



IIS Aldo Moro

ISTITUTO DI ISTRUZIONE SUPERIORE

ALDO MORO

Liceo Scientifico Liceo Linguistico Istituto Tecnico



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Programma svolto

Prof.ssa: Rosa GANGEMI

Materia: Lingua Inglese

Classe: 5[^] AE

Anno Scolastico 2022/2023

Ore settimanali 3

Unit 1: ELECTRICAL ENERGY

Atoms and electrons
Conductors and insulators
The battery
Types of battery
The fuel cell

Unit 2: ELECTRIC CIRCUITS

A simple circuit
Types of circuit
Current, voltage and resistance
Tools
Measuring tools
New ways of lighting
Energy saving at home
Working with electricity

Unit 3: ELECTROMAGNETISM AND MOTORS

Electricity and magnetism
Applications of electromagnetism: Fuel gauge system
The electric motor
Types of electric motor:
- DC motors
- AC motors
- Design variations
Electric cars
Electric cars: advantages and disadvantages

Unit 4: GENERATING ELECTRICITY

Methods of producing electricity
The generator
Nuclear power station: how a nuclear reactor works
Renewable energy 1:
- Hydroelectric power
- Wind power
Renewable energy 2:
- Solar power
- Geothermal energy, biomass and biofuels
Changing our sources of Energy:
- fossil fuels
- nuclear
- renewables
Dangers of electricity

Unit 5: DISTRIBUTING ELECTRICITY

The distribution grid
The domestic circuit
The transformer
The smart grid
Storing energy on the grid
The battle of the currents
Emergency action

Unit 6: ELECTRONIC COMPONENTS

Applications of electronics
Semiconductors
The transistor
Basic electronic components
Silicon Valley

Unit 7: ELECTRONIC SYSTEMS

Conventional and integrated circuits
The race to build the integrated circuit
Analogue and digital
The problem of electronic waste
Security signs

Unit 8: MICROPROCESSORS

What is a microprocessor?
How a microprocessor works
How microchips are made

Unit 9: AUTOMATION

How automation works
Advantages of automation
Programmable logic controller (PLC)
How a robot works
Varieties and uses of robots
Robots in manufacturing
Artificial intelligence and robots

EDUCAZIONE CIVICA:

- *Sustainability: Renewable energy sources*

Rivarolo, 04 giugno 2023

Firma



Prof.ssa Rosa Gangemi

Gli studenti

