

Materials Processing Activity Guide

Objectives

In this unit, students will:

1. Apply, appropriately use, and enforce safety procedures when using tools and machines.
2. Determine the most suitable tool for each process in the development of project work and problem solutions.
3. Identify the characteristics and select the most appropriate materials for use in a variety of projects.
4. Describe the processes involved in manufacturing a variety of products.
5. Apply technical vocabulary relating to a variety material processing operations.
6. Design and complete the manufacture of a multi-process, multi-material product.

Day #	Activity #	Activity Description	Type of Activity
1	1	General Safety General Safety rules you will need to know when working with machine tools	Video
1	2	Cutting wood to length Begin construction of the CD storage container. Show instructor cut molding and pine pieces.	Project
2	1	Sanding & Layout Lay out and prepare the material	Project
2	2	Drilling Holes Pre-drill the nail holes	Project
2	3	Assembly of the Project Assemble the CD storage container. Show instructor finished project.	Project
3	1	Plastics Technology Demonstrate how plastics can help save some of our natural resources	Video
3	2	Acrylic Picture Frame Learn about bending plastic; create a free standing picture frame.	Project
4	1	Creating a Golf Tee Learn about the process of injection molding. Create a golf tee using the injection molder.	Project
5	1	Microscope Activity Take a close-up look at the make-up of different materials. Draw the item and compare or contrast to other items observed.	Project
5	2	Narrative Writing activity/on-screen multiple-choice test Describe ways to create a CD storage container using plastic or aluminum	Test
6	1	Personal Tool Design Sketch a tool to solve a problem that your family might have.	Project
6	2	Personal Tool Design Using the tube bender, bend metal for the tool.	Project
7	1	Injection Molding Injection mold a handle for the device that was created on Day 6, Activity 2	Project
8	1	Technology Update Explore a variety of technologies on the horizon. Write in journal.	Internet
9	1	Injection Molding Injection mold a handle for a small screwdriver.	Project
10	1	Design Brief	Project
10	2	Persuasive Writing activity/on-screen multiple-choice test Explain whether your projects were better made by hand or by using the power tools.	Test