

ACADEMIC STANDARDS FOR SCIENCE AND TECHNOLOGY
Entering Electronics
Electric 4

<i>Lesson/ Chapter Objectives</i>	<i>Academic Standard</i>	<i>Grade Level</i>	<i>Activity in meeting the objective</i>
Chapter one			
LED or SCR		10	Identifying and using electronic part Relating parts to use.
Getting connected		10	Soldering and preparing parts for circuit assembly
Chapter Two			
Operating with diodes (Semiconductors). Functions of diodes in the electrical circuit.		10	Show how a diode works in a circuit (controls current only in one direction)
Bright Lights Connecting transistors to control brightness of a small light bulb		10	Control brightness in a light bulb with transistor.
Chapter Three			
Performance with LED (Light Emitting Diode)	3.4.10 C: Measure of light	10	Test voltage & Characteristics of LED
“Blinky” the LED Flasher.	3.410 B: Explain resistance, currents and electromotive force (Ohm’s Law)	10	Build a “Blinky” Flasher. Combining transistor, an LED and other parts to build a circuit that intermittently flashes the LED.
Chapter Four			
Burglar Proof		10	Show how a Photocell reacts to light dark and activates an alarm. (Using a sensitive semiconductor in a control circuit.
Lights only please	3.410 B: Explain resistance, currents and electromotive force (Ohm’s Law) 3.4.10 C: Identify relationship of electricity and magnetism as aspects of electromagnetic force. Describe light effects	10	Build and test a simple light meter. Showing how a semi-conductor can generate a current flow in the presence of light

Chapter Five			
Surprise the Intruder		10	Silicon controlled rectifier. Make an SCR intruder
Turn up the Volume		10	Build a 6-8 watt amplifier to power a speaker