

	Projects		
	Part 1	Part 2	Part 3
TASK PERFORMANCE CRITERIA	Simple Project	Electro-Magnetic Project	Cable and Cord Ends
<i>The student:</i>	Observed Rating	Observed Rating	Observed Rating
Planning: <input type="checkbox"/> prepares self for task <input type="checkbox"/> organizes and works in an orderly manner <input type="checkbox"/> uses time effectively <input type="checkbox"/> creates a system layout			
Construction: <input type="checkbox"/> constructs circuit(s) as planned <input type="checkbox"/> produces a circuit meeting standards of quality in: – solder connections – wiring accuracy (connections and coding) – neatness <input type="checkbox"/> produces a product that performs all the required functions <input type="checkbox"/> describes function and operation of the system			
Testing <input type="checkbox"/> tests for continuity <input type="checkbox"/> tests for voltage at appropriate locations			

Standard

Performance rating of 1 for each applicable task

Rating Scale

The student:

- 4 exceeds defined outcomes. Plans and solves problems effectively and creatively in a self-directed manner. Tools, materials and/or processes are selected and used efficiently, effectively and with confidence. *Quality, particularly details and finishes, and productivity are consistent and exceed standards.*
- 3 meets defined outcomes. Plans and solves problems in a self-directed manner. Tools, materials and/or processes are selected and used efficiently and effectively. *Quality and productivity are consistent.*
- 2 meets defined outcomes. Plans and solves problems with limited assistance. Tools, materials and/or processes are selected and used appropriately. *Quality and productivity are reasonably consistent.*
- 1 meets defined outcomes. Follows a guided plan of action. A limited range of tools, materials and/or processes are used appropriately. *Quality and productivity are reasonably consistent.*
- 0 Has not completed defined outcomes. Tools, materials and/or processes are used inappropriately.

REFLECTIONS/COMMENTS:

TASK CHECKLIST

The student:

Preparation and Planning

- sets goals and follows instructions
- responds to directed questions and follows necessary steps to obtain answers or perform tasks
- accesses basic in-school/community information sources
- organizes information into a logical sequence
- records information accurately using proper technical terms
- uses time effectively

Presenting/Reporting

- identifies and describes methods of converting nonrenewable and renewable sources of energy into electricity
- determines the cost efficiency, practicality and environmental impact of producing electricity from various sources of energy

Prototyping

- constructs an electrical distribution system which has a source, load, connectors and control. Electrical circuits must include series and parallel connections
- demonstrates how mechanical, chemical, light, heat and pressure can be converted to electrical energy

Work Skills

- transfers information to develop a prototype
- safely connects components as required
- uses tools and equipment in a safe manner
- uses proper personal protective equipment
- demonstrates responsibility for housekeeping
- analyzes the system and takes appropriate measures to correct/improve

REFLECTIONS/COMMENTS:

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TASKS	OBSERVED RATING				
Preparation and Planning	4	3	2	1	N/A
Prototyping	4	3	2	1	N/A
Work Skills	4	3	2	1	N/A

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Content

- identifies and describes AC/DC power supplies including:
 - ways in which power supplies are rated
 - differences in voltage, current and power ratings
 - rectifiers configurations

Presenting/Reporting

- demonstrates effective use of one or more communication media:
 - e.g., Written: spelling, punctuation, grammar, basic format*
 - Oral: voice projection, body language*
 - Audio-visual: techniques, tools*
- uses correct grammatical conventions and technical terms through proofreading/editing
- provides an introduction that describes the purpose of the project
- communicates information in a logical sequence
- states a conclusion based on a summary of facts
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Content	4	3	2	1	N/A
Presenting/ Reporting	4	3	2	1	N/A

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Content

- identifies and describes binary numbering system and logic gates
 - identifies and converts 2, 8 and 16 numbering systems
 - identifies basic logic gates symbols
 - states function of basic logic gates
 - writes truth table for a logic gate circuit
- identifies major IC families and describes their respective functions
- constructs the required logic circuit and describes its function

Presenting/Reporting

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Content

- lists and describes four different control systems used in home or commercial settings such as, temperature control, liquid level indicator, movement indicator
- describes how basic process controls, including open and closed loops, function

Presenting/Reporting

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Content

- explains and distinguishes the difference between:
 - wattage
 - peak value
 - sine waves
 - distortion
 - impedance matching

Presenting/Reporting

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Content

- explains operating principles of a CCTV and a CATV video system
- describes and compares video formats for Beta, VHS and 8 mm systems
- explains the operating principles of a given analog modulated video system

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Content

- identifies and compares security systems used to secure:
 - people
 - property
 - information
- describes and compares the following security sensors:
 - contact closure
 - motion sensor
 - thermal sensor
 - moisture sensor
 - light sensor

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Content

- describes the evolution and applications of robotics systems
- identifies and classifies robotic systems and subsystems

Presenting/Reporting

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