

# CHEMGENIUS

BASICS IN CHEMISTRY

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**Dr. G. RAMYA**

(M.Sc., Ph.D)

## CHEMGENIUS

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# CHEMGENIUS

Dr. G. Ramya  
(M. Sc, Ph. D)



## About The Author

Dr. G. Ramya works as Asst. Professor in St. Joseph's institute of Technology in Chennai. She obtained doctorate from Anna University, Chennai in 2014 and has published 14 international journals.

She has presented her papers in various national and international conferences. She has received 3 University gold medals in B.Sc and had secured university 2<sup>nd</sup> rank in M.Sc. She has cleared SET exam in 2011. This book is an outcome of the immense interest to trigger the young minds to learn chemistry with desire.

## About The Book

This book is a mini version of complex chemistry. This will provide you with fascinating facts about chemistry. Your reading journey will start with the applications of chemistry in day-to-day life to the fundamental particle of every matter in depth. The “Autobiography of atoms” is an interesting chapter where the atom speaks to you about its nature. The exclusive collection of rhymes about the elements in the periodic table will help you to remember the elements periodically. The formation of bonds and types of reactions are explained with diagrams found elsewhere. Special efforts have been taken to show the different dimension of chemistry lab for those who are scared of practicals. Organic chemistry and its nomenclature are cracked in a simplest way to enable you to understand it better. This book classifies the separation techniques and the need for the separation. The section about water will enthrall you to know the various aspects of water – source of life.

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## Preface

Hi friends! My dream has come true through this book. I always wished to have a chemistry book with realistic, simple and creative examples to enable me to understand it easier. But, most of the books just project the subject in the conceptual and vague manner. Now, I have emerged with this book to give you the pulp of the subject in an interesting wrap to let you enjoy the concepts and gain good marks. I promise to make this simpler and interesting to your young brains. The aim of the book is to entertain you with the fascinating facts about chemistry.

Do you know what water is? Have you thought about your breath? Did you feel the nib of your pencil? Can you explain the paste you brush daily? What makes your dad's bike to run? How do you get the water bottle? What about the colorful soaps endorsed by your favorite stars? These are endless questions to be answered. You use

these regularly and still don't have an idea about them. The answer is simple but very powerful; **“THE CHEMISTRY”**.

The book covers the significance of chemistry in our modern lives. It incorporates from the tiniest atoms to the laboratory experiments. The chapters introduce the elements of the periodic table, laboratory glasswares and simple reactions. The bottom line concepts are explained with live examples which will make you to understand the subject easily. The picturization of laboratory & experiments will make you to understand the subject in depth. As a whole, this will guide you to learn the broader aspects of chemistry.

Irrespective of your streams, this book will serve to all types of requirements. I hope you will enjoy chemistry by studying this book.

I owe this book to the lord almighty for his love and blessings on me. I am thankful to my family and friends – Mr. T. Logesh, Baby L. Pranavi, Mrs. R. Neeladevi, Mr. K.

Ganesan, Mrs. M. R. Rajeswari, Mr. G. Jagannathan, Mr. R. Dharmeswaran, Mr. A. Javed, Mrs. J. Amala Infant Joice, Mrs. G. Akilandeswari, Ms. A. Asha, Dr. D. Priya Matharasi. I render my thanks to all my professors and well-wishers.

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When I say that I am a Chemistry teacher, I see a lot of raised eyebrows and an instant question “*Chemistry????? How did u manage????*”. I would say thanks to my Chemistry teachers who made the subject interesting and intriguing to me. I have always felt that the students need a much simpler explanation of chemistry in our day to day life to make it fascinating and to overcome the fear of “CHEMISTRY”.

Kudos to Dr. G. Ramya, whose book will surely trigger the young minds and will make the young readers more inquisitive. The activities in each section will keep the young minds alive. Basic concepts of Chemistry applied in our daily life have been explained in subtle manner and is not complicated. Simple and logical explanation to each section of the book makes it a great read. I hope and wish that it gives a great supplement to the education within chemistry and the students strive to become “CHEM GENIUS”

  
KEERTHI

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## CHAPTER 1

### WHAT IS CHEMISTRY?

**B**y this age you should have begun to learn science. Anything around you is explained and described by science. The leaves you touch, the rain you feel and the food you taste can be explained by Science. To be simple science is involved in life. Since the concepts are vast and diverge, it is categorized with respect to the nature of the subject. The practical, concepts are given by physics while the facts about living organisms are explained through biology. But, still there are many things which you use daily without any knowledge about its origin and this will be clearly explained by “**chemistry**” in Fig.1.0.

Fig.1.0 shows the branches of science with their basic applications. Chemistry has larger usage in daily routine products.



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