

# Washington Township School District

**The mission of the Washington Township Public Schools** is to provide a safe, positive, and progressive educational environment that provides opportunity for all students to attain the knowledge and skills specified in the NJ Learning Standards at all grade levels, so as to ensure their full participation in an ever-changing world as responsible, self-directed and civic-minded citizens.

Course Title:	#911 Material Pro	#911 Material Processing and Production Systems				
Grade Level(s):	9 - 12					
Duration:	Full Year:	x	Semester:		Marking Period:	
Course Description:	The Material Processing and Production Systems course is an introductory hands-on course dealing with construction methods, materials, and safety regulations. Students learn craftsmanship through established industry standards including the latest technological techniques. All skills and techniques acquired within the Materials Processing and Production Systems course are considered by industry professionals to be the fundamental knowledge for students pursuing advanced woodworking course work. Computer and Internet skills will also be enhanced through research projects and various computer-based activities. The 21st century work force skills in presentation, communication, mathematics, science, leadership, collaboration, and problem solving are emphasized and assessed in Materials Processing and Production Systems course work.				is an thods, anship latest within se are nental course rough e 21st cation, oblem ng and	
Grading Procedures:	Assignments will consist of: Rubric based Major & Minor Projects Quiz / Tests Classwork Rubric based Participation Final Grades will be based on District Policy					
Primary Resources:	Exploring Woodw The Goodheart-V	′orking 8 <sup>th</sup> Vilcox Corr	Edition. Zimmerma	an, McWar	d & Blazek	

Washington Township Principles for Effective Teaching and Learning

- Implementing a standards-based curriculum
- Facilitating a learner-centered environment
- Using academic target language and providing comprehensible instruction
- Adapting and using age-appropriate authentic materials
- Providing performance-based assessment experiences
- Infusing 21st century skills for College and Career Readiness in a global society

Designed by:	Matt Persichetti		
Under the Direction of:	Malika Moore		
	Written:	8/2023	
	Revised:		
BOE	Approval:		

#### **Unit Title:** 1 Introduction to Course/Lab Safety and Room Procedures

# Unit Description:

Students are given a tour of the facilities with an emphasis on safety. They are introduced to the resources at hand for the process of design and woodworking. An overview of the course is presented with emphasis on learning activities and types of issues that will be explored. Students are also told what to do and where to go in the event of an emergency. Basic classroom expectations regarding behavior and work ethic are discussed.

# Unit Duration: 1 week

Desired Results				
Standard(s):				
Standard(s):         9.2.12.CAP.2       9.3.12.AC.7         9.2.12.CAP.3       9.3.12.AR.1         9.2.12.CAP.4       9.3.12.AR.1         9.2.12.CAP.5       9.3.12.AR.2         9.2.12.CAP.7:       9.3.12.AR.5         9.2.12.CAP.8       9.3.12.AR.5         9.2.12.CAP.8       9.3.12.AR.5         9.3.12.AC.1       9.3.12.AR-PRF.1         9.3.12.AC.3       9.3.12.AR-TEL.3         9.3.12.AC.4       9.3.12.AC.6         9.3.12.AC.6       9.3.MN.4		9.3.MN-HSE.1 9.3.ST.1 9.3.ST.3 9.3.ST.4 9.3.ST.5 9.3.ST.6 9.3.ST-ET.1 9.3.ST-ET.2 9.3.ST-ET.3 9.3.ST-ET.4	9.3.ST-ET.5 9.3.ST-ET.6 9.3.ST-SM.1 9.3.ST-SM.2 9.4.12.CI.1 9.4.12.CI.2 9.4.12.CI.3 9.4.12.CT.1 9.4.12.CT.2	
Indicators: Understandings: Students will understand that 1. Explain what will happen on their third unexcused lateness of less than two minutes; of between 2 and 5 minutes; more than 5 minutes. 2. Locate the designated area(s) for all emergencies. 3. Locate tools and storage cabinets within the design lab. 4.Sit in their assigned seats. 5. Maintain their individual work area as well as the lab with regard to proper clean-up after each period as required. 6. State the various categories used in the grade breakdown.		<ul> <li>Essential Questions:</li> <li>1. 1. What is the purpose of a facilities safety and health program?</li> <li>2. What is the purpose of facilities evacuation and lockdown protocol?</li> </ul>		
	Assessmer	nt Evidence		
Performance Tasks: Demonstrate classroom policies and procedures through their attitude and behavior Explain the course proficiencies Show what to do in the event of an emergency or drill Recognize what safety equipment is in the classroom Identify the location of safety equipment in the classroom Show how to operate any safety equipment that may be necessary to use in the event of an emergency Identify the steps that should be followed in the event of an accident or medical emergency in the classroom.		Other Evidence: Formative Assessment: Class discussions Summative Assessment Procedures Quiz Classroom layout Quiz		

- 1. What the consequences of unexcused lateness are.
- 2. What the procedures are for making up work after being absent.
- 3. Where to go during a fire drill.
- 4. Where to go and what to do during any of the other emergencies.
- 5. Where the tools and storage cabinets are located.
- 6. The general layout of the lab as it relates to their assigned seat.
- 7. The procedures for maintaining a clean lab.

# Learning Plan

# Learning Activities:

- 1. Students go outside to observe the location of their designated area for a fire drill.
- 2. Students and teacher discuss the different emergencies and what to do and where to go under various circumstances.
- 3. Teacher demonstrates location of all storage areas and tool cabinets.
- 4. Teacher demonstrates clean-up procedures.
- 5. Teacher discusses grading and evaluative processes.
- 6. Teacher/student discussion of current and/or past issues and problems in the areas of woodworking and construction.

#### Resources:

Student Handbook Textbook Students will be given a copy of -Course Proficiencies -General Safety Rules

-Rules and Regulations of class(to be signed by student and parent)

Unit M	Nodifications for Special Population Students
Advanced Learners	Provide ample opportunities for creative behavior. Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation. Show appreciation for creative efforts Respect unusual questions, ideas, and solutions. Encourage students to test their ideas. Provide opportunities and give credit for self-initiated learning. Avoid overly detailed supervision and too much reliance on prescribed curricula. Allow time for reflection. Resist immediate and constant evaluation. Avoid comparisons to other students.
Struggling Learners	Assist students in getting organized. Give short directions. Use drill exercises. Give prompt cues during student performance. Let students with poor writing skills use a computer. Break assignments into small segments and assign only one segment at a time. Demonstrate skills and have students model them. Give prompt feedback. Use continuous assessment to mark students' daily progress. Prepare materials at varying levels of ability.
English Language Learners	Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat concepts in several ways. When possible, use pictures, photos, and charts. Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class. Give honest praise and positive feedback through your voice tones and visual articulation whenever possible. Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English. Integrate students' cultural background into class discussions. Use cooperative learning where students have opportunities to practice expressing ideas without risking language errors in front of the entire class.
Learners with an IEP	<ul> <li>Each special education student has in Individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include: <ul> <li>Variation of time: adapting the time allotted for learning, task completion, or testing</li> <li>Variation of input: adapting the way instruction is delivered</li> <li>Variation of size: adapting the number of items the student is expected to complete</li> <li>Modifying the content, process or product</li> </ul> </li> <li>Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and</li> </ul>

	Teachers are encouraged to use the Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here <u>www.udlguidelines.cast.org</u>
Learners with a 504	Refer to page four in the <u>Parent and Educator Resource Guide to Section</u> <u>504</u> to assist in the development of appropriate plans.

	Interdisciplinary Connections				
Visual and Performing Arts	English Language Arts	Mathematics	Science	Social Studies	
	Gr.11-12, NJSLSA. R-1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9 Gr. 9-10, NJSLSA. R- 1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9	NJSLS N-Q.1-3	HS-ETS1-1 HS-ETS1-2 HS-ETS1-3 HS-ETS1-4	6.1.12.EconEM.5.a	

# Integration of 21<sup>st</sup> Century Skills

Indicators:

8.1.12.CS.1 8.1.12.CS.2 8.1.12.CS.3 8.1.12.CS.4

# Unit Description:

In this unit the student will learn the history, physical properties and appropriate use of various materials.

Unit Duration: 1 week					
Desired Results					
Standard(s):           9.3.12.AC.1         9.3.12.AC-DES.2           9.3.12.AC.2         9.3.12.AC-MO.1           9.3.12.AC.3         9.3.12.AC-MO.2           9.3.12.AC.6         9.3.12.AC-MO.3           9.3.12.AC-CST.5         9.3.MN-HSE.1           9.3.12.AC-CST.9         9.3.MN-HSE.1	9.3.MN-HSE.2 9.3.MN-HSE.3 9.3.MN-HSE.4 9.3.MN-HSE.5 9.3.MN-HSE.7 9.3.MN-MIR.1 9.3.MN-MIR.2	9.3.MN-MIR.3 9.3.MN-MIR.6 9.3.ST.3 9.3.ST-ET.3			
Indicators:					
<ul> <li>Understandings: Students will understand that</li> <li>1. Lumber and plywood grading systems</li> <li>2. Hardwoods and Softwoods</li> <li>3. Lumber Production</li> <li>4. The Use of engineered lumber products</li> <li>5. Characteristics used in lumber and plywood grading systems</li> <li>6. Applications of various sheet goods</li> </ul>	Essential Questions: Where does wood come from? How are forest materials produced? Why forest products are considered a sustainable industry? Why specific forest products are more suited to ertain applications than others				
Assessme	nt Evidence				
<ol> <li>Performance Tasks:         <ol> <li>Identify different types of lumber</li> <li>Explain the process of creating usable lumber from logs</li> <li>Explain what engineered lumber are used for</li> <li>Explain how cabinet grade plywood is produced and graded</li> <li>Identify the difference between a hard and softwood tree</li> </ol> </li> </ol>	Other Evidence:Formative Assessment:1. Worksheets2. Classroom exercises3. Home work4. Quizzes5. Lab work6. Skill assessmentsBuilding modelsSummative Assessment-Benchmark TEST				

- A. Wood in Our Environment
  - 1. Uses for Wood
  - 2. Trees in Our Environment
- B. The Lumber Industry
  - 1. Harvesting Trees
  - 2. Processing logs into Lumber
  - 3. Seasoning Lumber
  - 4. Wood Defects
  - 5. Lumber Grading

# Learning Plan

# Learning Activities:

- 1. Lecture and class discussion
- 2. Various video clips of lumber mill creating sheet goods, veneers, and lumber from logs
- 3. In class exercises
- 4. Practical labs

**Resources:** 

- -Textbook
- -Projector
- -Computer
- -Handouts

-Examples of various types of wood, sheet goods, and veneers

Unit I	Nodifications for Special Population Students
Advanced Learners	Provide ample opportunities for creative behavior. Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation. Show appreciation for creative efforts Respect unusual questions, ideas, and solutions. Encourage students to test their ideas. Provide opportunities and give credit for self-initiated learning.
	Avoid overly detailed supervision and too much reliance on prescribed curricula. Allow time for reflection. Resist immediate and constant evaluation. Avoid comparisons to other students.
Struggling Learners	Assist students in getting organized. Give short directions. Use drill exercises. Give prompt cues during student performance. Let students with poor writing skills use a computer. Break assignments into small segments and assign only one segment at a time. Demonstrate skills and have students model them. Give prompt feedback. Use continuous assessment to mark students' daily progress. Prepare materials at varying levels of ability.
English Language Learners	Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat concepts in several ways. When possible, use pictures, photos, and charts. Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class. Give honest praise and positive feedback through your voice tones and visual articulation whenever possible. Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English. Integrate students' cultural background into class discussions. Use cooperative learning where students have opportunities to practice expressing ideas without risking language errors in front of the entire class.
Learners with an IEP	<ul> <li>Each special education student has in Individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include: <ul> <li>Variation of time: adapting the time allotted for learning, task completion, or testing</li> <li>Variation of output: adapting the way instruction is delivered</li> <li>Variation of size: adapting the number of items the student is expected to complete</li> <li>Modifying the content, process or product</li> </ul> </li> <li>Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed here.</li> </ul>

	Teachers are encouraged to use the Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here www.udlguidelines.cast.org
Learners with a 504	Refer to page four in the <u>Parent and Educator Resource Guide to Section</u> 504 to assist in the development of appropriate plans.

	Interd	disciplinary Conr	nections	
Visual and Performing Arts	English Language Arts	Mathematics	Science	Social Studies
1.2.12prof.Cr1a 1.2.12prof.Cr1b 1.2.12prof.Cr1c 1.2.12prof.Cr1d	Gr.11-12, NJSLSA. R-1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9 Gr. 9-10, NJSLSA. R- 1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9	NJSLS N-Q.1-3 NJSLS F.BF.1 NJSLS F.LE.1	HS-ETS1-1 HS-ETS1-2 HS-ETS1-3 HS-ETS1-4	

Integration of 21<sup>st</sup> Century Skills

Indicators:
8.2.12.ED.1
8.2.12.ED.2
8.2.12.ED.3
8.2.12.ED.5
8.2.12.NT.1
8.2.12.NT.2

# Unit Title: 3 Designing, Planning and Measurement

# **Unit Description:**

Explanation and demonstration of various types of design practices will take place. Students will learn how to make a bill of materials, a plan of procedure and select appropriate materials for their project. Common measuring tools will also be identified. Students will become familiar with these tools as they progress through the course. Through practical experience students will realize the importance of being able to read and understand a ruler.

#### Unit Duration:

Standard(s):				
9.3.12.AC.1	9.3.12.AC-DES.1	9.3.ST-ET.1	9.3.ST-SM.4	
9.3.12.AC.2	9.3.12.AC-DES.2	9.3.ST-ET.2	9.4.12.CI.1	
9.3.12.AC.5	9.3.12.AC-DES.5	9.3.ST-ET.3	9.4.12.CI.3	
9.3.12.AC.6	9.3.12.AC-DES.6	9.3.ST-ET.4	9.4.12.CT.1	
9.3.12.AC-CST.2	9.3.12.AC-DES.8	9.3.ST-ET.5	9.4.12.CT.2	
9.3.12.AC-CST.3	9.3.12.ED.3	9.3.ST-ET.6		
9.3.12.AC-CST.5	9.3.ST.1	9.3.ST-SM.1		
9.3.12.AC-CST.7	9.3.ST.6	9.3.ST-SM.2		
9.3.12.AC-CST.8				
9.3.12.AC-CS1.9				
Indicators:				
Understandings:		Essential Questions:		
Students will understand the	at	<ol> <li>Why is it important to</li> </ol>	design and plan out you work	
1. The definition of a working	g drawing	2. What is the difference	e between a metric and	
2. How to read a ruler		standard ruler		
3. Describe the concept of s	cale			
4. Identify the basic measuri	ng and layout tools			
5. How to use a square				
6. The basic steps in plannir	ng a project			
7. The difference between a	board, square , and lineal			
foot				
8. The difference between scale and ratio				
	Assessmer	nt Evidence		
Performance Tasks:		Other Evidence:		
1. Demonstrate the prope	r use of measuring and	Formative Assessment:		
layout tools	C			
2. Read and use working	drawings	Reading a ruler		
3. Name and describe 5 ty	ypes of lines commonly	Using a ruler to measure a given object		
used on working drawir	ngs	Drawing exercises		
4. Calculate board feet, square feet, and lineal		Math worksheets		
feet		Calculating board square and lineal feet		
5. Prepare a bill of materials				
6. Make a stock cutting list		Ratio and scale		
7. Prepare a plan of proce	edure for constructing a			
project		Cummetine Accessment		
8. Measure to the nearest	1/16"	Summative Assessment		
9 Measure to the nearest	mm	-Benchmark TEST		

- 1. Planning is an essential component to design, construction, materials usage, and efficiency
- 2. The ability to read and understand a ruler

# Learning Plan

# Learning Activities:

- 1. Lecture and class discussion
- 2. Measure several pieces of wood and calculate the board feet of each piece.
- 3. In class exercises
- 4. Practical labs
- 5. Assigned homework-students must measure different item in their house.
- 6. Students will have to make a three view drawing of a given object

#### **Resources:**

-Textbook

-Projector

-Computer

-Handouts

-Examples of various types of drawings

-Example of one board foot of material

-Orthographic paper

-Ruler, square, tape measure

Unit M	Unit Modifications for Special Population Students		
Advanced Learners	<ul> <li>Provide ample opportunities for creative behavior.</li> <li>Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation.</li> <li>Show appreciation for creative efforts</li> <li>Respect unusual questions, ideas, and solutions.</li> <li>Encourage students to test their ideas.</li> <li>Provide opportunities and give credit for self-initiated learning.</li> <li>Avoid overly detailed supervision and too much reliance on prescribed curricula.</li> <li>Allow time for reflection.</li> <li>Resist immediate and constant evaluation.</li> <li>Avoid comparisons to other students.</li> </ul>		
Struggling Learners	<ul> <li>Assist students in getting organized.</li> <li>Give short directions.</li> <li>Use drill exercises.</li> <li>Give prompt cues during student performance.</li> <li>Let students with poor writing skills use a computer.</li> <li>Break assignments into small segments and assign only one segment at a time.</li> <li>Demonstrate skills and have students model them.</li> <li>Give prompt feedback.</li> <li>Use continuous assessment to mark students' daily progress.</li> <li>Prepare materials at varying levels of ability.</li> </ul>		
English Language Learners	Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat		
	<ul> <li>When possible, use pictures, photos, and charts.</li> <li>Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class.</li> <li>Give honest praise and positive feedback through your voice tones and visual articulation whenever possible.</li> <li>Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English.</li> <li>Integrate students' cultural background into class discussions.</li> <li>Use cooperative learning where students have opportunities to practice expressing ideas without risking language errors in front of the entire class.</li> </ul>		
Learners with an IEP	Each special education student has in Individualized Educational Plan (IEP)		
	<ul> <li>that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include: <ul> <li>Variation of time: adapting the time allotted for learning, task completion, or testing</li> <li>Variation of input: adapting the way instruction is delivered</li> <li>Variation of output: adapting how a student can respond to instruction</li> <li>Variation of size: adapting the number of items the student is expected to complete</li> <li>Modifying the content, process or product</li> </ul> </li> <li>Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed here.</li> <li>Teachers are encouraged to use the Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here www.udlguidelines.cast.org</li> </ul>		
Learners with a 504	Refer to page four in the <u>Parent and Educator Resource Guide to Section</u> 504 to assist in the development of appropriate plans.		

Interdisciplinary Connections				
Visual and Performing Arts	English Language Arts	Mathematics	Science	Social Studies
1.2.12prof.Cr1a 1.2.12prof.Cr1b 1.2.12prof.Cr1c 1.2.12prof.Cr1c 1.2.12acc.Cr1c 1.2.12adv.Cr1c 1.2.12acc.Cr2a 1.2.12acc.Cr2b 1.2.12acc.Cr2b	Gr.11-12, NJSLSA. R-1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9 Gr. 9-10, NJSLSA. R- 1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9	NJSLS N-Q.1-3	HS-ETS1-1 HS-ETS1-2 HS-ETS1-3 HS-ETS1-4	

Integration of 21 <sup>st</sup> Century Skills		
Indicators:		
8.1.12.CS.1 8.1.12.CS.2 8.1.12.CS.3 8.1.12.CS.4 8.2.12.ED.1 8.2.12.ED.2		

# Unit Title: 4 Hand Tools

#### **Unit Description:**

All of the various hand tools used for successful completion of the course will be described and demonstrated. Implications of incorrect tool usage will also be included in the discussion. Safe and correct use of hand tools will be practiced on a daily basis through project work.

#### Unit Duration: 2 weeks **Desired Results** Standard(s): 9.3.12.AC.1 9.3.MN-PR0.1 9.3.ST-SM.4 9.3.ST-ET.1 9.3.12.AC.2 9.3.MN-PRO.3 9.3.ST-ET.2 9.4.12.CI.1 9.3.12.AC.6 9.3.ST.1 9.3.ST-ET.3 9.4.12.CT.1 9.3.12.AC-DES.6 9.3.ST.2 9.3.ST-ET.4 9.4.12.IML.3 9.3.12.AC-DES.7 9.3.ST.3 9.3.ST-ET.5 9.4.12.IML.4 9.3.12.AC-DES.8 9.3.ST.5 9.3.ST-ET.6 9.3.MN-PPD.2 9.3.ST.6 9.3.ST-SM.1 9.3.ST-SM.2 Indicators: **Understandings: Essential Questions:** Students will understand that... 1. How do you determine which tools are most appropriate for a particular task? 1. Which hand tools are used for cutting. 2. How should the various hand tools be handled so 2. Which saw is used for cutting metal that they are used safely and effectively? 3. Which saw is used for cutting across the grain 4. Which saw is used for cutting straight lines 5. The difference between a jack and block plane 6. What a router plane is used for. 7. When to use a half-round file 8. The best time to use a framing hammer.

- 9. What a nail set is used for.
- 10. When to use a finish nail gun as opposed to a brad nail gun.

#### Assessment Evidence

Performance Tasks:	Other Evidence:	
1. Properly use each hand saw.	Formative Assessment:	
<ol><li>Correctly carry a hand saw.</li></ol>		
<ol><li>Adjust the blade on a block plane.</li></ol>	Safety quiz on hand tool usage.	
<ol><li>Cut a square end on a piece of wood</li></ol>	Performance test on hand tool selection and	
5. Insert a screw using a screw driver	proper usage.	
6. Make a rabbet joint with a chisel.	Identification Quiz	
7. Remove a nail using a claw hammer.		
	Summative Assessment	
	-Benchmark TEST	

- 1. Tools have specific functions and methods for usage
- 2. There are specific techniques for using each hand tool correctly and safely.

# Learning Plan

# Learning Activities:

- 1. Lecture and class discussions.
- 2. Demonstrations on how to properly use each tool.
- 3. Practical labs
- 4. Students will make a rabbet, miter, and dado joint using hand tools.
- 5. Selecting appropriate tool for the task at hand.
- 6. Reading assignments on hand tool usage and safety

- -Textbook
- -Projector
- -Computer
- -Handouts
- -Examples of each type of hand tool
- -Examples of projects made by hand tools

Unit Modifications for Special Population Students		
Advanced Learners	<ul> <li>Provide ample opportunities for creative behavior.</li> <li>Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation.</li> <li>Show appreciation for creative efforts</li> <li>Respect unusual questions, ideas, and solutions.</li> <li>Encourage students to test their ideas.</li> <li>Provide opportunities and give credit for self-initiated learning.</li> <li>Avoid overly detailed supervision and too much reliance on prescribed curricula.</li> </ul>	
	<ul> <li>Resist immediate and constant evaluation.</li> <li>Avoid comparisons to other students.</li> </ul>	
Struggling Learners	<ul> <li>Avoid comparisons to other students.</li> <li>Assist students in getting organized.</li> <li>Give short directions.</li> <li>Use drill exercises.</li> <li>Give prompt cues during student performance.</li> <li>Let students with poor writing skills use a computer.</li> <li>Break assignments into small segments and assign only one segment at a time.</li> <li>Demonstrate skills and have students model them.</li> <li>Give prompt feedback.</li> <li>Use continuous assessment to mark students' daily progress.</li> <li>Prepare materials at varying levels of ability.</li> </ul>	
English Language Learners	Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat	
	<ul> <li>When possible, use pictures, photos, and charts.</li> <li>Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class.</li> <li>Give honest praise and positive feedback through your voice tones and visual articulation whenever possible.</li> <li>Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English.</li> <li>Integrate students' cultural background into class discussions.</li> <li>Use cooperative learning where students have opportunities to practice expressing ideas without risking language errors in front of the entire class.</li> </ul>	
Learners with an IEP	<ul> <li>Each special education student has in individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include: <ul> <li>Variation of time: adapting the time allotted for learning, task completion, or testing</li> <li>Variation of output: adapting how a student can respond to instruction</li> <li>Variation of size: adapting the number of items the student is expected to complete</li> <li>Modifying the content, process or product</li> </ul> </li> <li>Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed here.</li> <li>Teachers are encouraged to use the Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here</li> </ul>	
Learners with a 504	Refer to page four in the <u>Parent and Educator Resource Guide to Section</u> <u>504</u> to assist in the development of appropriate plans.	

Interdisciplinary Connections				
Visual and Performing Arts	English Language Arts	Mathematics	Science	Social Studies
1.2.12prof.Cr1a 1.2.12prof.Cr1b 1.2.12prof.Cr1c 1.2.12prof.Cr1d	Gr.11-12, NJSLSA. R-1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9 Gr. 9-10, NJSLSA. R- 1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9	NJSLS N-Q.1-3	HS-ETS1-1 HS-ETS1-2 HS-ETS1-3 HS-ETS1-4	

Integration of 21 <sup>st</sup> Century Skills		
Indicators:		
8.1.12.CS.1		
8.1.12.CS.2		
8.1.12.CS.3		
8.1.12.CS.4		
8.1.12.DA.1		

# Unit Title: 5 Joinery/Fasteners

# Unit Description:

Wood products use a variety of joinery techniques and fastening methods in their assembly. This unit deals with the most commonly used wood joints used in construction.

# Unit Duration: 3 weeks

#### **Desired Results**

Standard(s):				
Standard(s):         9.3.12.AC.1         9.3.12.AC.2         9.3.12.AC.6         9.3.12.AC-CST.1         9.3.12.AC-CST.3         9.3.12.AC-CST.4         9.3.12.AC-CST.5         9.3.12.AC-CST.6         9.3.12.AC-CST.8         9.3.12.AC-CST.9         9.3.12.AC-CST.9         9.3.12.AC-CST.9         9.3.12.AC-CST.9         9.3.12.AC-DES.1         9.3.12.AC-DES.2         9.3.12.AC-DES.6         9.3.12.AC-DES.8    Indicators: Understandings: Students will understand          • A wood joint is a momod together.         • The type of wood joint is a momod together.	9.3.12.AC-M0.1         9.3.12.AC-M0.3         9.3.MN.6         9.3.MN-HSE.1         9.3.MN-HSE.2         9.3.MN-HSE.3         9.3.MN-HSE.4         9.3.MN-HSE.5         9.3.MN-HSE.6         9.3.MN-HSE.7         9.3.MN-LOG.2         9.3.MN-LOG.3         9.3.MN-MIR.1	9.3.MN-MIR.2 9.3.MN-MIR.5 9.3.MN-MIR.6 9.3.MN-PPD.3 9.3.MN-PPD.4 9.3.MN-PRO.2 9.3.MN-PRO.5 9.3.MN-PRO.5 9.3.MN-QA.1 9.3.MN-QA.2 9.3.MN-QA.3 9.3.MN-QA.3 9.3.MN-QA.5 9.3.MN-QA.6 <b>Essential Questic</b> 1. What types construction 2. What are the various type	9.3.MN-QA.7 9.3.ST.1 9.3.ST.3 9.3.ST.6 9.3.ST-ET.1 9.3.ST-ET.3 9.3.ST-ET.4 9.3.ST-ET.5 9.3.ST-SM.1 9.3.ST-SM.4 9.4.12.CT.1 <b>DNS:</b> of wood joints can be used during i? e advantages and disadvantages of the es of wood joints?	
durability, etc).				
Assessment Evidence				
Performance Tasks:		Other Evidence:		
<ol> <li>Create a wood joint using hand tools</li> <li>Properly glue two pieces of wood together</li> </ol>		Formative Assessment:		
<ol> <li>Make a small project using hand tools</li> <li>Properly remove a nail</li> <li>Make a pocket hole joint</li> </ol>		Assessment: 1 Worksheets		
<ol> <li>Safely apply contact cement to any given surface</li> </ol>		1. Classroom exercises		
		2. Home work		

- 3. Quizzes
- 4. Lab work
- 5. Skill assessments

#### **Summative Assessment**

-Benchmark TEST

- 1. What are joinery techniques.
- 2. What types of glue and adhesives are used in wood product construction.
- 3. What types of mechanical fasteners are used in wood product construction
- 4. Which glue is best used outdoors
- 5. Which type of wood joint is commonly used on drawers

# **Learning Plan**

# Learning Activities:

- 1. Lecture and class discussions
- 2. Demonstration of proper usage, applications, and capabilities of various fasteners.
- 3. Video of process adhesives and fasteners to connect project pieces
- 4. Select and utilize appropriate glues and adhesives depending upon application
- 5. Select and utilize necessary mechanical fasteners depending upon the application

- -Textbook
- -Projector
- -Computer
- -Handouts
- -Examples of each type of wood joint
- -Examples of projects made with various types of wood joints
- -Different types of glue
- -Examples of various types of mechanical fasteners

Unit Modifications for Special Population Students		
Advanced Learners	<ul> <li>Provide ample opportunities for creative behavior.</li> <li>Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation.</li> <li>Show appreciation for creative efforts</li> <li>Respect unusual questions, ideas, and solutions.</li> <li>Encourage students to test their ideas.</li> </ul>	
	<ul> <li>Provide opportunities and give credit for self-initiated learning.</li> <li>Avoid overly detailed supervision and too much reliance on prescribed curricula.</li> <li>Allow time for reflection.</li> <li>Resist immediate and constant evaluation.</li> <li>Avoid comparisons to other students.</li> </ul>	
Struggling Learners	Avoid companisons to other students.     Assist students in getting organized.	
	<ul> <li>Give short directions.</li> <li>Use drill exercises.</li> <li>Give prompt cues during student performance.</li> <li>Let students with poor writing skills use a computer.</li> <li>Break assignments into small segments and assign only one segment at a time.</li> </ul>	
	<ul> <li>Demonstrate skills and have students model them.</li> <li>Give prompt feedback.</li> <li>Use continuous assessment to mark students' daily progress.</li> <li>Prepare materials at varying levels of ability.</li> </ul>	
English Language Learners	<ul> <li>Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat concepts in several ways.</li> <li>When possible, use pictures, photos, and charts.</li> </ul>	
	<ul> <li>Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class.</li> <li>Give honest praise and positive feedback through your voice tones and visual articulation whenever possible.</li> </ul>	
	<ul> <li>Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English.</li> <li>Integrate students' cultural background into class discussions.</li> <li>Use cooperative learning where students have opportunities to practice expressing ideas without risking language or areas in front of the active class.</li> </ul>	
Learners with an IEP	Each special education student has in Individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include:	
	<ul> <li>Variation of time: adapting the time allotted for learning, task completion, or testing</li> <li>Variation of input: adapting the way instruction is delivered</li> <li>Variation of output: adapting how a student can respond to instruction</li> </ul>	
	<ul> <li>Variation of size: adapting the number of items the student is expected to complete</li> <li>Modifying the content, process or product</li> </ul>	
	Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed <u>here</u> .	
	Teachers are encouraged to use the Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here www.udlguidelines.cast.org	
Learners with a 504	Refer to page four in the <u>Parent and Educator Resource Guide to Section</u> 504 to assist in the development of appropriate plans.	

Interdisciplinary Connections				
Visual and Performing Arts	English Language Arts	Mathematics	Science	Social Studies
1.2.12prof.Cr1a 1.2.12prof.Cr1b 1.2.12prof.Cr1c 1.2.12prof.Cr1d 1.2.12acc.Cr1c 1.2.12adv.Cr1c 1.2.12acc.Cr2a 1.2.12acc.Cr2a 1.2.12acc.Cr2b 1.2.12acc.Cr2c	Gr.11-12, NJSLSA. R-1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9 Gr. 9-10, NJSLSA. R- 1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9	NJSLS N-Q.1-3 NJSLS G-CO.1-12 NJSLS G-SRT 1-3 NJSLS G-C 1-4 NJSLS G-GMD 1-3 NJSLS G-MG 1-3 NJSLS A.REI.3	HS-ETS1-1 HS-ETS1-2 HS-ETS1-3 HS-ETS1-4	

Integration of 21 <sup>st</sup> Century Skills		
Indicators:		
8.1.12.CS.1		
8.1.12.CS.2		
8.1.12.CS.3		
8.1.12.CS.4		
8.2.12.ED.1		
8.2.12.ED.2		
8.2.12.ED.3		
8.2.12.ED.5		
8.2.12.NT.1		
8.2.12.NT.2		

# Unit Description:

Describe and demonstrate safe portable power tool usage. Discuss the design, application, and incorrect use of the various portable power tools.

Unit Duration: 7 weeks				
Desired Results				
Standard(s): 9.3.12.AC.1 9.3.12.AC.4	9.3.12.AC-DES.2 9.3.12.AC-DES.4	9.3.ST.1 9.3.ST.2	9.3.ST-ET.2 9.3.ST-ET.3	
9.3.12.AC.5 9.3.12.AC.7 9.3.12.AC-CST.1 9.3.12.AC-CST.3 9.3.12.AC-CST.7 9.3.12.AC-DES.1	9.3.12.AC-DES.6 9.3.12.ED.1 9.3.12.ED.3 9.3.MN.1 9.3.MN.2 9.3.MN.6	9.3.ST.3 9.3.ST.4 9.3.ST.5 9.3.ST.6 9.3.ST-ET.1	9.4.12.CI.1 9.4.12.CI.2 9.4.12.CI.3 9.4.12.GCA.1	
Indicators:				
<ul> <li>Understandings: Students will understand that</li> <li>There are safety hazards when using portable power tools.</li> <li>It is essential to use each portable power tool correctly in order to ensure effectiveness and safety.</li> <li>Each portable power tool is designed for a specific function.</li> </ul>		<ol> <li>Essential Questions:         <ol> <li>What are the safety hazards when working with portable power tools?</li> <li>What benefits do portable power tools have over basic hand tools?</li> <li>What are the most commonly used portable power tools?</li> <li>How do you determine which portable power tool is the best one for a particular task?</li> </ol> </li> </ol>		
	Assessmer	nt Evidence		
<ul> <li>Performance Tasks:</li> <li>1. Demonstrate safe operation, care, and storage of the power tools that were used in this course</li> <li>2. Properly change the belt on the belt sander</li> <li>3. Safely change a router bit</li> <li>4. Properly clamp down your work piece when using these tools</li> <li>5. Safely change a drill bit</li> <li>6. Safely change the blade on a saber saw</li> </ul>		Other Evidence: Formative Assessment Safety quiz on power too -Students must pass 100% before they at power tools. Performance test on pow proper usage. Identification Quiz	t: ol usage. s the safely quiz with a re permitted to use the ver tool selection and	
		Summative Assessme -Benchmark TEST	ent	

- 1. Identify all power tools they have seen in class and explain their use
- 2. Identify the various parts of power tools necessary to make adjustments and settings
- 3. Understand the importance of keeping the power tools clean
- 4. The difference between a wood and metal blade hen using the saber saw

# Learning Plan

# Learning Activities:

- 1. Lecture and class discussions.
- 2. Demonstrations on how to safely use each tool.
- 3. Practical labs
- 4. Selecting appropriate tool for the task at hand.

- -Textbook
- -Projector
- -Computer
- -Handouts
- -Examples of each type of portable power tool
- -Examples of router bits
- -Different types orbital sand paper and belt sanders

Unit Modifications for Special Population Students			
Advanced Learners	<ul> <li>Provide ample opportunities for creative behavior.</li> <li>Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation.</li> <li>Show appreciation for creative efforts</li> <li>Respect unusual questions, ideas, and solutions.</li> <li>Encourage students to test their ideas.</li> <li>Provide opportunities and give credit for self-initiated learning.</li> <li>Avoid overly detailed supervision and too much reliance on prescribed curricula.</li> </ul>		
	<ul> <li>Allow time for reliection.</li> <li>Resist immediate and constant evaluation.</li> <li>Avoid comparisons to other students.</li> </ul>		
Struggling Learners	<ul> <li>Assist students in getting organized.</li> <li>Give short directions.</li> <li>Use drill exercises.</li> <li>Give prompt cues during student performance.</li> <li>Let students with poor writing skills use a computer.</li> <li>Break assignments into small segments and assign only one segment at a time.</li> <li>Demonstrate skills and have students model them.</li> <li>Give prompt feedback.</li> <li>Use continuous assessment to mark students' daily progress.</li> <li>Prepare materials at varving levels of ability.</li> </ul>		
English Language Learners	<ul> <li>Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat concepts in several ways.</li> <li>When possible, use pictures, photos, and charts.</li> <li>Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class.</li> <li>Give honest praise and positive feedback through your voice tones and visual articulation whenever possible.</li> </ul>		
	<ul> <li>Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English.</li> <li>Integrate students' cultural background into class discussions.</li> <li>Use cooperative learning where students have opportunities to practice expressing ideas without risking language errors in front of the entire class.</li> </ul>		
Learners with an IEP	<ul> <li>Each special education student has in individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include: <ul> <li>Variation of time: adapting the time allotted for learning, task completion, or testing</li> <li>Variation of output: adapting the way instruction is delivered</li> <li>Variation of size: adapting the number of items the student is expected to complete</li> <li>Modifying the content, process or product</li> </ul> </li> <li>Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed <u>here</u>.</li> <li>Teachers are encouraged to use the Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here</li> </ul>		
Learners with a 504	Refer to page four in the <u>Parent and Educator Resource Guide to Section</u> 504 to assist in the development of appropriate plans.		

Interdisciplinary Connections					
Visual and Performing Arts	English Language Arts	Mathematics	Science	Social Studies	
	Gr.11-12, NJSLSA. R-1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9 Gr. 9-10, NJSLSA. R- 1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9	NJSLS N-Q.1-3	HS-ETS1-1 HS-ETS1-2 HS-ETS1-3 HS-ETS1-4	6.1.12.EconEM.5.a 6.1.12.GeoPP.5.a 6.1.12.EconEM.5.a	

Integration of 21 <sup>st</sup> Century Skills			
Indicators:			
8.1.12.CS.1			
8.1.12.CS.2			
8.1.12.CS.3			
8.1.12.CS.4			
8.2.12.ED.1			
8.2.12.ED.2			
8.2.12.ED.3			
8.2.12.ED.3			

Unit Title: 7 Stationary Power Tools

# Unit Description:

Describe and demonstrate safe machine use. Discuss the correct and incorrect methods of operating each machine as it is demonstrated. Various applications of each machine will be included in the demonstrations.

Unit Duration: 13 Weeks

Desired Results					
Standard(s):					
9.3.12.AC.1 9.3.12.AC.4 9.3.12.AC.5 9.3.12.AC.7 9.3.12.AC-CST.1 9.3.12.AC-CST.3 9.3.12.AC-CST.7 9.3.12.AC-DES.1	9.3.12.AC-DES.2 9.3.12.AC-DES.4 9.3.12.AC-DES.6 9.3.12.ED.1 9.3.12.ED.3 9.3.MN.1 9.3.MN.2 9.3.MN.6	9.3.ST.1 9.3.ST.2 9.3.ST.3 9.3.ST.4 9.3.ST.5 9.3.ST.6 9.3.ST-ET.1	9.3.ST-ET.2 9.3.ST-ET.3 9.4.12.CI.1 9.4.12.CI.2 9.4.12.CI.3 9.4.12.GCA.1		
Indicators:					
<ul> <li>Understandings: Students will understand that</li> <li>There are safety hazards when using stationary power tools.</li> <li>It is essential to use each stationary power tool correctly in order to ensure effectiveness and safety</li> <li>Each stationary power tool is designed for a specific function.</li> <li>Stationary power tools require much more maintenance than other types of tools in ender to function.</li> </ul>		<ol> <li>Essential Questions:         <ol> <li>What are the safety hazards when working with stationary power tools?</li> <li>What benefits do stationary power tools have over basic hand tools or portable power tools?</li> <li>What are the most commonly used stationary power tools?</li> <li>How do you determine which stationary power tool is the best one for a particular task?</li> </ol> </li> </ol>			
	Assessmer	nt Evidence			
<ol> <li>Performance Tasks:         <ol> <li>Identify each machine in the lab and explain what processes can be performed on them.</li> <li>Exhibit a positive attitude toward the safe use of each machine and its' capabilities.</li> <li>Demonstrate their ability to manipulate these machines to accomplish tasks that would otherwise take greater time if hand tools were used.</li> <li>Explain machine set-ups and simple adjustments necessary to utilize these machines with different types of materials.</li> <li>Make adjustments necessary for safe operation of these machines.</li> <li>Make adjustments necessary for safe operation of these machines.</li> <li>Properly clean each machine after use and prepare each machine for later operations.</li> <li>Identify the need for proper attitude and awareness</li> </ol> </li> </ol>		Other Evidence: Formative Assessmen Safety quiz on power tool usa -Students must pass the before they are permitte Performance test on power to usage. Identification Quiz Summative Assessme -Benchmark TEST	t: age. e safely quiz with a 100% ed to use the power tools. bol selection and proper		
<ol> <li>Identify the need for proper attitude and awareness while operating any power machine.</li> <li>Develop a self awareness while in the lab around machines in operation and wear safety glasses at all times whether working on a machine or just watching someone else.</li> </ol>					

- How to exhibit a positive attitude toward the safe use of each machine and its' capabilities
- How to explain machine set-ups and simple adjustments necessary to utilize these machines with different types of materials
- How to make adjustments necessary for safe operation of these machines
- How to properly clean each machine after use and prepare each machine for later operations

# Learning Plan

# Learning Activities:

- 1. Lecture and class discussions.
- 2. Demonstrations on how to safely use each tool.
- 3. Practical labs
- 4. Selecting appropriate tool for the task at hand.

- -Textbook
- -Projector
- -Computer
- -Handouts
- -Examples of each type of portable power tool
- -Examples of router bits
- -Different types orbital sand paper and belt sanders

Unit Modifications for Special Population Students			
Advanced Learners	<ul> <li>Provide ample opportunities for creative behavior.</li> <li>Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation.</li> <li>Show appreciation for creative efforts</li> <li>Respect unusual questions, ideas, and solutions.</li> <li>Encourage students to test their ideas.</li> <li>Provide opportunities and give credit for self-initiated learning.</li> <li>Avoid overly detailed supervision and too much reliance on prescribed curricula.</li> <li>Allow time for reflection.</li> <li>Resist immediate and constant evaluation.</li> <li>Avoid comparisons to other students.</li> </ul>		
Struggling Learners	<ul> <li>Assist students in getting organized.</li> <li>Give short directions.</li> <li>Use drill exercises.</li> <li>Give prompt cues during student performance.</li> <li>Let students with poor writing skills use a computer.</li> <li>Break assignments into small segments and assign only one segment at a time.</li> <li>Demonstrate skills and have students model them.</li> <li>Give prompt feedback.</li> <li>Use continuous assessment to mark students' daily progress.</li> <li>Prepare materials at varving levels of ability.</li> </ul>		
English Language Learners	<ul> <li>Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat concepts in several ways.</li> <li>When possible, use pictures, photos, and charts.</li> <li>Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class.</li> </ul>		

	Give honest praise and positive feedback through your
	voice tones and visual articulation whenever possible.
	Encourage students to use language to communicate,
	allowing them to use their native language to ask/answer
	questions when they are unable to do so in English.
	Integrate students' cultural background into class
	discussions.
	Use cooperative learning where students have
	opportunities to practice expressing ideas without risking
	language errors in front of the entire class.
Learners with an IEP	Each special education student has in Individualized
	Educational Plan (IEP) that details the specific
	accommodations, modifications, services, and
	support needed to level the plaving field. This will
	enable that student to access the curriculum to the
	greatest extent possible in the least restrictive
	anvironment These includes
	• Variation of time: adapting the time
	allotted for learning, task completion, or
	testing
	• Variation of input: adapting the way
	instruction is delivered
	<ul> <li>Variation of output: adapting how a</li> </ul>
	<ul> <li>Valiation of output, adapting now a student con respond to instruction</li> </ul>
	student can respond to instruction
	<ul> <li>Variation of size: adapting the number</li> </ul>
	of items the student is expected to
	complete
	<ul> <li>Modifying the content, process or</li> </ul>
	product
	Additional resources are outlined to facilitate
	appropriate behavior and increase student
	appropriate behavior and increase student
	engagement. The most requently used modifications
	and accommodations can be viewed <u>here</u> .
	leachers are encouraged to use the Understanding
	by Design Learning Guidelines (UDL). These
	guidelines offer a set of concrete suggestions that can
	be applied to any discipline to ensure that all learners
	can access and participate in learning opportunities
	The framework can be viewed here
	www.udlauidelines.cast.org
Learnara with a EQ4	Defer to page four in the Derent and Educator
Learners with a 504	Refer to page four in the Parent and Educator
	Resource Guide to Section 504 to assist in the
	development of appropriate plans.

Interdisciplinary Connections				
Visual and Performing Arts	English Language Arts	Mathematics	Science	Social Studies
	Gr.11-12, NJSLSA. R-1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9 Gr. 9-10, NJSLSA. R- 1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9	NJSLS N-Q.1-3	HS-ETS1-1 HS-ETS1-2 HS-ETS1-3 HS-ETS1-4	6.1.12.EconEM.5.a 6.1.12.GeoPP.5.a 6.1.12.EconEM.5.a
	Integra	tion of 21 <sup>st</sup> Century	y Skills	
Indicators: 8.1.12.CS.1 8.1.12.CS.2 8.1.12.CS.3 8.1.12.CS.4 8.2.12.ED.1 8.2.12.ED.2 8.2.12.ED.3 8.2.12.ED.5 8.2.12.NT.1 8.2.12.NT.2				

# Unit Description:

Describe the various types of finishes that can be used on wood projects. Demonstrate proper prepping and application techniques.

# Unit Duration: 5 weeks

Desired Results				
Standard(s):				
9.3.12.AC.1       9.3         9.3.12.AC.4       9.3         9.3.12.AC.5       9.3         9.3.12.AC.7       9.3         9.3.12.AC.7       9.3         9.3.12.AC-CST.1       9.3         9.3.12.AC-CST.3       9.3         9.3.12.AC-CST.7       9.3         9.3.12.AC-DES.1       9.3	3.12.AC-DES.2 3.12.AC-DES.4 3.12.AC-DES.6 3.12.ED.1 3.12.ED.3 3.MN.1 3.MN.2 3.MN.6	9.3.ST.1 9.3.ST.2 9.3.ST.3 9.3.ST.4 9.3.ST.5 9.3.ST.6 9.3.ST-ET.1	9.3.ST-ET.2 9.3.ST-ET.3 9.4.12.CI.1 9.4.12.CI.2 9.4.12.CI.3 9.4.12.GCA.1	
Indicators:				
<ul> <li>Understandings: Students will understand that</li> <li>The type of finish on a wood product will determine its application and durability.</li> <li>It is important to prep the wood project and apply the finish appropriately in order to ensure desired effect.</li> <li>Proper ventilation is very important when applying finish to a product in order to ensure health and safety.</li> </ul>		<ol> <li>Essential Questions:         <ol> <li>What are the various types of finishing techniques that can be used on a wood product?</li> <li>What are the correct procedures for applying the various types of finishes to wood products?</li> <li>What are the safety procedures involved when working with wood finishes?</li> </ol> </li> </ol>		
	Assessmer	nt Evidence		
<ul> <li>Performance Tasks:</li> <li>1. Prepare their project for their desired finish.</li> <li>2. Follow all the safety guidelines when working with paints and stains.</li> <li>3. Understand the dangers of improper ventilation.</li> <li>4. Repair any damage or mill marks prior to applying stain.</li> <li>5. Properly clean the work area and clean their brush when finishing is complete.</li> </ul>		Other Evidence:         Formative Assessment:         1. Worksheets         2. Classroom exercises         3. Home work         4. Quizzes         5. Lab work         6. Skill assessment         Summative Assessment         -Benchmark TEST		

- 1. What types of finishes would be used on an interior project.
- 2. What types of finishes would be used for a project exposed to the elements.
- 3. What are the types of solvents used in various finishes.
- 4. How to explain the techniques for applying finish to a product.
- 5. The procedures for cleaning up after applying finish to a project.

# Learning Plan

# Learning Activities:

- 1. Lecture and class discussions.
- 2. Demonstrations on how to properly apply finish to a project
- 3. Practical labs
- 4. Students will apply stain and Polyacrylic to their own project.
- 5. Selecting appropriate brushes for finish being applied
- 6. Reading assignments finish application

- -Textbook
- -Projector
- -Computer
- -Handouts
- -Examples of each type of portable power tool
- -Examples of router bits
- -Different types orbital sand paper and belt sanders

Unit Modifications for Special Population Students			
Advanced Learners	<ul> <li>Provide ample opportunities for creative behavior.</li> <li>Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation.</li> <li>Show appreciation for creative efforts</li> <li>Respect unusual questions, ideas, and solutions.</li> <li>Encourage students to test their ideas.</li> <li>Provide opportunities and give credit for self-initiated learning.</li> <li>Avoid overly detailed supervision and too much reliance on prescribed curricula.</li> <li>Allow time for reflection.</li> <li>Resist immediate and constant evaluation.</li> <li>Avoid comparisons to other students.</li> </ul>		
Struggling Learners	<ul> <li>Assist students in getting organized.</li> <li>Give short directions.</li> <li>Use drill exercises.</li> <li>Give prompt cues during student performance.</li> <li>Let students with poor writing skills use a computer.</li> <li>Break assignments into small segments and assign only one segment at a time.</li> <li>Demonstrate skills and have students model them.</li> <li>Give prompt feedback.</li> <li>Use continuous assessment to mark students' daily progress.</li> <li>Prepare materials at varving levels of ability.</li> </ul>		
English Language Learners	<ul> <li>Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat concepts in several ways.</li> <li>When possible, use pictures, photos, and charts.</li> <li>Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class.</li> <li>Give honest praise and positive feedback through your voice tones and visual articulation whenever possible.</li> <li>Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English.</li> <li>Integrate students' cultural background into class discussions.</li> </ul>		

	Use cooperative learning where students have opportunities to practice expressing ideas without risking language errors in front of the entire class.		
Learners with an IEP	<ul> <li>Ianguage errors in front of the entire class.</li> <li>Each special education student has in Individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include: <ul> <li>Variation of time: adapting the time allotted for learning, task completion, or testing</li> <li>Variation of output: adapting the way instruction is delivered</li> <li>Variation of size: adapting the number of items the student is expected to complete</li> <li>Modifying the content, process or product</li> </ul> </li> <li>Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed here.</li> </ul>		
	be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here		
Learners with a 504	Refer to page four in the <u>Parent and Educator</u> <u>Resource Guide to Section 504</u> to assist in the development of appropriate plans.		

Interdisciplinary Connections				
Visual and Performing Arts	English Language Arts	Mathematics	Science	Social Studies
	Gr.11-12, NJSLSA. R-1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9 Gr. 9-10, NJSLSA. R- 1,3,4,8,10 RL- 1,2,3,7 RI- 1,3,9 RST- 7,8,9	NJSLS N-Q.1-3	HS-ETS1-1 HS-ETS1-2 HS-ETS1-3 HS-ETS1-4	6.1.12.EconEM.5.a 6.1.12.GeoPP.5.a 6.1.12.EconEM.5.a

idicators:	
1.12.CS.1	
1.12.CS.2	
1.12.CS.3	
1.12.CS.4	
2.12.ED.1	
2.12.ED.2	
2.12.ED.3	
2.12.ED.5	
2.12.NT.1	
2.12.NT.2	