HOW TO USE THIS BOOK

This book contains 30 lessons. Each lesson is designed to be completed in one week. If you teach science twice weekly, allow for about 60 to 90 minutes each day. Some of the lessons may seem a little more challenging than others. Less-advanced students may have some difficulty with fully comprehending all the material in these few challenging lessons. Don't worry! It is quite satisfactory if the student can learn just the foundational concepts that are represented by the *Review It* questions at the end of the lesson. Don't rush! You may need to read the lesson slowly and more than once. If some words are too difficult, use a dictionary or other source to help clarify meanings. This work will pay off when it's time for the upper-level classes or when other challenges come along that require perseverance.

Step by Step
Lesson Activities

The following are the activities for completing each lesson and unit:

Preparation

Each unit begins with a short introduction about the material covered in the unit lessons and provides a list of unit objectives, vocabulary words, and a list of materials needed for that unit. You may want to write the unit objectives on a piece of paper and keep it handy. Referring to the objectives will help give you confidence that the student is getting something from the material.

Teaching Time

Each lesson presents a topic that builds an understanding of some aspect of physics. The older or more advanced students themselves can read the lesson material. For very young or less-advanced students, it is a good idea to read the lesson in advance and then explain it at their level. The student should be on the lookout for the vocabulary words that are identified in the unit introduction. Also, encourage the student to take notes to help remember important ideas.

Review It

Do the review exercises. After the teaching time, each lesson has five *Review It* fill-in-the-blank exercises. The key to ensuring that the student is ready for the *Hands-On Time* activity and the next lesson is to have the student complete the fill-in-the-blank exercises. These are almost always exact quotes from the lesson and, therefore, the answers will be unambiguous. Once these are filled in, they should be an encouragement that some very important principles of physics have been learned. The answer key for these *Review It* questions is in an appendix.

Hands-On Time

This is the fun stuff. Each lesson ends with a *Hands-On Time* activity. These activities have a twofold purpose: (1) They reinforce some of the concepts from the lessons; and in many cases, (2) they will offer a chance for the student to experience being a physicist.

Coloring Pages

There is one coloring page per unit, and all of these, plus a coloring version of the cover illustration, are found after the glossary. These coloring pages may be photocopied. Children of all ages will enjoy these beautiful drawings.

Think About It

This is a critical thinking exercise regarding the results of the *Hands-On Time* activity. It isn't absolutely necessary to do, but it offers students the opportunity to respond to questions that require some creative thought. This exercise might also be an alternative to the coloring page for the older student.

Unit Wrap-Up

At the end of each unit, there is an opportunity for the student to show what he or she has learned. The questions are in a multiple-choice format and are taken from the lesson review exercises. So, a great way to prepare is to go over each review exercise for the lessons in that unit. The answer key for these *Unit Wrap-Ups* is in an appendix.

What's Important?
Building a Foundation

The important thing to keep in mind is that God is at the center of everything—including the study of physics. The more-advanced or older student may get more from the book than a younger or less-advanced student. It might be good to repeat this course every other year. Build a foundation. Things learned early will last a lifetime, so do your best. Have fun and learn!