

**FIRST LESSONS IN
NATURAL PHILOSOPHY
FOR BEGINNERS**

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First Lessons in Natural Philosophy for Beginners by Joseph C. Martindale

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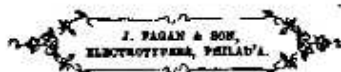
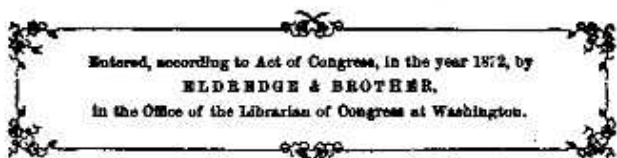
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PREFACE.

IN preparing this little work, our desire has been to afford both pleasure and profit to those who may read or study its pages.

The most interesting, as well as the most useful things to us, are those with which we meet in every-day life; but we must have some knowledge of these things, ere we can contemplate them with much pleasure, or use them to our greatest profit.

Simple truths in natural science may be learned at an early age; for it requires no more than the ordinary intelligence possessed by boys and girls to understand them. Such facts are not only valuable in themselves, but they are also useful in disciplining the mind by teaching it to observe the many changes constantly going on around us, and to reason and reflect in regard to the same. Habits of observation and reflection thus formed are likely to go with us through life; and they may prove a blessing in a thousand ways; for they will not only add to our comfort and our enjoyment, but they will also produce many a pleasing thought.

We have endeavored to make a book that can be easily understood; but few scientific terms will be found in it, for its language is the language in familiar use; hence, it may serve to interest the fireside circle, and it may be referred to by intelli-

gent boys and girls for answers to the many perplexing questions which are so often presented to their inquiring minds.

Many pupils have not the chance to attend even an Academy or a High School. It is to such that this book is especially adapted, for it is believed to contain as much matter as can be taught with satisfaction and profit in our public or our private schools; but to other pupils, it will prove a valuable introduction to larger and more comprehensive works.

Whenever a drawing would illustrate a fact, and make its application plainer, it has been made; but by far the best illustrations of hundreds of facts, explained in the text, will be found in the world around us, and the attention of both pupil and teacher should always be directed to this reliable and never-ending source.

In presenting these Familiar Lessons in Natural Philosophy to the youth of our country, it is with the earnest hope that it may make them better acquainted with the natural objects surrounding us; that it may lead them to observe the order, the harmony, and the beauty in nature everywhere; and that it may help to turn their thoughts more and more to Him, who is the Creator and Ruler of all things.

J. C. M.



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FIRST LESSONS
IN
NATURAL PHILOSOPHY.

CHAPTER I.
ASTRONOMY.

THE EARTH AND OTHER PLANETS.



Fig. 1.



WHAT is the shape of the Earth on which we live?

It is round like a ball.

What other names are given to the Earth?

It is called the World or Globe.

What else is it sometimes called?

It is called a Planet.