**ISTITUTO D’ISTRUZIONE SUPERIORE “LUIGI EINAUDI”**

**Via Pietro Ferrero,20**

**12051 Alba (CN) – a.s. 2022/2023**

**Classe 5^G DISCIPLINA: LINGUA INGLESE**

**PROGETTAZIONE DIDATTICA ANNUALE**

**Docente: Prof.ssa Carlotta Canonica**

**Libro di testo:**

**WORKING WITH NEW TECHNOLOGY -** Information Technology and Telecommunications

**UNIT 2 - ELECTRIC CIRCUIT**

* A simple circuit
* Types of circuit
* Current, voltage and resistance
* Measuring tools
* New ways of lighting
* Energy saving at home

### **UNIT 3 - ELECTROMAGNETISM AND MOTORS**

* Electricity and magnetism
* Applications of electromagnetism
* The electric motor
* Types of electric motor
* Electric cars: advantages and disadvantages
* Maglev: the transport of the future?

### **UNIT 4 - GENERATING ELECTRICITY**

* Methods of producing electricity
* The generator
* Fossil fuels power station
* Nuclear power station
* Renewable energy: water and wind
* Renewable energy: sun and earth
* Innovative energy

### **UNIT 5 - DISTRIBUTING ELECTRICITY**

* The distribution grid
* The domestic circuit
* The transformer
* Managing the grid
* The smart grid
* Storing energy on the grid

### **UNIT 6 - ELECTRONIC COMPONENTS**

* Application of electronics
* Semiconductors
* The transistor
* Basic electronic components
* Working with transistors
* Color coding of components

### **UNIT 7 - ELECTRONIC SYSTEMS**

* Conventional and integrated circuits
* Amplifiers
* Oscillators
* Surface mounting and through-hole mounting
* MEMS - Microelectromechanical systems
* How an electronic system works
* Analogue and digital

### **UNIT 8 - MICROPROCESSORS**

* What is a microprocessor?
* How a microprocessor works
* Logic gates
* How microchips are made
* Reading a data sheet

### **UNIT 9 - AUTOMATION**

* How Automation works
* Advantages of Automation
* Programmable logic controller
* The development of Automation
* How a robot works
* Varieties and uses of robots
* Robots in manufacturing
* Artificial intelligence and robots

Alba, 05/06/2023

Prof.ssa Canonica Carlotta