



EXCELSIOR HIGH SCHOOL

INDUSTRIAL TECHNIQUES

CURRICULUM GUIDE

GRADE: 8

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INDUSTRIAL TECHNIQUES***GRADE: 8*****GENERAL OBJECTIVE 1: Exploring and utilizing resources****FIRST TERM CHRISTMAS**

Teaching Sessions (40 mins/session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
	1.1 RESOURCES			
WEEK 1-5 2 sessions 2 sessions 2 sessions 2 sessions 2 sessions	(a) WOOD <ul style="list-style-type: none"> • Structure of a tree • Type of trees • Conversion and seasoning • Uses of wood • Defects in lumber 	<ul style="list-style-type: none"> • Understand the structure of the cross section of a tree. • Identify various types of hardwood and Softwood trees. • Understand the importance of conversion and seasoning. • Select appropriate types of wood for given applications. • Understand the causes of defects in lumber 	<p>Drawing and labelling the cross section of a tree.</p> <p>Collection of samples of various types of wood.</p> <p>Tour of lumber yard to observe conversion and seasoning.</p> <p>Presentation of report on field trip.</p> <p>Construction of a project</p>	<p>Grading of labelling of tree.</p> <p>Grading of samples and report.</p> <p>Grading of research reports.</p> <p>Written test</p> <p>Grading of project.</p>

Teaching Sessions (40 mins/session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
WEEK 7				FIRST MONTHLY TEST
WEEK 8-10 2 sessions 2 sessions 2 sessions	(b) METAL i. Types of metals ii. Sources of Metals. iii. Manufacturing of common metals. iv. Uses of common metals	Differentiate between Ferrous metals, non-ferrous metals and alloys. Identify sources of Common metals Understand how metals are Manufactured Select appropriate Metals for various applications	Mounting of display on types of metals. Research on Sources and Production of metals Construct simple project using specific types of metals Research the use of various types of metals	Rating of display on types of metals. Grading of project Grading of research.
WEEK 11-13 2 sessions 4 sessions	(c) FOSSIL FUEL i. Types of fossil fuel ii. Uses of fossil fuel iii. Processing of fossil fuel	Understand the use of various types of fuel Draw flow diagram showing process of fossil fuel.	Research on sources and uses of fossil fuel Flow chart showing processing of fossil fuel	Grading of research on fossil fuels. Grading of diagram
WEEK 14				2ND MONTHLY TEST
SECOND / EASTER TERM				

Teaching Sessions (40 mins/session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
WEEK 1 2 sessions	(d) PLASTICS i. Types of plastics ii. Uses of plastics	Appreciate the use of various types of plastics	Field trip to a plastic processing plant	Written quiz
WEEK 2-3 4 sessions	(e) ENERGY i. Generation and Distribution of electrical energy ii. Processing, distribution and use of water. iii. Energy conservation	Understand methods of generating and distributing electrical energy. Understand processing and distribution of piped water Construct model of water purification system Identifying ways of conserving energy	Diagram outlining the generation of electricity. Utilities fair with emphasis on electrical and water distribution Field trip to a water treatment and distribution plant Research conservation measures	Written and oral quiz Grading of students' Research

WEEK4 2 sessions	(f) ADHESIVES i. Types of adhesives ii. Sources of adhesives. iii. Uses of adhesives	Select appropriate adhesives for given applications	Experimentation with the use of various types of adhesives on selected materials.	Grading of report on experiments
WEEK 5-6 4 sessions	(g) METAL FASTENERS i. Types of fasteners. ii. Application of iii. Fasteners. nail screws	Differentiate between types of metal fasteners. Understand the use of Various metal fasteners	Preparation of display board showing the application of fasteners.	Rating of display board.
WEEK7-8				MID YEAR EXAMS

GENERAL OBJECTIVE 2: Understanding hygiene and safety in the use of resources

Teaching Sessions (40 mins/session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
	2.1 Hygienic Work Habits.			
WEEK 9 2 sessions	(a) Dusting and cleaning i. Workstations ii. Laboratories	Appreciate the importance of hygienic work practice.	Mounting of a display on safety and hygiene	Rating of display

Teaching Sessions (40 mins/session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
WEEK 10-11 2 sessions	(b) Washing i. Tools ii. Floors iii. Windows iv. Walls	Display safe work practices. Conduct a mini- survey.	Research and make presentation on safety at the work place. Survey on safety practices in the home, school and community.	Grading of research and presentation. Evaluation of survey.
WEEK 12 2 sessions	(c) Safety considerations (i) Hand tools (ii) Equipment (iii) Materials	Understand the importance of safety in handling tools		
END OF TERM				

GENERAL OBJECTIVE 3: Developing skills in the use of materials, tools and equipment**THIRD TERM SUMMER**

Teaching Sessions (40 mins/session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
	3.1 Working Procedures			
WEEK 1-2 4 sessions	(a) LAYOUT i. Types of layout tools ii. Uses of layout Tools. iii. Safety Considerations iv. Care of layout tools	Layout material for given projects. Understand the operating principles of basic hand tools. Understand the use of basic hand tools. Select and use basic hand tools.	Completion of worksheet on types of layout tools. Group exercise on the appropriate cutting tools for various operations Proper selection and safe utilization of cutting tools Outline procedures in carrying cutting tools	Grading of worksheet on types of layout tools. Rating of group exercise on selection of cutting tools. Grading of worksheet on drilling devices
WEEK 3-4 4 sessions	(b) CUTTING i. Types of cutting tools ii. Uses of cutting tools. iii. Safety considerations. iv. Care of cutting tools	Understand the types of cutting tools Use of cutting tools Safe use of cutting tool Care of cutting tool	Use cutting tools following safe procedures.	Rating of students use of cutting and drilling tools.
WEEK 5				MONTHLY TEST 3

Teaching Sessions (40 mins/session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
WEEK 6 2 sessions	(c) DRILLING (i) Types of drilling devices. (ii) Applications of drilling devices. (iii) Safety	Understand the types of drilling tools Uses of drilling tools Care of drilling tools.	Use drilling tools	
WEEK 7 2 sessions	(d) JOINING (i) Types of joints (ii) Application of joints. (iii) Joining procedures. (iv) Safety considerations.	Understand the use of certain types of joints.	Selection of correct joint for specific project.	Rating of group exercise on selection of suitable joining procedures.

Teaching Sessions (40 mins/session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
WEEK 8 -9 4 sessions	(e) FINISHING (i) Types of finishing materials. (ii) Application of finishing materials. (iii) Finishing	Demonstrate safety in the use of tools and equipment Select appropriate joining techniques. Join various types of material Appreciate the use of finishing materials	Research on types and applications of finishing materials. Making of a product using the processes of layout, cutting, drilling, joining and finishing. Application of finishes to project.	Grading of research report. Assessment of performance in terms of process and finished product.

GENERAL OBJECTIVES 4: Protecting and conserving resources in the environment

Teaching Sessions (40 mins/session)	Topics/Content Outline	Expected Outcomes & Skills	Suggested Activities	Evaluation
	4.1 DEFINITION OF WASTE			
WEEK 10 2 sessions	(a) CLASSIFICATION OF WASTE (i) Toxic and non-toxic (ii) Pollutants and Non-pollutants	Understand the effects of waste on the environment. Prepare an inventory.	Compiles list of harmful effects of waste. Preparation of an inventory of wastes found in the home, school and community (in categories).	Grading of waste inventory. Grading of group research and presentation.
	(b) SAFE DISPOSAL OF WASTE	Appreciate the importance of the safe disposal of waste. Conduct research	List methods of safely disposing of waste.	Quiz
WEEK 11 2 sessions	(c) POLLUTION CONTROL	Recognize the importance of pollution control. Make a waste Disposal unit	Field trip to an industrial plant to observe pollution measure.	Grading of waste disposal units.
WEEK 12-13				End of YEAR Examinations