PROJECTX Nº 010

"RESISTANCE CODE AND OHM'S LAW"

PRESENTATION

Promotingschool:

EscolaProfissionalValdoRio
Oeiras. Portugal

A. GENERAL DESCRIPTION

Title of the ProjectX

RESISTANCE CODE AND OHM'S LAW

Core area

GENERAL / KNOWLEDGE	**ELECTRICITY**
PARTICULAR / ACTIVITY:	**MEASURE THE RESISTORS ' VALUE; CONFIRM EXPERIMENTALLY THE OHM'S LAW**

Promoting school

VALDORIO

Schools participants in the revision of the ProjectX

Reference to ECVET Credit System and EQF / NQF

ECVET	EQF	REFERENCE TO NATIONAL QUALIFICATIONS (NQF)						
		Spain	Finland	Romania	Portugal	UK	Turkey	France
1	4	4	4	3	4	3	4	4

Learning Outcomes achieved (to be developed in the future related with ECVET credit system)

1. Analyse and apply the resistances' code
2. Identify and distinguish several types of resistance
3. Understand the difference between electric current and voltage
4. Work correctly with measuring appliances
5. Apply Ohm's law

Time that is necessary to do the ProjectX (in hours)

Theory:	6 hours
Practice:	24 hours

Link to real companies in your region (it is just informative)

1. NAME:CLARITY LDA	WORKPLACE: CELL PHONE REPAIR
2. NAME: TELFAX LDA	WORKPLACE:REPAIR OF SECURITY SYSTEMS AND TELEPHONES

B. THEORY

Objectives of the theoretical Knowledge

1. Identify the main magnitudes of an electric circuit and its symbolism 2. Identify the various methods of measurement used in electronics; electric current and voltage measurement 3. Work correctly with measuring appliances and apply Ohm's law

List of activities

1. Perform a diagnostic questionnaire at the beginning of the project 2. Complete an acquisition of theoretical Knowledge's worksheet 3. Carry out 6 practical Labs, where the trainee applies his Knowledge 4. Practical test in the workplace

C. PRACTICE

Brief description of the Practice

The objective is to develop the ability to identify all kinds of resistances as well as identify and repair defective components The trainee must have the ability to distinguish several types and values of resistance Must also have the ability to correctly use measurement devices Must be able to identify and repair small malfunctions in electronic circuits The trainee must be able to identify the magnitudes of an electrical circuit

Steps or activities to be performed by the student

First:	Distinguish different types of resistors (by type and by value)
Second:	Perform measures properly using the millimetre
Third:	Check small malfunctions in electronic circuits

D. DETAILED DESCRIPTION OF LEARNING OUTCOMES.

Learning Outcome:	Analyse and apply the resistances' code
Knowledge	
-	The student must know the correct codes for PTH and SMD resistors
Skills	
-	The student must know how to use the different codes of resistances
Competences	
-	The student is responsible for knowing the different codes of resistances

Learning Outcome:	Identify and distinguish several types of resistance
Knowledge	
-	The student will understand the difference between PTH and SMD resistors
Skills	
-	The student must be able to distinguish the different resistances
Competences	
-	The student is responsible for knowing correctly identify the different types of resistors

Learning Outcome:	Understand the difference between electric current and voltage
Knowledge	
-	Should know properly distinguish electrical current voltage
Skills	
-	Perform measurements of electric voltage and electric current in a circuit
Competences	
-	Must have the ability to differentiate electrical current of electric voltage

Learning Outcome:	Work correctly with measuring appliances
Knowledge	
-	The student should know correctly read the values indicated by the multimeter
Skills	
-	Shall handle the multimeter correctly
Competences	
-	Must be able to do it properly with the multimeter measurements

Learning Outcome:	Apply Ohm's law
Knowledge	
-	The student must apply Ohm's law practically
Skills	
-	Must know state the law of Ohm
Competences	
-	should know the law of relational theory with practice ohm