



Physics

SETON HOME STUDY SCHOOL

Lesson Plan ♦ Answer Keys ♦ Tests ♦ Quarter Report Forms



Course Manual

SCI211_19A

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Quarter Report Forms are after the Tests.

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Outer Cover: *The Child Jesus Found in the Temple*, by Philippe de Champaigne

Inner Cover: *Saint Albert the Great*, by Tommaso da Modena

TEXTS:

Physics: An Incremental Development (Saxon)

Physics: An Incremental Development – Solutions Manual (Saxon)

INTRODUCTION**Teaching Tips****SAXON TEACHING METHOD:
INCREMENTAL DEVELOPMENT AND CONTINUOUS PRACTICE**

The Saxon Physics program has two important aspects: incremental development and continuous practice. *Incremental development* refers to the division of concepts into small, easy-to-understand pieces that are taught over several lessons. Thus, a major concept is not taught in only one lesson, but rather is developed over time. Students are not expected to fully understand the complete concept the first time it is taught, just the incremental aspects of the concept taught in that lesson. *Continuous practice* means that fundamental skills and concepts are practiced and reviewed throughout the year.

The twin ideas of incremental development and continuous practice fall under the educational concept of *distributed learning*. Testing has proven that distributed learning is more effective than *massed learning*. Looking at material several times in smaller increments makes a more lasting impression on the brain than looking at material only once for an extended period of time.

Therefore, to gain the maximum benefit from this approach, it is important that students try to maintain a schedule of studying *one lesson each day*, while doing *all* the problems for that lesson each day when feasible.

BASIC OUTLINE OF THE TEXTBOOK

Students should familiarize themselves with the general organization of the textbook and the aids available. The basic outline is as follows:

- ◆ **Table of Contents:** what is contained in the textbook
- ◆ **Preface:** an overview of the textbook and its general goal
- ◆ **Lessons 1-100:** titles of the lessons and the concepts covered
- ◆ **Appendix 1:** selected tables from the text
- ◆ **Appendix 2:** Periodic Table of Elements
- ◆ **Answers:** answers to selected odd-numbered problems
- ◆ **Index:** alphabetical listing of important concepts and persons covered in the textbook

The main section of the textbook comprises 100 lessons. Each lesson presents a concept or concepts, followed by two sets of problems: **Problem Set** exercises (which are based on the present lesson and any lessons previously presented) and **Curveball Questions** and **Curveball Answers** (which begin with Lesson 10 and are optional for this course, with no test problems based only on these questions).

DETAILS OF STUDY SCHEDULE AND PROCEDURE

Daily Schedule:

- 1 period in Morning
- 1 period in Afternoon

Parents might remember their own high school physics classes and the homework they had to complete once they came home from school. The classes usually lasted about 50 minutes, and the homework took about that long as well. One lesson was studied per day, and the next day the class moved on to the next lesson. Textbooks were written with this schoolwork/homework template in mind. Saxon textbooks are no different.

With this in mind, and considering that this course must be adapted to a home environment, we recommend that students schedule two Physics periods per day: one in the morning, and one in the afternoon or evening. The goal is to **complete one lesson per day**.

Each Period:
50 Minutes

Each period should be about 50 minutes, since experience has demonstrated that to go beyond 50-60 minutes in one session is counterproductive.

Daily Lesson Plan:

1. Read the Lesson.
2. Do the Problem Set.
3. Check and redo, as necessary.

For the first period, students should read and understand each lesson and then do the Problem Set that follows the lesson, until the 50 minutes are up. Students should continue where they left off for the second 50-minute period. On the second day, students should continue until they have completed the entire Problem Set. Proceed in order from Lesson 1 through Lesson 100; do not skip around.

Optional CD-ROM:

- ◆ *DIVE for Saxon Physics*

Consider using the optional *DIVE for Saxon Physics* CD-ROM. This computer aid features a teacher explaining each lesson throughout the entire textbook. The teacher verbally explains each concept while writing on a blackboard. This “human element” approach can be very helpful to students. The student should view the CD-ROM lesson prior to, or in place of, the textbook lesson before beginning work on the lesson problems.

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