCABULARY ITEMS..... ERROR! BOOKMARK NOT DEFINED.

FREE – READING PASSAGE ..... ERROR! BOOKMARK NOT DEFINED.

**Unit Five: ELEMENTARY PARTICLES..... ERROR! BOOKMARK NOT DEFINED.**

READING PASSAGE..... ERROR! BOOKMARK NOT DEFINED.

Elementary Particles.....Error! Bookmark not defined.

GRAMMAR IN USE..... ERROR! BOOKMARK NOT DEFINED.

Compound adjectives forming from participles    ERROR! BOOKMARK NOT DEFINED.

Practice    **ERROR! BOOKMARK NOT DEFINED.**

PROBLEM SOLVING..... ERROR! BOOKMARK NOT DEFINED.

Task one: Sentences building    **ERROR! BOOKMARK NOT DEFINED.**

Task two: Sentences transformation    **ERROR! BOOKMARK NOT DEFINED.**

TRANSLATION ..... ERROR! BOOKMARK NOT DEFINED.

Task one: English-Vietnamese translation..... Error! Bookmark not defined.

Task two: Vietnamese-English translation..... Error! Bookmark not defined.

VOCABULARY ITEMS..... ERROR! BOOKMARK NOT DEFINED.

FREE-READING PASSAGE..... ERROR! BOOKMARK NOT DEFINED.

[Structure](#) and characteristics of proton.....Error! Bookmark not defined.

APPENDIX ..... ERROR! BOOKMARK NOT DEFINED.

REFERENCES ..... ERROR! BOOKMARK NOT DEFINED.

## **SYMBOLS AND ABBREVIATIONS USED**

**Symbols:** All the symbols used in this book are Greek letters which are presented in the appendix of the book.

### **Abbreviations:**

Adv.	adverb
V. (v.)	verb
Adj. (adj)	adjective
N. (n.)	noun
Np. (np.)	noun phrase
Pl. (pl.)	plural
Exp.	