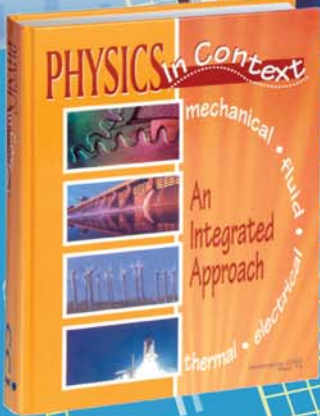
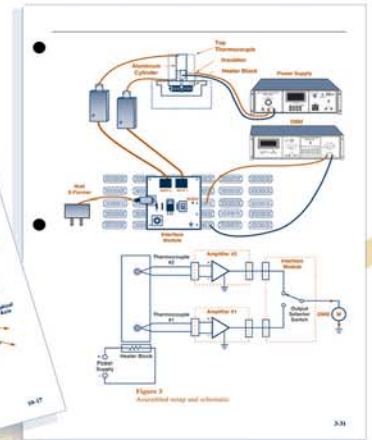
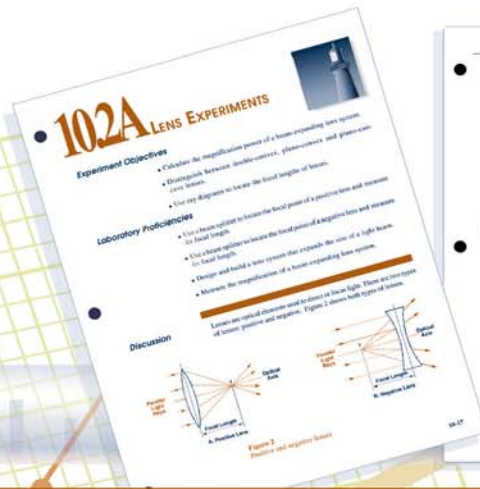
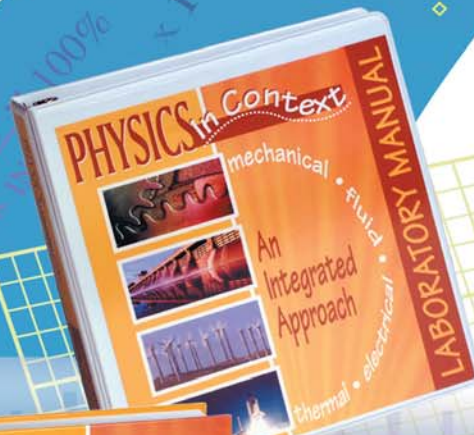


# PHYSICS *In Context*

## An Integrated Approach



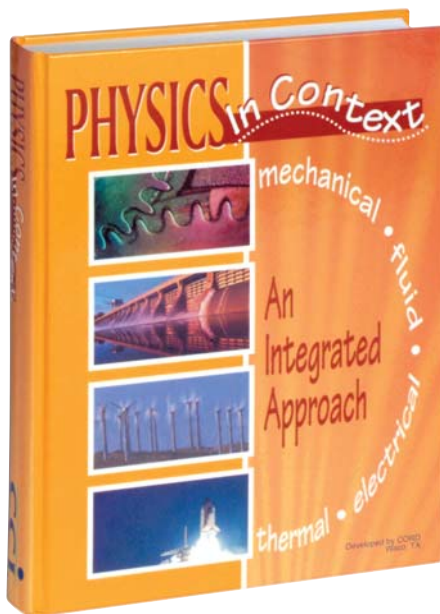
Energy Concepts, Inc. and CORD's Complete and Integrated Approach To Contextual Physics

**ENERGY CONCEPTS, INC. ECI**

CORD 



# Courseware



## Student Text

Physics In Context: An Integrated Approach is designed to reach the majority of students. By presenting physics concepts with algebra-based content, it meets the math and science standards required by many states. This ten-chapter course uses a contextual approach to explore mechanical, fluid, thermal, and electrical energy systems.



## Lab Manual

ECI's Laboratory Manual provides hands-on laboratory experiments to reinforce CORD's Physics In Context Student text. Designed to help the student develop a thorough understanding of the subject matter, the lab manual is clearly written and professionally illustrated. With its loose leaf design, the manual always stays open to the selected page. The two-color printing is utilized to highlight and enhance the easy-to-follow lab setup procedures.

## Student Journal

Teachers and students will discover the ease and convenience of using the Student Journal. It directly correlates to the lab manual and organizes students' experiment data, and answers.

**10.2A LENS EXPERIMENTS**

**Experiment Objectives**

- Calculate the magnification power of a beam-expanding lens system.
- Distinguish between double-convex, plano-convex and plano-concave lenses.
- Use ray diagrams to locate the focal lengths of lenses.

**Laboratory Proficiencies**

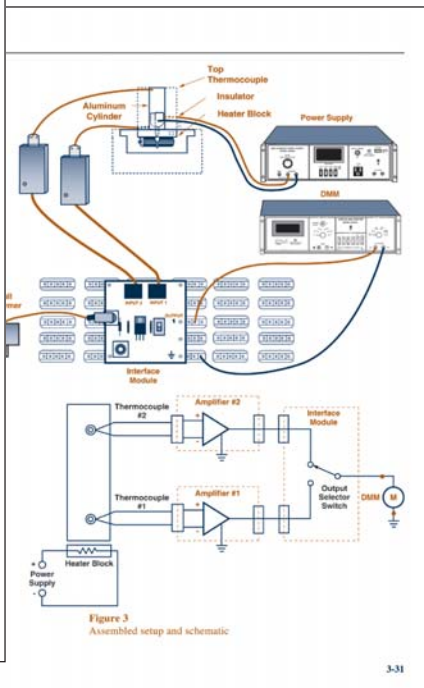
- Use a beam splitter to locate the focal point of a positive lens and measure its focal length.
- Use a beam splitter to locate the focal point of a negative lens and measure its focal length.
- Design and build a lens system that expands the size of a light beam.
- Measure the magnification of a beam-expanding lens system.

**Discussion**

Lenses are optical elements used to direct or focus light. There are two types of lenses: positive and negative. Figure 2 shows both types of lenses.

**Figure 2**  
Positive and negative lenses

10-17



## Instructor's Guide and Teacher's Guide

ECI's Instructor's Guide provides sample data values to the experiments for easy comparison to the students' results and answers to the quiz questions. To help you achieve better results in the lab, tips and guidelines are also included.

The Teacher's Guide includes the student text replicated along with notes, tips, additional explanation, example problems, and answers to questions. Notes and solutions provide assistance to implement the course.



## Physics In Context An Integrated Approach

This one-year physics course is an ideal curriculum to increase student performance through contextual learning. Energy Concepts and CORD developed Physics In Context to meet your educational needs by incorporating our experience with classroom-proven techniques, recommendations from educators, and the increased math and science requirements of many states.

Students explore how physics applies to real-life situations while developing the problem-solving skills that are necessary in the technical workforce. Concepts are presented within the context of four energy systems; mechanical, fluid, electrical, and thermal, and reinforced through hands-on lab experiments.

The turn-key laboratory system allows the instructor to effectively implement the Physics In Context course. The curriculum and equipment have been thoughtfully designed and packaged to make it practical and reliable for use in the classroom. Each lab experiment is tested for accuracy, repeatability and efficiency. This quality system provides clear benefits with our comprehensive manuals, reliable equipment, and timesaving equipment management system.



### Laboratory Furniture

ECI's modular design lab furniture allows a wide range of custom configurations. From free-standing, island-style workstations with convenient storage bases to mobile units. This versatile lab furniture fits beautifully into every lab.

ECI's lab furniture is constructed with fine craftsmanship. Durable high-quality materials (no particle board) will stand up to years of use in the most demanding classrooms. A variety of wood grains and color combinations are available.

### Customer Service

Our experienced salespeople will help you with your purchasing needs by providing budgetary pricing and detailed bid specifications. We provide a total turn-key operation including equipment, storage benches, and layout drawings of your new laboratory. ECI also supports your purchase by providing instructor(s) equipment orientation, initial inventory of equipment, and a toll-free telephone number for technical support from our competent engineers.

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