Unit 1- Cabinetmaking - Safety, Class Management, Orientation and Planning

Content Area: **CTE**
Course(s): **Cabinetmaking & Furniture Design**
Time Period: **SeptOct**
Length: **34 Days**
Status: **Published**

Title Section

Department of Curriculum and Instruction

Belleville Public Schools

Curriculum Guide

Unit 1-Cabinetmaking-Safety, Management, Orientation and Planning

Belleville Board of Education

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Board Approved: September 23, 2019

Unit Overview

Student will need to learn shop safety and planning wood projects. Selecting and identifying materials will also be utilized for students selecting wood for projects. Identifying basic tools and use will prepared during class. Preparing proper techniques when using tools and measurement will be developed.

Enduring Understanding

Students will understand...

-Wood shop Safety

-Procedures in Classroom

-Planning wood projects

-Selecting and Identifying Materials

Essential Questions

-How does planning and thinking put into projects insure a good end product?

-What is the importance of safety?

-Why is safety needed in a school setting?

-How do you operate machinery in a safe manner?

-What is the purpose of cabinetry?

-Why is the learning measurement and reading ruler necessary?

Exit Skills

By the end of Unit 1, the student should be able to:

-Understand the safety protocols that must be followed when using equipment

-Operate and use entry level equipment

-Comprehend how to safely secure objects when working

-Obtain basic knowledge of how to operate all equipment

-The necessity of making plans and how it will help end result

New Jersey Student Learning Standards (NJSLS-S)

9.3.12.AC	Architecture & Construction
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.7	Describe career opportunities and means to achieve those opportunities in each of the Architecture & Construction Career Pathways.
9.3.12.AC-CST	Construction

Interdisciplinary Connections

	Key Ideas and Details
LA.RL.11-12.1	Cite strong and thorough textual evidence and make relevant connections to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.

LA.RL.11-12.2	Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.
LA.RL.11-12.3	Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed).
LA.RI.11-12.7	Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
LA.RI.11-12.8	Describe and evaluate the reasoning in seminal U.S. and global texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., The Federalist, presidential addresses).
LA.RI.11-12.9	Analyze and reflect on (e.g., practical knowledge, historical/cultural context, and background knowledge) documents of historical and literary significance for their themes, purposes and rhetorical features, including primary source documents relevant to U.S. and/or global history.
MA.A-REI.C	Solve systems of equations
MA.A-REI.D	Represent and solve equations and inequalities graphically
LA.SL.11-12.4	Present information, findings and supporting evidence clearly, concisely, and logically. The content, organization, development, and style are appropriate to task, purpose, and audience.
LA.SL.11-12.5	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
LA.SL.11-12.6	Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.

Learning Objectives

Students will be able to...

-Comprehend the basic tool functions for beginning carpenters

-Develop the proper handling of tools in the workplace

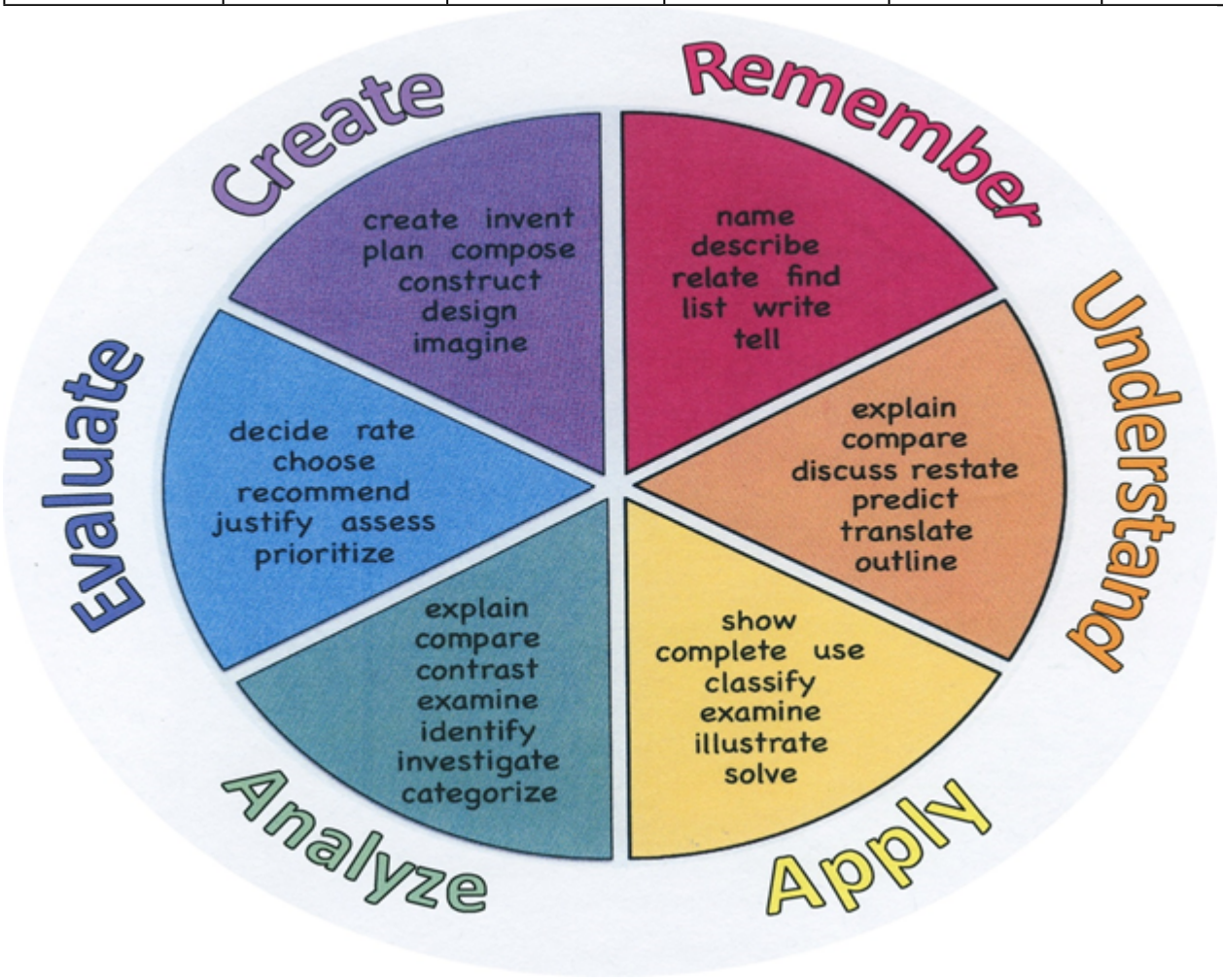
-Organize time preparation when setting up and breaking down class

-Describe functions of entry level tools

-Distinguish safety protocols in the classroom

Remember	Understand	Apply	Analyze	Evaluate	Create
Choose	Classify	Choose	Categorize	Appraise	Combine
Describe	Defend	Dramatize	Classify	Judge	Compose
Define	Demonstrate	Explain	Compare	Criticize	Construct
Label	Distinguish	Generalize	Differentiate	Defend	Design
List	Explain	Judge	Distinguish	Compare	Develop
Locate	Express	Organize	Identify	Assess	Formulate
Match	Extend	Paint	Infer	Conclude	Hypothesize
Memorize	Give Examples	Prepare	Point out	Contrast	Invent
Name	Illustrate	Produce	Select	Critique	Make
Omit	Indicate	Select	Subdivide	Determine	Originate
Recite	Interrelate	Show	Survey	Grade	Organize

Select State Count Draw Outline Point Quote Recall Recognize Repeat Reproduce	Interpret Infer Match Paraphrase Represent Restate Rewrite Select Show Summarize Tell Translate Associate Compute Convert Discuss Estimate Extrapolate Generalize Predict	Sketch Solve Use Add Calculate Change Classify Complete Compute Discover Divide Examine Graph Interpolate Manipulate Modify Operate Subtract	Arrange Breakdown Combine Detect Diagram Discriminate Illustrate Outline Point out Separate	Justify Measure Rank Rate Support Test	Plan Produce Role Play Drive Devise Generate Integrate Prescribe Propose Reconstruct Revise Rewrite Transform



Suggested Activities & Best Practices

-Implementation of safety procedures
-Appropriate safety procedures in use of equipment
-Referenced in lesson plans, constructed, developed and instructional delivery in the classroom
-Recognize the learning styles of the students and skill set
-Integrates safety and project planning.

Assessment Evidence - Checking for Understanding (CFU)

-Students will be given quizzes on basic tool functions for beginning carpenters-benchmark assessmebnt

-Students will explain in front of educator how advanced machines work prior to use-alternate assessment

-Students will be evaluated on how to use a tape measure for accurate measurements-summative assessment

Think, pair, share-formative assessment

- Admit Tickets
- Anticipation Guide
- Common Benchmarks
- Compare & Contrast
- Create a Multimedia Poster
- DBQ's
- Define
- Describe
- Evaluate
- Evaluation rubrics
- Exit Tickets
- Explaining
- Fist- to-Five or Thumb-Ometer
- Illustration

- Journals
- KWL Chart
- Learning Center Activities
- Multimedia Reports
- Newspaper Headline
- Outline
- Question Stems
- Quickwrite
- Quizzes
- Red Light, Green Light
- Self- assessments
- Socratic Seminar
- Study Guide
- Surveys
- Teacher Observation Checklist
- Think, Pair, Share
- Think, Write, Pair, Share
- Top 10 List
- Unit review/Test prep
- Unit tests
- Web-Based Assessments
- Written Reports

Primary Resources & Materials

Basic Woodworking Fundamentals- Wilcox Company

Desktop PC

Internet

Ancillary Resources

YouTube Training Video

Scholarly Articles and Videos

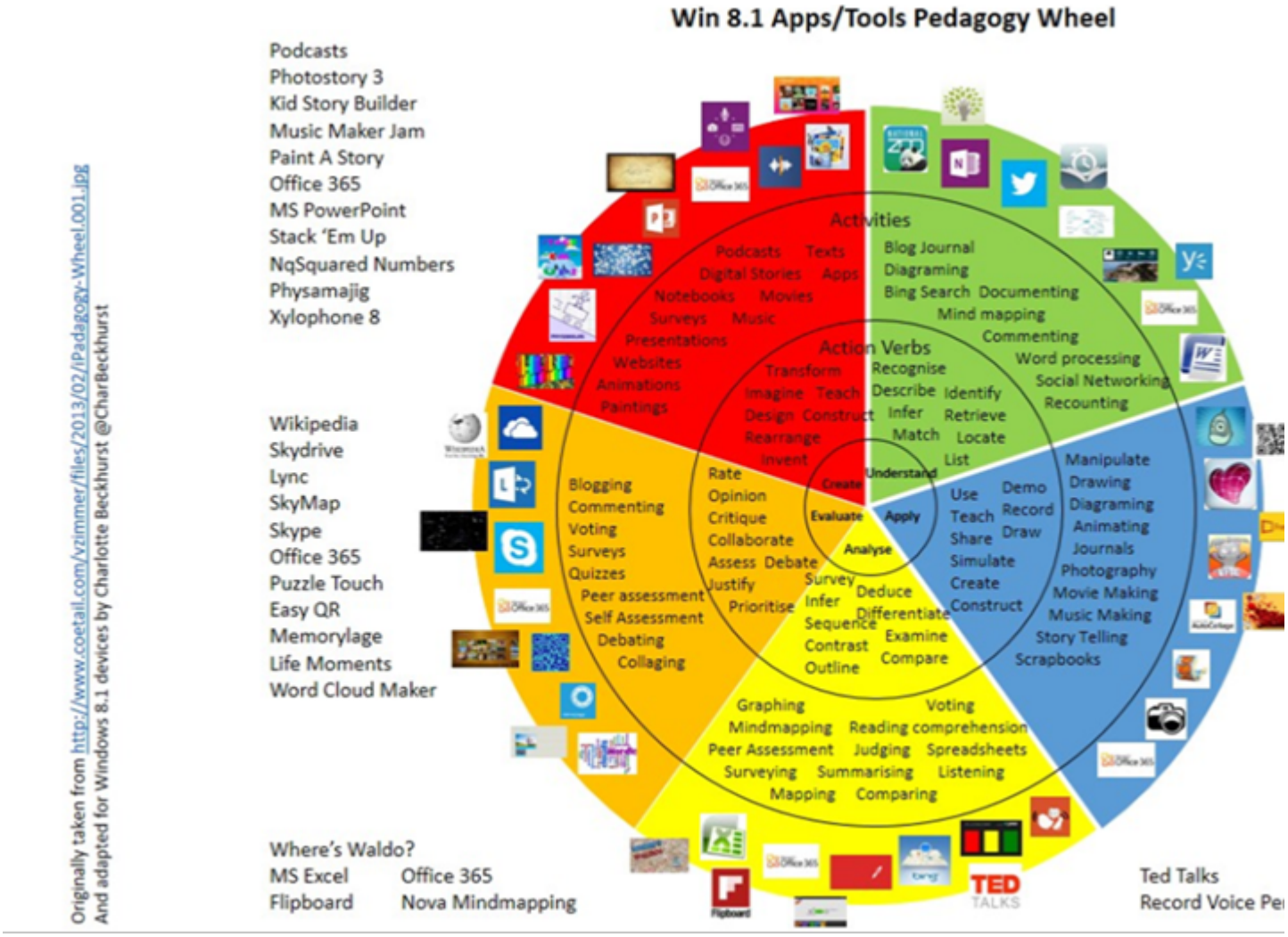
Media Center

Technology Infusion

Hardware (Ex. Hammer, Screwdriver, Sander, Wrench)-Hardware will be used in the beginning stages of all building projects

Vise-Vise will be used to stabilize all wood prior to working

Measuring Tape-Tape will be used to make exact measurements for all produced products



Alignment to 21st Century Skills & Technology

CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP1.1	Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP2.1	Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP4.1	Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP6.1	Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.
CAEP.9.2.12.C.3	Identify transferable career skills and design alternate career plans.
CAEP.9.2.12.C.5	Research career opportunities in the United States and abroad that require knowledge of world languages and diverse cultures.
TECH.8.1.12.A	Technology Operations and Concepts: Students demonstrate a sound understanding of

	technology concepts, systems and operations.
TECH.8.1.12.A.CS1	Understand and use technology systems.
TECH.8.1.12.C.1	Develop an innovative solution to a real world problem or issue in collaboration with peers and experts, and present ideas for feedback through social media or in an online community.
TECH.8.1.12.C.CS4	Contribute to project teams to produce original works or solve problems.
TECH.8.1.12.D.CS2	Demonstrate personal responsibility for lifelong learning.

21st Century Skills/Interdisciplinary Themes

- Communication and Collaboration
- Creativity and Innovation
- Critical thinking and Problem Solving
- ICT (Information, Communications and Technology) Literacy
- Information Literacy
- Life and Career Skills
- Media Literacy

21st Century Skills

- Civic Literacy
- Environmental Literacy
- Financial, Economic, Business and Entrepreneurial Literacy
- Global Awareness
- Health Literacy

Differentiation

-Students will work in small groups when assembling beginning carpenter structure

-Directions will be repeated prior to using an piece of mechanical equipment for safety operations

-Additional time will be given on all assignments as needed

Differentiations:

- Small group instruction
- Small group assignments
- Extra time to complete assignments
- Pairing oral instruction with visuals
- Repeat directions
- Use manipulatives
- Center-based instruction

- Token economy
- Study guides
- Teacher reads assessments allowed
- Scheduled breaks
- Rephrase written directions
- Multisensory approaches
- Additional time
- Preview vocabulary
- Preview content & concepts
- Story guides
- Behavior management plan
- Highlight text
- Student(s) work with assigned partner
- Visual presentation
- Assistive technology
- Auditory presentations
- Large print edition
- Dictation to scribe
- Small group setting

Hi-Prep Differentiations:

- Alternative formative and summative assessments
- Choice boards
- Games and tournaments
- Group investigations
- Guided Reading
- Independent research and projects
- Interest groups
- Learning contracts
- Leveled rubrics
- Literature circles
- Multiple intelligence options
- Multiple texts
- Personal agendas
- Project-based learning
- Problem-based learning
- Stations/centers
- Think-Tac-Toes
- Tiered activities/assignments
- Tiered products
- Varying organizers for instructions

Lo-Prep Differentiations

- Choice of books or activities
- Cubing activities
- Exploration by interest
- Flexible grouping
- Goal setting with students
- Jigsaw
- Mini workshops to re-teach or extend skills
- Open-ended activities

- Think-Pair-Share
- Reading buddies
- Varied journal prompts
- Varied supplemental materials

Special Education Learning (IEP's & 504's)

-Students will be given additional time to complete any project (building) as needed

-Students can utilize Youtube to help construct cabinets and to accurately take measurements

- printed copy of board work/notes provided
- additional time for skill mastery
- assistive technology
- behavior management plan
- Center-Based Instruction
- check work frequently for understanding
- computer or electronic device utilizes
- extended time on tests/ quizzes
- have student repeat directions to check for understanding
- highlighted text visual presentation
- modified assignment format
- modified test content
- modified test format
- modified test length
- multi-sensory presentation
- multiple test sessions
- preferential seating
- preview of content, concepts, and vocabulary
- Provide modifications as dictated in the student's IEP/504 plan
- reduced/shortened reading assignments
- Reduced/shortened written assignments
- secure attention before giving instruction/directions
- shortened assignments
- student working with an assigned partner
- teacher initiated weekly assignment sheet

- Use open book, study guides, test prototypes

English Language Learning (ELL)

-Students will use google/Youtube to assist in project development and illustrations

-Students will be given study guides prior to the start of any construction projects

- teaching key aspects of a topic. Eliminate nonessential information
- using videos, illustrations, pictures, and drawings to explain or clarif
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning;
- allowing students to correct errors (looking for understanding)
- allowing the use of note cards or open-book during testing
- decreasing the amount of workpresented or required
- having peers take notes or providing a copy of the teacher's notes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using computer word processing spell check and grammar check features
- using true/false, matching, or fill in the blank tests in lieu of essay tests

At Risk

-Students will use google/Youtube to assist in project development and illustrations

-Students will be given study guides prior to the start of any construction projects

- allowing students to correct errors (looking for understanding)
- teaching key aspects of a topic. Eliminate nonessential information
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning
- allowing students to select from given choices
- allowing the use of note cards or open-book during testing
- collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test.
- decreasing the amount of workpresented or required

- having peers take notes or providing a copy of the teacher's notes
- marking students' correct and acceptable work, not the mistakes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using authentic assessments with real-life problem-solving
- using true/false, matching, or fill in the blank tests in lieu of essay tests
- using videos, illustrations, pictures, and drawings to explain or clarify

Talented and Gifted Learning (T&G)

-Students will create a plan to help accurately measure all cuts prior to project development

-Students will work at a faster pace during project development stages for completion

- Above grade level placement option for qualified students
- Advanced problem-solving
- Allow students to work at a faster pace
- Cluster grouping
- Complete activities aligned with above grade level text using Benchmark results
- Create a blog or social media page about their unit
- Create a plan to solve an issue presented in the class or in a text
- Debate issues with research to support arguments
- Flexible skill grouping within a class or across grade level for rigor
- Higher order, critical & creative thinking skills, and discovery
- Multi-disciplinary unit and/or project
- Teacher-selected instructional strategies that are focused to provide challenge, engagement, and growth opportunities
- Utilize exploratory connections to higher-grade concepts
- Utilize project-based learning for greater depth of knowledge

Sample Lesson

Unit Name: Safety and Fundamentals in Cabinetmaking. Students will be prepared to operate all machinery safely and be able to begin building cabinets and more advanced projects.

NJSLS: See Below

Interdisciplinary Connection:

LA.RI.11-12.9- Analyze and reflect on (e.g., practical knowledge, historical/cultural context, and background

knowledge) documents of historical and literary significance for their themes, purposes and rhetorical features, including primary source documents relevant to U.S. and/or global history.

LA.RL.11-12.9- Demonstrate knowledge of and reflect on (e.g., practical knowledge, historical/cultural context, and background knowledge) eighteenth-, nineteenth- and early twentieth-century foundational works of literature, including how two or more texts from the same period treat similar themes or topics.

LA.SL.11-12.1- Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with peers on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

Statement of Objective:

SWDAT Analyze and develop the proper safety techniques of each piece of equipment over a two week period. Each student will have to meet 75% of the safety procedures. Students will also begin preparing for development of a large project

Anticipatory Set/Do Now:
Do Now: Name five safety procedures used iin operating machinery lab and define what the purpose is of the safety protocol.

Learning Activity:

Students will demonstrate the safety techniques when operating all mechanical saws in the shop. Protective eye-wear will be shown to all students and shown where they will be stored for each day.

Student Assessment/CFU's:

Students will be given quizzes on each specific piece of equipment used in class. The student will then present a demo of how to safely handle all the machinery in the classroom.

Materials:
Textbook, Computers, Hardware

21st Century Themes and Skills:

Domain 3 A,B,C instruction.

Communication & Collaboration, Information Literacy, Media Literacy, Creativity and Innovation, Critical Thinking & Problem Solving, Information, Communications, and Technology Literacy

Differentiation:
Visual Learners, Hands on Activities, Group/Peer Instruction, Direct Instruction, Peer to peer instruction

Integration of Technology:

Students will compare and contrast each tool used in during each project. The students will use the computers to identify safety and operation of how and why to use a vise.

9.3.12.AC.1	Use vocabulary, symbols and formulas common to architecture and construction.
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9.3.12.AC-CST	Construction