

Unit 6: Nesting Tray Project

Content Area: **Industrial Technology**
Course(s): **Construction Technology I**
Time Period: **2 marking periods**
Length: **Weeks**
Status: **Published**

Unit Overview

In this unit students will apply the skills they have acquired from previous lessons to build a Nesting Tray Projects. They will layout material from an online print and cut out wood parts with various separating machines. Students will create various types of joinery such as: Dados, rabbet and miter joints. They will sand their project parts apply stain, assemble project using wood glue and fasteners. After project has been completed they will lightly sand and apply polyurethane finish.

Transfer

Students will be able to independently use their learning to...

-Create their own projects at home or in the Construction or Building Trades Area with the skills they have acquired.

For more information, read the following article by Grant Wiggins.

http://www.authenticeducation.org/ae_bigideas/article.lasso?artid=60

Meaning

SWBAT apply skills they have learned to build or repair items once they leave the class.

Understandings

Students will understand that...

-Measurements are critical when building anything.

-Accuracy in layout and cutting from a print is essential.

Assembly and finishing techniques are important in creating an aesthetically pleasing project.

Craftsmanship and cleanliness are essential in creating a project.

Essential Questions

Students will keep considering...

Is my project parts accurate in measurement?

Have I followed the plans?

Is my project aesthetically pleasing?

Have I been working safely?

Application of Knowledge and Skill

SWBAT layout project following techniques they have acquired in previous lessons with correct measurements.

SWBAT cut out project parts safely and accurately with skills they have acquired from previous lessons.

SWBAT create joinery for their project that is accurate.

SWBAT to sand their projects and remove glue marks which was presented in previous lessons with different grits of sandpaper.

SWBAT to assemble their projects accurately with glue and fasteners working with proper clamping devices with skills they have acquired from previous lessons.

SWBAT to apply wood stain and clear coat finishes to their project with skills they have acquired from previous lessons.

Students will know...

Students will know...

What facts and basic concepts should students know and be able to recall?

Students will be skilled at...

Students will be skilled at...

Measurement and techniques to transfer Measurements.

Correct techniques and safety when operating various separating machines.

Making safe and accurate Joinery cuts when operating various separating machines.

Sanding project with proper grit sandpapers.

Assembly techniques working with proper clamping devices, glue adhesive, portable power tools to apply fasteners.

Applying finishes with correct method.

Academic Vocabulary

Grit Classifications, Miter, Dado, Rabbet, Adhesion, Fastener.

Learning Goal 1

SWBAT read Nesting Tray Print and transfer measurements to wood.

9.3.12.AC.1	Use vocabulary, symbols and formulas common to architecture and construction.
9.3.12.AC.2	Use architecture and construction skills to create and manage a project.
9.3.12.AC.3	Comply with regulations and applicable codes to establish and manage a legal and safe workplace.
9.3.12.AC.4	Evaluate the nature and scope of the Architecture & Construction Career Cluster and the role of architecture and construction in society and the economy.
9.3.12.AC.7	Describe career opportunities and means to achieve those opportunities in each of the Architecture & Construction Career Pathways.
9.3.12.AC-CST	Construction

9.3.12.AC-CST.2	Describe the approval procedures required for successful completion of a construction project.
9.3.12.AC-CST.9	Safely use and maintain appropriate tools, machinery, equipment and resources to accomplish construction project goals.
9.3.12.AC-DES.6	Apply the techniques and skills of modern drafting, design, engineering and construction to projects.

Target 1

SWBAT identify the proper techniques of reading a project plan and measurements.

Target 2

SWBAT transfer the measurements from a project plan to wood.

Learning Goal 2

SWBAT Cut out stock and complete joinery on Nesting Tray Project

9.3.12.AC.1	Use vocabulary, symbols and formulas common to architecture and construction.
9.3.12.AC.2	Use architecture and construction skills to create and manage a project.
9.3.12.AC.3	Comply with regulations and applicable codes to establish and manage a legal and safe workplace.
9.3.12.AC.4	Evaluate the nature and scope of the Architecture & Construction Career Cluster and the role of architecture and construction in society and the economy.
9.3.12.AC.5	Describe the roles, responsibilities, and relationships found in the architecture and construction trades and professions, including labor/management relationships.
9.3.12.AC.6	Read, interpret and use technical drawings, documents and specifications to plan a project.
9.3.12.AC-CST.4	Apply scheduling practices to ensure the successful completion of a construction project.
9.3.12.AC-CST.5	Apply practices and procedures required to maintain jobsite safety.
9.3.12.AC-CST.8	Demonstrate the construction crafts required for each phase of a construction project.
9.3.12.AC-DES.6	Apply the techniques and skills of modern drafting, design, engineering and construction to projects.
9.3.12.AC-MO.1	Recognize and employ universal construction signs and symbols to function safely in the workplace.

Target 1

SWBAT cut out stock accurately and safely with separating machinery.

Target 2

SWBAT create joinery accurately and safely with separating machinery.

Learning Goal 3

SWBAT prepare Nesting Tray Project to assemble and finish.

9.3.12.AC.1	Use vocabulary, symbols and formulas common to architecture and construction.
9.3.12.AC.3	Comply with regulations and applicable codes to establish and manage a legal and safe workplace.
9.3.12.AC.4	Evaluate the nature and scope of the Architecture & Construction Career Cluster and the role of architecture and construction in society and the economy.
9.3.12.AC.5	Describe the roles, responsibilities, and relationships found in the architecture and construction trades and professions, including labor/management relationships.
9.3.12.AC-CST	Construction
9.3.12.AC-CST.2	Describe the approval procedures required for successful completion of a construction project.
9.3.12.AC-CST.4	Apply scheduling practices to ensure the successful completion of a construction project.
9.3.12.AC-CST.6	Manage relationships with internal and external parties to successfully complete construction projects.
9.3.12.AC-CST.8	Demonstrate the construction crafts required for each phase of a construction project.
9.3.12.AC-DES.5	Identify the diversity of needs, values and social patterns in project design, including accessibility standards.
9.3.12.AC-MO.1	Recognize and employ universal construction signs and symbols to function safely in the workplace.

Target 1

SWBAT sand project parts with the proper grit sandpaper starting with coarse then moving to a finer grit to prepare for assembly and finish.

Target 2

SWBAT assemble Nesting Tray Project with proper glue adhesive and clamping device with fasteners.

Target 3

SWBAT apply finish to completed Nesting Tray Project with proper techniques.

Formative Assessment and Performance Opportunities

Students projects will be graded on performance and actual completed Nesting Tray Project with Industrial Technology Project Rubric.

Summative Assessment

Online quiz on techniques and safety in the steps for Constructing Project.

Accommodations/Modifications

Students that have completed their step or project may assist any student with an Accomodation/Modifications.

Unit Resources

<https://www.minwax.com/wood-projects/accessories/diy-nesting-trays-plans> (Nesting Tray Project)

21st Century Life and Careers

CAEP.9.2.12.C.1	Review career goals and determine steps necessary for attainment.
CAEP.9.2.12.C.2	Modify Personalized Student Learning Plans to support declared career goals.
CAEP.9.2.12.C.3	Identify transferable career skills and design alternate career plans.
CAEP.9.2.12.C.4	Analyze how economic conditions and societal changes influence employment trends and future education.
CAEP.9.2.12.C.6	Investigate entrepreneurship opportunities as options for career planning and identify the knowledge, skills, abilities, and resources required for owning and managing a business.
CAEP.9.2.12.C.7	Examine the professional, legal, and ethical responsibilities for both employers and employees in the global workplace.

Interdisciplinary Connections
