

Electronics

Academic Representative



Technology Education Concepts

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Description

Students begin the Electronics curriculum by becoming acquainted with electrical components and electrical symbols. Soon, they are interpreting schematic designs and creating a variety of circuits with resistors, transistors, photocells, capacitors, and inductors. The students then use a digital multimeter to measure voltage, current, and resistance. After making an alarm system, students go on to create their very own PA system. By the end of this curriculum, students are able to analyze an electronic circuit, determine any problems, and select and implement the best solution.

Skills

- Read a schematic drawing of an electrical circuit.
- Use proper safety procedures while working with electricity.
- Test capacitors and inductors in an electrical circuit.
- Use a digital multimeter to check for continuity in a circuit.

Knowledge

- Explain Ohm's law and some of its applications.
- Explain the graphic symbols that are used to represent electrical components.
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- Explain the various types of transistors and their applications.
- Explain voltage and how it is measured.

Activities

- Activity 1 - Introduction
- Activity 2 - Schematics
- Activity 3 - Resistors and Photocells
- Activity 4 - Multimeters
- Activity 5 - Continuity
- Activity 6 - Capacitors and Inductors
- Activity 7 - Alarm Systems
- Activity 8 - Fail-Safe Circuits
- Activity 9 - Intro to Circuit Scribe
- Activity 10 - Post-Test and Wrap-Up
- Activity 11 - Bonus Activities
- Activity 12 - Challenge
- Activity 13 - Open-Ended Challenge
- Activity 14 - Careers
- Activity 15 - Internet

Standards

Math/Measure Science Problem Solving Reading

Module Includes:

Student Workbook, Instructor's Manual, Installation CD, Circuit Scribe Ultra Kit, Digital Multimeter, Edison Software, Electronics Trainer, Electronics Patch Cable Set, Elenco Electronic Playground Kit, Headphones

Requirements

Computer is required and sold separately.

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