



# Woodworking Foundations

<b>Course: Woodworking and Design 1 and 2</b>		<b>Total Framework Hours up to: 180</b>
<b>CIP Code: 480701</b>	<input checked="" type="checkbox"/> Exploratory <input type="checkbox"/> Preparatory	<b>Date Last Modified: 4/11/2016</b>
<b>Career Cluster: Manufacturing</b>		<b>Cluster Pathway: Production</b>

### COMPONENTS AND ASSESSMENTS

**Performance Assessments:** Multiple choice, essay, true false questions that exhibit a student's understanding of the knowledge being assessed.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Reason Effectively**

2.A.1 Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

**Make Judgments and Decisions**

2.C.3 Synthesize and make connections between information and arguments

### Standards and Competencies

**Content Standard A: The student will demonstrate an understanding of core concepts of: course expectations, career fields, time management, planning, material uses and scheduling as they pertain to the woodworking industry.**

<b>Competencies</b>	<b>Total Learning Hours for Unit: 3</b>
---------------------	---

**Competency Unit 1: Introduction to Woodworking and Design**

- |     |  |
|-----|--|
| 1.1 | Evaluate industries, organizations, and careers based on multiple sources of research and information. |
| 1.2 | Assess interest areas to determine potential career pathways or courses of study.                      |
| 1.3 | Develop a career plan with alternatives.   |
| 1.4 | Complete job applications and related employee documents; including resume's and cover letters.        |
| 1.5 | Apply job search skills to seek, evaluate, apply for, and accept employment.                           |
| 1.6 | Demonstrate employability skills needed to get and keep a job.   |

### Aligned Washington State Standards

<b>Health and Fitness</b>	3.1.3 Evaluates environmental risks associated with certain occupational, residential, and recreational choices.
---------------------------	--

<b>Educational Technology</b>	1.1.3 Analyze, synthesize and ethically use information to develop a solution, make informed decisions and report results.
<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text. RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Social Studies</b>	2.1 Understands that people have to make choices between wants and needs and evaluate the outcomes of those choices.
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting.
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]

**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** Multiple choice, essay, true false questions that exhibit a student’s understanding of the knowledge being assessed.  
 Demonstration and application of employability skills.

**Reason Effectively**

2A.1 Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation. Test taking and essay answers used weekly as part of data collection on instruction.

**Make Judgements and Decisions**

2.C.1 Effectively analyze and evaluate evidence, arguments, claims and beliefs

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Reason Effectively**

2.A1 Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

**Make Judgments and Decisions**

2.C.1 Synthesize and make connections between information and arguments

**Communicate Clearly**

3.A.1 Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts

3.A.3 Use communication for a range of purposes (e.g. to inform, instruct, motivate and persuade)

**Standards and Competencies**

**Content Standard A: The student will demonstrate an understanding of core concepts of: course expectations, career fields, time management, planning, material uses and scheduling as they pertain to the woodworking industry.**

**Competencies**

**Total Learning Hours for Unit: 2**

**Competency Unit 2.0:**

**Facility Management**

2.1 Apply strategies to enhance effectiveness of all types of communications in the workplace.

2.2 Apply basic writing skills and strategies to work related documents.

2.3 Apply basic skills for work related oral communication.

2.4 Demonstrate effective negotiation and conflict resolution.

2.5 Apply active listening skills to obtain and clarify information.

2.6 Apply strategies to communicate with others in a diverse workforce.

**Health and Fitness**

3.1.3 Evaluates environmental risks associated with certain occupational, residential, and recreational choices.

**Educational Technology**

1.3.2 Locate and organize information from a variety of sources and media.

**Language**

L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.

**Reading**

RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text.

RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics

**Social Studies**

2.1 Understands that people have to make choices between wants and needs and evaluate the outcomes of those choices.

[Type here]

[Type here]

[Type here]

<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting.
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]

**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** Students complete written and practical safety exam covering personal safety equipment, safe shop practices and safe shop environments.

**Be Self-Directed Learners**

8.C.3 Demonstrate commitment to learning as a lifelong process

**Interact Effectively with Others**

9.A.2 Conduct themselves in a respectable, professional manner

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Think Creatively**

1.A.1 Use a wide range of idea creation techniques (such as brainstorming)

1.A.2 Create new and worthwhile ideas (both incremental and radical concepts)

**Work Creatively with Others**

1.B.1 Develop, implement and communicate new ideas to others effectively

1.B.4 View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

**Make Judgments and Decisions**

2.C.1 Effectively analyze and evaluate evidence, arguments, claims and beliefs

**Reason Effectively**

2.A.1 Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

**Solve Problems**

2.D.1 Solve different kinds of non-familiar problems in both conventional and innovative ways

**Standards and Competencies**

**Content Standard C: Identify, understand and perform acceptable safety practices and policies pertaining to work areas and the proper use of hand tools, portable power tools, stationary equipment, and CNC machinery.**

**Competencies**

**Total Learning Hours for Unit: 5**

**Competency Unit 3.0**

**General Safety**

- |     |   |
|-----|---|
| 3.1 | Identify and apply OSHA and other health and safety regulations that apply to specific tasks and jobs in the occupational area.           |
| 3.2 | Explain procedures for documenting and reporting hazards to appropriate authorities.  |
| 3.3 | Illustrate a safe environment for students in the woodworking shop.   |
| 3.4 | Identify, describe and demonstrate the effective use of Material Safety Data Sheets (MSDS).   |
| 3.5 | Demonstrate safe dress and use of relevant safety gear and personal protective equipment (PPE).   |
| 3.6 | Locate emergency equipment in the woodworking lab; eyewash station, first aid kit, fire extinguisher, emergency shut off switches, exits. |
| 3.7 | Illustrate safe body mechanics and lifting techniques.  |
| 3.8 | Illustrate proper handling and storage of materials, including hazardous materials, disposal, and recycling.                              |

[Type here]

[Type here]

[Type here]

3.9	Describe safety practices and procedures to be followed when working around electricity.
3.10	Demonstrate proper workspace cleaning procedures.
<b><i>Aligned Washington State Standards</i></b>	
<b>Educational Technology</b>	1.3.3 Analyze, synthesize and ethically use information to develop a solution, make informed decisions and report results.
<b>Health and Fitness</b>	2.4: Acquires skills to live safely and reduce health risks. 3.1.2 Analyzes how environmental factors impact health. 3.1.3 Evaluates environmental risks associated with certain occupational, residential, and recreational choices.
<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text. RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Science</b>	9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge. 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
<b>Social Studies</b>	2.1 Understands that people have to make choices between wants and needs and evaluate the outcomes of those choices.
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting.
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]

**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** 1. Structured observation of the individuals or groups focusing on the prominent skills or concepts being observed. 2. Multiple choice, essay, true / false questions that exhibit a student’s understanding of the knowledge being assessed. 3. Graphic representations that reveal a student’s understanding of connections among ideas. Safety presentations, safety testing, project designing, plans and scheduling will be part of this assessment.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Think Creatively**

- 1.A.1 Use a wide range of idea creation techniques (such as brainstorming)
- 1.A.2 Create new and worthwhile ideas (both incremental and radical concepts)

**Work Creatively with Others**

- 1.B.1 Develop, implement and communicate new ideas to others effectively
- 1.B.4 View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

**Make Judgments and Decisions**

- 2.C.1 Effectively analyze and evaluate evidence, arguments, claims and beliefs

**Reason Effectively**

- 2.A.1 Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

**Solve Problems**

- 2.D.1 Solve different kinds of non-familiar problems in both conventional and innovative ways

***Standards and Competencies***

**Content Standard B: Perform trade specific mathematical calculations for the purpose of designing, material selection, material costs, scheduling, and construction from plans. As well as identification, understanding, and use of measurement tools associated within this industry.**

**Competencies**

**Total Learning Hours for Unit: 14**

**Competency Unit 4.0**

**Designing, Planning, and Scheduling.**

4.1	Apply design elements: shapes, textures, lines and colors to create functional and attractive millwork and cabinets.
4.2	Apply principles of design, harmony, repetitions, balance and proportion.
4.3	Sketch a project using manual drawing techniques.
4.4	Use drafting tools to create a pictorial and working drawing.
4.5	Create cutting diagrams.
4.6	Read and interpret sketches, orthographic projections, and isometric diagrams to develop a manufacturing plan.
4.7	Evaluate an existing bill of materials for accuracy.
4.8	Determine the cost of materials a millwork/cabinetmaking project.
4.9	Optimize available materials from a cutting diagram.

[Type here]

[Type here]

[Type here]

4.10	Compare and contrast the cost of a specific project using different materials.
4.11	List the sequence of cutting out parts.
4.12	List the sequence of assembly.
4.13	List the sequence of finishing steps.

***Aligned Washington State Standards***

<b>Arts</b>	1.1 Understand arts concepts and vocabulary.
<b>Educational Technology</b>	1.1.1 Generate ideas and create original works for personal and group expression using a variety of digital tools.
<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.
<b>Math</b>	6&7.RP Understand ratio concepts and use ratio reasoning to solve problems 6&7 NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. A-CED Create equations that describe numbers or relationships A-REI Understand solving equations as a process of reasoning and explain the reasoning Solve equations and inequalities in one variable
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text. RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Science</b>	9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge. 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
<b>Social Studies</b>	2.1 Understands that people have to make choices between wants and needs and evaluate the outcomes of those choices.
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]



**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** 1. Structured observation of the individuals or groups focusing on the prominent skills or concepts being observed. 2. Multiple choice, essay, true / false questions that exhibit a student’s understanding of the knowledge being assessed. 3. Graphic representations that reveal a student’s understanding of connections among ideas. Through paper layout assignments and measurement exercises students will be trained on tools needed for this assessment/unit.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Think Creatively**

- 1.A.1 Use a wide range of idea creation techniques (such as brainstorming)
- 1.A.2 Create new and worthwhile ideas (both incremental and radical concepts)

**Work Creatively with Others**

- 1.B.1 Develop, implement and communicate new ideas to others effectively
- 1.B.4 View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

**Make Judgments and Decisions**

- 2.C.1 Effectively analyze and evaluate evidence, arguments, claims and beliefs

**Reason Effectively**

- 2.A.1 Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

**Solve Problems**

- 2.D.1 Solve different kinds of non-familiar problems in both conventional and innovative ways

**Standards and Competencies**

**Content Standard B: Perform trade specific mathematical calculations for the purpose of designing, material selection, material costs, scheduling, and construction from plans. As well as identification, understanding, and use of measurement tools associated within this industry.**

**Competencies**

**Total Learning Hours for Unit: 10**

**Competency Unit 5.0:**

**Measuring and Layout**

- 5.1 Accurately read fractional measurements to 1/16<sup>th</sup> of an inch.
- 5.2 Accurately and efficiently manipulate common fractions.
- 5.3 Accurately measure an object using the metric scale.
- 5.4 Differentiate between the standard inch and metric scales.
- 5.5 Identify and select the proper measuring and layout tools needed for a specific task.
- 5.6 Demonstrate accurate use of common measuring and layout tools.

**Aligned Washington State Standards**

**Educational Technology**

1.3.4 Use multiple processes and diverse perspectives to explore alternative solutions.

**Language**

L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.

<b>Math</b>	<p>6&amp;7.RP Understand ratio concepts and use ratio reasoning to solve problems  6&amp;7.NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.</p> <p><u>Quantities</u>  Reason quantitatively and use units to solve problems. N-Q  1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.  2. Define appropriate quantities for the purpose of descriptive modeling.  3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>A-CED Create equations that describe numbers or relationships  A-REI Understand solving equations as a process of reasoning and explain the reasoning  Solve equations and inequalities in one variable</p>
<b>Reading</b>	<p>RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics</p>
<b>Science</b>	<p>9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge.  9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.</p>
<b>Speaking and Listening</b>	<p>1.1.1 Applies a variety of listening strategies to accommodate the listening situation.  1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information.  2.2.2 Applies skills and strategies to contribute responsibly in a group setting.</p>

**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** 1. Structured observation of the individuals or groups focusing on the prominent skills or concepts being observed. 2. Multiple choice, essay, true / false questions that exhibit a student’s understanding of the knowledge being assessed. 3. Graphic representations that reveal a student’s understanding of connections among ideas. Plan calculation of materials (board footage) and time needed will be assessed as part the applied mathematics unit.  
Paper handouts, 3x5 cards and other manipulatives will be used to assess the students understanding of items 6.1 through 6.9.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Use Systems Thinking**

2.B.1 Analyze how parts of a whole interact with each other to produce overall outcomes in complex

**Solve Problems**

2.D.1 Solve different kinds of non-familiar problems in both conventional and innovative ways

2.D.2 Identify and ask significant questions that clarify various points of view and lead to better solutions

**Use and Manage Information**

4.B.1 Use information accurately and creatively for the issue or problem at hand

**Standards and Competencies**

**Content Standard B: Perform trade specific mathematical calculations for the purpose of designing, material selection, material costs, scheduling, and construction from plans. As well as identification, understanding, and use of measurement tools associated within this industry.**

**Competencies**

**Total Learning Hours for Unit: 15**

**Competency Unit 6.0**

**Applied Mathematics**

- |     |  |
|-----|--|
| 6.1 | Accurately calculate board footage and square footage using an algebraic formula.      |
| 6.2 | Determine an accurate estimate of material needed through plan interpretation.         |
| 6.3 | Add, subtract, multiply, and divide whole numbers with and without a calculator.       |
| 6.4 | Add, subtract, multiply, and divide fractions.   |
| 6.5 | Add, subtract, multiply, and divide decimals.  |
| 6.6 | Convert decimals to fractions and fractions to decimals with and without a calculator. |
| 6.7 | Recognize the basic geometrical shapes used in the woodworking industry.               |
| 6.8 | Recognize common angles used in the woodworking industry.                              |
| 6.9 | Demonstrate geometrical theorems used to determine if a project is square.             |

**Aligned Washington State Standards**

**Educational Technology**

1.3.4 Use multiple processes and diverse perspectives to explore alternative solutions.

**Language**

L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.

**Math**

6&7.RP Understand ratio concepts and use ratio reasoning to solve problems

6&7.NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

[Type here]

[Type here]

[Type here]

	<p>A-CED Create equations that describe numbers or relationships</p> <p>A-REI Understand solving equations as a process of reasoning and explain the reasoning</p> <p>Solve equations and inequalities in one variable</p> <ol style="list-style-type: none"> <li>1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</li> <li>2. Define appropriate quantities for the purpose of descriptive modeling.</li> <li>3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.</li> </ol>
<b>Reading</b>	<p>RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text.</p> <p>RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics</p>
<b>Science</b>	<p>9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge.</p> <p>9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.</p>
<b>Speaking and Listening</b>	<p>1.1.1 Applies a variety of listening strategies to accommodate the listening situation.</p> <p>1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information.</p> <p>2.2.2 Applies skills and strategies to contribute responsibly in a group setting.</p>

[Type here]

[Type here]

[Type here]

**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** The student will identify hardwoods and softwoods. The student will identify various sheet goods and describe their characteristics and uses. The student will be able to identify and describe the characteristic and uses of various solid surface and laminate materials. The student will identify various veneers and describe their characteristics and uses.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Solve Problems**

2.D.1 Solve different kinds of non-familiar problems in both conventional and innovative ways

**Adapt to Change**

7.A.1 Adapt to varied roles, jobs responsibilities, schedules and contexts

**Be Self-Directed Learners**

8.C.1 Go beyond basic mastery of skills and/or curriculum to explore and expand one’s own learning and opportunities to gain expertise

**Standards and Competencies**

**Content Standard A: The student will demonstrate an understanding of core concepts of: course expectations, career fields, time management, planning, material uses and scheduling as they pertain to the woodworking industry.**

**Competencies**

**Total Learning Hours for Unit: 7**

**Competency Unit 7.0**

**Wood Characteristics and Terminology**

7.1	Define the difference between hardwoods and softwoods.
7.2	Identify a minimum of five (5) species of hardwood and its characteristics that are common to the millwork and cabinet industry.
7.3	Identify a minimum of five (5) species of softwood and its characteristics that are common to the millwork and cabinet industry.
7.4	Identify common defects found in wood and list possible solutions.
7.5	Identify a minimum of four (4) types of panel products used in the woodworking industries.
7.6	Explain the use of various panel products and their uses in the woodworking industries.
7.7	Describe the cutting and handling techniques used for sheet goods.
7.8	Compare and contrast the advantages and disadvantages of sheet goods versus solid wood stock.
7.9	Identify the types of pattern matching in veneers.

**Aligned Washington State Standards**

<b>Arts</b>	1.1 Understand arts concepts and vocabulary
<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.
<b>Math</b>	6&7.RP Understand ratio concepts and use ratio reasoning to solve problems 6&7.NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. A-CED Create equations that describe numbers or relationships A-REI Understand solving equations as a process of reasoning and explain the reasoning
<b>Reading</b>	RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics

[Type here]

[Type here]

[Type here]

<b>Science</b>	9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge. 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
<b>Social Studies</b>	2.1 Understands that people have to make choices between wants and needs and evaluate the outcomes of those choices.
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting.
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]

## COMPONENTS AND ASSESSMENTS

**Performance Assessments:** Students will pass written identification assessments, performance based safety hand tool. In addition, students will demonstrate safe and proper use of hand tools for an assigned task. Students will start with a 2x4 project or equal test block to work through the competencies 8.1 through 8.4.2.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

### Think Creatively

- 1.A.1 Use a wide range of idea creation techniques (such as brainstorming)
- 1.A.2 Create new and worthwhile ideas (both incremental and radical concepts)

### Work Creatively with Others

- 1.B.1 Develop, implement and communicate new ideas to others effectively
- 1.B.4 View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

### Make Judgments and Decisions

- 2.C.1 Effectively analyze and evaluate evidence, arguments, claims and beliefs

### Reason Effectively

- 2.A.1 Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

### Solve Problems

- 2.D.1 Solve different kinds of non-familiar problems in both conventional and innovative ways

## Standards and Competencies

**Content Standard C: Identify, understand and perform acceptable safety practices and policies pertaining to work areas and the proper use of hand tools, portable power tools, stationary equipment, and CNC machinery.**

### Competencies

Total Learning Hours for Unit: 5

### Competency Unit 8.0

### Hand Tool Safety

- |       |  |
|-------|--|
| 8.1   | The student will demonstrate the proper use of measuring and layout tools necessary to complete a project. |
| 8.1.1 | Demonstrate the accurate use of common measuring and layout tools.   |
| 8.1.2 | Select the proper layout tools for specific tasks.   |
| 8.2   | The student will demonstrate the proper use of cutting tools.  |
| 8.2.1 | Select the proper cutting tools for specific operations.   |
| 8.2.2 | Demonstrate the safe and proper use of specific hand-cutting tools.  |
| 8.2.3 | Select tools for cutting curves and straight cuts.   |
| 8.2.4 | Select the most appropriate blade for a given operation.   |
| 8.3   | The student will demonstrate the proper use of striking tools.   |
| 8.3.1 | Demonstrate the safe and proper use of specific striking tools.  |
| 8.4   | The student will demonstrate the proper use of hand-shaping tools.   |
| 8.4.1 | Select the proper hand-shaping tools for specific operations.  |

[Type here]

[Type here]

[Type here]

8.4.2	Demonstrate the safe and proper use of hand-shaping tools.
<b><i>Aligned Washington State Standards</i></b>	
<b>Educational Technology</b>	2.1.1 Practice personal safety 2.2.1 Develop skills to use technology effectively 2.2.2 Use a variety of hardware to support learning 2.3.2 Select and use online applications.
<b>Health and Fitness</b>	2.4.2 Evaluates emergency situations, ways to prevent injuries, and demonstrates skills to respond appropriately and safely. 3.1.3 Evaluates environmental risks associated with certain occupational, residential, and recreational choices. 2.4: Acquires skills to live safely and reduce health risks.
<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.
<b>Math</b>	6&7.RP Understand ratio concepts and use ratio reasoning to solve problems
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text. RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Science</b>	9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge. 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting.
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]



**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** Students will pass written safety tests, performance based safety tests for each piece of power equipment. In addition students will demonstrate safe and proper operation of stationary power machinery for an assigned task.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Think Creatively**

- 1.A.1 Use a wide range of idea creation techniques (such as brainstorming)
- 1.A.2 Create new and worthwhile ideas (both incremental and radical concepts)

**Work Creatively with Others**

- 1.B.1 Develop, implement and communicate new ideas to others effectively
- 1.B.4 View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

**Make Judgments and Decisions**

- 2.C.1 Effectively analyze and evaluate evidence, arguments, claims and beliefs

**Reason Effectively**

- 2.A.1 Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

**Solve Problems**

- 2.D.1 Solve different kinds of non-familiar problems in both conventional and innovative ways

**Standards and Competencies**

**Content Standard C: Identify, understand and perform acceptable safety practices and policies pertaining to work areas and the proper use of hand tools, portable power tools, stationary equipment, and CNC machinery.**

**Competencies**

**Total Learning Hours for Unit: 15**

**Competency Unit 9.0: Stationary Machine Safety**

9.1.1	Complete all safety training for each machine listed below.
9.1.2	Demonstrate ability to accurately set up each machine for standard operations.
9.1.3	Perform safe common operations on each machine listed below.
9.1.3 A	Mitersaw
9.1.3 B	Planer
9.1.3 C	Jointer
9.1.3 D	Tablesaw
9.1.3 E	Drillpress
9.1.3 F	Bandsaw
9.1.3 G	Scrollsaw
9.1.3 H	Router Table
9.1.3 I	Belt / Disc Sander
9.1.3 J	Spindle Sander

[Type here]

[Type here]

[Type here]

9.1.3 K	Wide Belt Sander
9.1.3 L	Wood Lathe
<b>Aligned Washington State Standards</b>	
<b>Arts</b>	1.1 Understand arts concepts and vocabulary
<b>Educational Technology</b>	2.1.1 Practice personal safety 2.2.1 Develop skills to use technology effectively 2.2.2 Use a variety of hardware to support learning 1.3.3 Analyze, synthesize and ethically use information to develop a solution, make informed decisions and report results.
<b>Health and Fitness</b>	2.4: Acquires skills to live safely and reduce health risks. 2.4.2 Evaluates emergency situations, ways to prevent injuries, and demonstrates skills to respond appropriately and safely. 3.1.2 Analyzes how environmental factors impact health. 3.1.3 Evaluates environmental risks associated with certain occupational, residential, and recreational choices.
<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.
<b>Math</b>	6&7.RP Understand ratio concepts and use ratio reasoning to solve problems 6&7.NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. A-CED Create equations that describe numbers or relationships A-REI Understand solving equations as a process of reasoning and explain the reasoning Solve equations and inequalities in one variable
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text. RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Science</b>	9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge. 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
<b>Social Studies</b>	2.1 Understands that people have to make choices between wants and needs and evaluate the outcomes of those choices.
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting.
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]

**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** Students will pass written safety tests, performance based safety tests for each piece of portable power tools. In addition students will demonstrate safe and proper operation of portable power tools for an assigned task.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Think Creatively**

- 1.A.1 Use a wide range of idea creation techniques (such as brainstorming)
- 1.A.2 Create new and worthwhile ideas (both incremental and radical concepts)

**Work Creatively with Others**

- 1.B.1 Develop, implement and communicate new ideas to others effectively
- 1.B.4 View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

**Make Judgments and Decisions**

- 2.C.1 Effectively analyze and evaluate evidence, arguments, claims and beliefs

**Reason Effectively**

- 2.A.1 Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

**Solve Problems**

- 2.D.1 Solve different kinds of non-familiar problems in both conventional and innovative ways

**Standards and Competencies**

**Content Standard C: Identify, understand and perform acceptable safety practices and policies pertaining to work areas and the proper use of hand tools, portable power tools, stationary equipment, and CNC machinery.**

**Competencies**

**Total Learning Hours for Unit: 10**

**Competency Unit 10.0:**

**Portable Power Tool Safety**

10.1	Complete all safety training for each machine listed below.
10.2	Demonstrate ability to accurately set up each machine for standard operations.
10.3	Perform safe common operations on each machine listed below.
10.3 A	Circular Saw
10.3 B	Saber Saw ( Jig Saw)
10.3 C	Corded Drill
10.3 D	Cordless Drill
10.3 E	Router
10.3 F	Belt Sander
10.3 G	Finishing Sander
10.3 H	Biscuit Joiner
10.3 I	Pneumatic Nailers

[Type here]

[Type here]

[Type here]

**Aligned Washington State Standards**

<b>Arts</b>	1.1 Understand arts concepts and vocabulary
<b>Educational Technology</b>	1.3.3 Analyze, synthesize and ethically use information to develop a solution, make informed decisions and report results. 2.1.1 Practice personal safety 2.2.1 Develop skills to use technology effectively 2.2.2 Use a variety of hardware to support learning
<b>Health and Fitness</b>	2.4: Acquires skills to live safely and reduce health risks. 2.4.2 Evaluates emergency situations, ways to prevent injuries, and demonstrates skills to respond appropriately and safely. 3.1.2 Analyzes how environmental factors impact health. 3.1.3 Evaluates environmental risks associated with certain occupational, residential, and recreational choices.
<b>Language</b>	RST.7 Integrate and evaluate multiple sources of information presented in diverse formats, and media (e.g. quantitative data, video, multimedia) in order to address a question or solve a problem.
<b>Math</b>	6&7.RP Understand ratio concepts and use ratio reasoning to solve problems 6&7.NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. A-CED Create equations that describe numbers or relationships A-REI Understand solving equations as a process of reasoning and explain the reasoning Solve equations and inequalities in one variable Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text. RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Science</b>	9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge. 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
<b>Social Studies</b>	2.1 Understands that people have to make choices between wants and needs and evaluate the outcomes of those choices.
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting.
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]

**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** Students will demonstrate knowledge and understanding of safe operation of CNC and Laser equipment, through manufacturing of project parts.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Think Creatively**

- 1.A.1 Use a wide range of idea creation techniques (such as brainstorming)
- 1.A.2 Create new and worthwhile ideas (both incremental and radical concepts)

**Work Creatively with Others**

- 1.B.1 Develop, implement and communicate new ideas to others effectively
- 1.B.4 View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

**Make Judgments and Decisions**

- 2.C.1 Effectively analyze and evaluate evidence, arguments, claims and beliefs

**Reason Effectively**

- 2.A.1 Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

**Solve Problems**

- 2.D.1 Solve different kinds of non-familiar problems in both conventional and innovative ways

**Create Media Products**

- 5.B.1 Understand and utilize the most appropriate media creation tools, characteristics and conventions

**Analyze Media**

- 5.A.3 Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies

***Standards and Competencies***

**Content Standard C: Identify, understand and perform acceptable safety practices and policies pertaining to work areas and the proper use of hand tools, portable power tools, stationary equipment, and CNC machinery.**

**Competencies**

**Total Learning Hours for Unit: 8**

**Competency Unit 11.0: Computer Technology**

11.1	Apply knowledge and understanding of safety standards while operating a CNC router or mill.
11.2	Demonstrate understanding of machine initialization, programming, tool selection, and hold down techniques.
11.3	Demonstrate understanding and application of CAD and CAM software programs.
11.4	Design and produce a project part using the CNC router.
11.5	Demonstrate knowledge and understanding of safety standards while operating the Laser Engraver.
11.6	Demonstrate a knowledge of laser design software ( Microsoft Publisher, CoralDraw, etc.)
11.7	Demonstrate understanding of machine initialization, programming, and operation.
11.8	Demonstrate ability to design a laser project incorporating text and graphics.

[Type here]

[Type here]

[Type here]

11.9	Understand and give examples of the application of computer technology in the woodworking industry.
<b>Aligned Washington State Standards</b>	
<b>Arts</b>	1.1 Understand arts concepts and vocabulary 4.5.1 Understands how arts knowledge and skills are used in the world of work, including careers in the arts.
<b>Educational Technology</b>	1.3.3 Analyze, synthesize and ethically use information to develop a solution, make informed decisions and report results. 2.2.1 Develop skills to use technology effectively. 2.2.2 Use a variety of hardware to support learning.
<b>Health and Fitness</b>	2.4: Acquires skills to live safely and reduce health risks.
<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.
<b>Math</b>	6&7.RP Understand ratio concepts and use ratio reasoning to solve problems 6&7.NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. A-CED Create equations that describe numbers or relationships A-REI Understand solving equations as a process of reasoning and explain the reasoning Solve equations and inequalities in one variable Reason quantitatively and use units to solve problems. N -Q 1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. 2. Define appropriate quantities for the purpose of descriptive modeling. 3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text. RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Science</b>	9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge. 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting.
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]

**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** Demonstrate proper selection and application of clamps, fixtures, and other hold down devices used in the woodworking industry. Project types will be but not limited to: jewelry boxes, CNC cribbage board, laser etching, cabinetry (simple base), and box frames for assessment.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Work Creatively with Others**

1.B.4 View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

**Make Judgments and Decisions**

2.C.4 Interpret information and draw conclusions based on the best analysis

**Use and Manage Information**

4.B.1 Use information accurately and creatively for the issue or problem at hand

**Be Self-Directed Learners**

8.C.1 Go beyond basic mastery of skills and/or curriculum to explore and expand one’s own learning and opportunities to gain expertise

**Produce Results**

10.B.1 Demonstrate additional attributes associated with producing high quality products

**Standards and Competencies**

**Content Standard D: Identify, perform, and understand tasks demonstrating proper applications that; hold, join, and fasten materials. As well as preparation for and application of finish products.**

**Competencies**

**Total Learning Hours for Unit: 2**

**Competency Unit 12.0:**

**Jigs, Fixtures, and Clamps**

12.1	Identify basic woodworking clamps; bar clamps, parallel clamps, quick clamps, strap clamps, etc.
12.2	Demonstrate proficiency in application of clamping devices.
12.3	Identify the application of basic woodworking jigs or fixtures; v-blocks, drilling jigs, turntables, etc.
12.4	Demonstrate proficiency in the application of woodworking fixtures.

**Aligned Washington State Standards**

<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.
<b>Math</b>	6&7.RP Understand ratio concepts and use ratio reasoning to solve problems 6&7.NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. A-CED Create equations that describe numbers or relationships A-REI Understand solving equations as a process of reasoning and explain the reasoning
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text.

	RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Science</b>	9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge. 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
<b>Educational Technology</b>	2.2.1 Develop skills to use technology effectively 2.2.2 Use a variety of hardware to support learning
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting.
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

### COMPONENTS AND ASSESSMENTS

**Performance Assessments:** Demonstrate proper selection and application of common woodworking glues and adhesives. Gluing project such as but not limited to; cutting boards, face frames, cabinets, tables, and fine art pieces.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Work Creatively with Others**

1.B.4 View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

**Implement Innovations**

Act on creative ideas to make a tangible and useful contribution to the field in which the innovation will occur

**Make Judgments and Decisions**

2.C.2 Interpret information and draw conclusions based on the best analysis

**Collaborate with Others**

3.B.2 Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal

**Use and Manage Information**

4.B.1 Use information accurately and creatively for the issue or problem at hand

**Be Self-Directed Learners**

8.C.1 Go beyond basic mastery of skills and/or curriculum to explore and expand one's own learning and opportunities to gain expertise

**Produce Results**

10.B.1 Demonstrate additional attributes associated with producing high quality products

### Standards and Competencies

**Content Standard D: Identify, perform, and understand tasks demonstrating proper applications that; hold, join, and fasten materials. As well as preparation for and application of finish products.**

**Competencies**

**Total Learning Hours for Unit: 2**

[Type here]

[Type here]

[Type here]



<b>Competency Unit 13.0: Gluing and Laminating</b>	
13.1	Identify common woodworking glues and explain the advantages and disadvantages of each.
13.2	Demonstrate preparation steps for gluing or laminating.
13.3	Explain possible causes of a glue joint failure.
13.4	Compare and contrast between an adhesive and common woodworking glues.
<b><i>Aligned Washington State Standards</i></b>	
<b>Arts</b>	1.1 Understand arts concepts and vocabulary
<b>Health and Fitness</b>	2.4: Acquires skills to live safely and reduce health risks.
<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.
<b>Math</b>	6&7.RP Understand ratio concepts and use ratio reasoning to solve problems 6&7 NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. A-CED Create equations that describe numbers or relationships A-REI Understand solving equations as a process of reasoning and explain the reasoning Solve equations and inequalities in one variable
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text. RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Science</b>	9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge. 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting.
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]

**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** Identify and demonstrate proper application of basic woodworking joints; butt, edge, face, miter, dado, groove, rabbet. Using a simplified version of past SkillsUSA cabinetry projects or like items for production of the above joinery will be used for assessment.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Work Creatively with Others**

1.B.4 View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

**Make Judgments and Decisions**

2.C.3 Interpret information and draw conclusions based on the best analysis

**Collaborate with Others**

3.B.2 Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal

**Use and Manage Information**

4.B.1 Use information accurately and creatively for the issue or problem at hand

**Be Self-Directed Learners**

8.C.1 Go beyond basic mastery of skills and/or curriculum to explore and expand one’s own learning and opportunities to gain expertise

**Produce Results**

10.B.1 Demonstrate additional attributes associated with producing high quality products

**Standards and Competencies**

**Content Standard D: Identify, perform, and understand tasks demonstrating proper applications that; hold, join, and fasten materials. As well as preparation for and application of finish products.**

**Competencies**

**Total Learning Hours for Unit: 8**

**Competency Unit 14.0:**

**Joinery**

14.1	Correctly identify a; butt, edge, face, miter, dado, groove, rabbet joints.
14.2	Compare and contrast joints commonly used in the woodworking industries, (i.e., strength, appearance and ease of construction).
14.3	Select the correct type of wood joint used for a specific application and material.
14.4	Demonstrate the application of the 7 basic joints through project construction.

**Aligned Washington State Standards**

<b>Arts</b>	1.1 Understand arts concepts and vocabulary
<b>Educational Technology</b>	2.2.1 Develop skills to use technology effectively
<b>Health and Fitness</b>	2.4: Acquires skills to live safely and reduce health risks.
<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.

<b>Math</b>	6&7.RP Understand ratio concepts and use ratio reasoning to solve problems 6&7.NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. A-CED Create equations that describe numbers or relationships A-REI Understand solving equations as a process of reasoning and explain the reasoning Solve equations and inequalities in one variable
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text. RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Science</b>	9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge. 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
<b>Social Studies</b>	2.1 Understands that people have to make choices between wants and needs and evaluate the outcomes of those choices.
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting
<b>Writing</b>	3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]

**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** Identify and demonstrate proper application of mechanical fasteners used in woodworking; nails, staples, screws, and specialty hardware. In the construction of projects like but not limited to; cutting boards (3-D and frame edge), basic base cabinets, tables, and sheds, the use of fasteners will be assessed.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Work Creatively with Others**

1.B.4 View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

**Make Judgments and Decisions**

2.C.4 Interpret information and draw conclusions based on the best analysis

**Solve Problems**

2.D.2 Identify and ask significant questions that clarify various points of view and lead to better solutions

**Collaborate with Others**

3.B.2 Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal

**Use and Manage Information**

4.B.1 Use information accurately and creatively for the issue or problem at hand

**Be Self-Directed Learners**

8.C.1 Go beyond basic mastery of skills and/or curriculum to explore and expand one’s own learning and opportunities to gain expertise

**Produce Results**

10.B.1 Demonstrate additional attributes associated with producing high quality products

**Standards and Competencies**

**Content Standard D: Identify, perform, and understand tasks demonstrating proper applications that; hold, join, and fasten materials. As well as preparation for and application of finish products.**

**Competencies**

**Total Learning Hours for Unit: 2**

**Competency Unit 15.0: Mechanical Fasteners**

15.1	Define the purposes for metallic fasteners in woodworking.
15.2	Select the proper metallic fasteners for specific applications.
15.3	Demonstrate the proper use of metallic fasteners for specific applications.

**Aligned Washington State Standards**

<b>Arts</b>	1.1 Understand arts concepts and vocabulary
<b>Educational Technology</b>	2.2.1 Develop skills to use technology effectively
<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.
<b>Math</b>	6&7.RP Understand ratio concepts and use ratio reasoning to solve problems 6&7.NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

[Type here]

[Type here]

[Type here]

	A-CED Create equations that describe numbers or relationships A-REI Understand solving equations as a process of reasoning and explain the reasoning
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text. RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Science</b>	9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge. 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
<b>Social Studies</b>	2.1 Understands that people have to make choices between wants and needs and evaluate the outcomes of those choices.
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting.
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

### COMPONENTS AND ASSESSMENTS

**Performance Assessments:** Identify and demonstrate proper application of abrasives used in woodworking. When working through a project such as a cutting board or cabinet they will be assessed using the correct abrasives, starting from rough (60 grit) to smooth (220 grit). Sanding knowledge/direction will also be assessed.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Work Creatively with Others**

1.B.4 View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

**Make Judgments and Decisions**

2.C.4 Interpret information and draw conclusions based on the best analysis

**Collaborate with Others**

3.B.2 Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal

**Use and Manage Information**

4.B.1 Use information accurately and creatively for the issue or problem at hand

**Be Self-Directed Learners**

8.C.1 Go beyond basic mastery of skills and/or curriculum to explore and expand one's own learning and opportunities to gain expertise

**Produce Results**

10.B.1 Demonstrate additional attributes associated with producing high quality products

### *Standards and Competencies*

[Type here]

[Type here]

[Type here]

**Content Standard D: Identify, perform, and understand tasks demonstrating proper applications that; hold, join, and fasten materials. As well as preparation for and application of finish products.**

<b>Competencies</b>	<b>Total Learning Hours for Unit: 2</b>
---------------------	---

<b>Competency Unit 16.0:</b>	<b>Abrasives</b>
16.1	The student will use various abrasives to prepare a project for a finish.
16.2	Identify common abrasives used in the woodworking industry.
16.3	Compare and contrast the differences in grit size and paper grades used in manufacturing sandpaper.
16.4	Select the proper grit sizes and sequences for shaping and smoothing operations.
16.5	Comply with the health and safety factors used in working with abrasives.

***Aligned Washington State Standards***

<b>Health and Fitness</b>	2.4: Acquires skills to live safely and reduce health risks.
<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.
<b>Math</b>	6&7 NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text. RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Science</b>	9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge. 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]

**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** Identify and demonstrate proper application of fillers, stains, sealers, and finishes used in the woodworking industry. Projects such as but not limited to those listed in previous units will be used to assess the quality finishing technique.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Work Creatively with Others**

1.B.4 View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

**Implement Innovations**

1.C.1 Act on creative ideas to make a tangible and useful contribution to the field in which the innovation will occur

**Make Judgments and Decisions**

2.C.4 Interpret information and draw conclusions based on the best analysis

**Collaborate with Others**

3.B.2 Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal

**Use and Manage Information**

4.B.1 Use information accurately and creatively for the issue or problem at hand

**Be Self-Directed Learners**

8.C.1 Go beyond basic mastery of skills and/or curriculum to explore and expand one’s own learning and opportunities to gain expertise

**Produce Results**

10.B.1 Demonstrate additional attributes associated with producing high quality products

***Standards and Competencies***

**Content Standard D: Identify, perform, and understand tasks demonstrating proper applications that; hold, join, and fasten materials. As well as preparation for and application of finish products.**

**Competencies**

**Total Learning Hours for Unit: 5**

**Competency Unit 17.0:**

**Finishing Techniques**

17.1	Comply with the health and safety regulations required for working with woodworking stains and finishes.
17.2	Select and apply the proper type of filler material for a specific application.
17.3	Select the proper type of stain for a specific application.
17.4	Demonstrate proper application methods for different types of stains.
17.5	Select the proper type of sealer and demonstrate proper application for a specified need.
17.6	Select material and demonstrate proper application methods for various top coat materials; wipe on, brush, or spray products.
17.7	Explain the advantages and disadvantages associated with common finishing products; polyurethane, lacquer, varnishes, and oils.
17.8	Demonstrate cleaning procedures for various types of sealer and finish coats.
17.9	Review MSDS information provided for finishing materials applied.

***Aligned Washington State Standards***

[Type here]

[Type here]

[Type here]

<b>Arts</b>	1.1 Understand arts concepts and vocabulary
<b>Educational Technology</b>	2.2.1 Develop skills to use technology effectively
<b>Health and Fitness</b>	2.1.1 Practice personal safety 3.1.3 Evaluates environmental risks associated with certain occupational, residential, and recreational choices.
<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.
<b>Math</b>	6&7.RP Understand ratio concepts and use ratio reasoning to solve problems 6&7.NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text. RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Science</b>	9-12.INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge. 9-12.APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
<b>Social Studies</b>	2.1 Understands that people have to make choices between wants and needs and evaluate the outcomes of those choices.
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting.
<b>Writing</b>	3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]



**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** Students will participate in various classroom leadership roles and activities. Students will be encouraged to join and participate in a CTSO: SkillsUSA or the Technology Student Association. Students will also run a club meeting to better understand parliamentary procedures as part of their leadership assessment.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses. (See Leadership document filed under Leadership tab)

**Standards and Competencies**

**Content Standard E: The student will identify, understand, and perform the proper use of group dynamics, diversity training, problem solving techniques, and employee / employer relationships.**

**Competencies**

**Total Learning Hours for Unit: 5**

**Competency Unit 18.0: Leadership**

18.1	The student will demonstrate the ability to identify, organize, plan, and allocate resources.
18.2	Time—Select goal-relevant activities, rank them, allocate time, and prepare and follow schedules
18.3	Money—Use or prepare budgets, make forecasts, keep records, and make adjustments to meet objectives
18.4	Materials and Facilities—Acquires, store, allocate, and use materials or space efficiently
18.5	Participates as a Member of a Team—Contribute to group effort
18.6	Teach Others New Skills—Help others to apply concepts, theories, recognizing training needs and conveying job information.
18.7	Work with Diversity—Work well with people from diverse backgrounds
18.8	Apply leadership skills learned through SkillsUSA / TSA in the classroom setting.

**Aligned Washington State Standards**

<b>Educational Technology</b>	1.1.1 Generate ideas and create original works for personal and group expression using a variety of digital tools. 1.2.1 Communicate and collaborate to learn with others. 2.2.2 Use a variety of hardware to support learning
<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.
<b>Math</b>	6&7 NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks. RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Social Studies</b>	2.1 Understands that people have to make choices between wants and needs and evaluate the outcomes of those choices.
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting.
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]

**COMPONENTS AND ASSESSMENTS**

**Performance Assessments:** Students will construct projects applying the standards taught through the competencies taught: safety, applied math, plan reading, machine and tool use, material selection, joinery, assembly systems, and finishing techniques.

**Leadership Alignment:** State of Washington 21<sup>st</sup> Century Leadership & Employability Skills Standards, as developed from *Partnership for 21<sup>st</sup> Century Skills* organization, within the Career and Technical courses.

**Be self-directed learners**

8.C.1 Go beyond basic mastery of skills and/or curriculum to explore and expand one’s own learning and opportunities to gain expertise.

Adapt to change

7.A.1 Adapt to varied roles, jobs, responsibilities, schedules and contexts.

***Standards and Competencies***

**Content Standard C, D: (1) Identify, understand and perform acceptable safety practices and policies pertaining to work areas and the proper use of hand tools, portable power tools, stationary equipment, and CNC machinery. (2)Identify, perform, and understand tasks demonstrating proper applications that; hold, join, and fasten materials. As well as preparation for and application of finish products.**

**Competencies**

**Total Learning Hours for Unit: 60**

**Competency Unit 19.0:**

**Application of Acquired Skills**

19.1	Complete required safety assessments.
19.2	Accurately complete a bill of materials. (cutting list, board footage calculations)
19.3	Select appropriate materials.
19.4	Demonstrate ability to accurately set-up and safely operate machinery required for the project.
19.5	Explain the proper sequence of machining steps to accurately square lumber. Demonstrate this process.
19.6	Demonstrate knowledge of suitable joinery. Layout and machine joints as needed.
19.7	Demonstrate proper gluing techniques.
19.8	Demonstrate selection and proper use of mechanical fasteners.
19.9	Demonstrate knowledge of suitable construction techniques or assembly processes.
19.10	Demonstrate proper pre-finishing techniques.
19.11	Demonstrate knowledge and application of suitable finishing processes.
19.12	Complete a project evaluation sheet.

***Aligned Washington State Standards***

<b>Arts</b>	1.1 Understand arts concepts and vocabulary
<b>Educational Technology</b>	1.1.1 Generate ideas and create original works for personal and group expression using a variety of digital tools.
	2.1.1 Practice personal safety
	2.2.1 Develop skills to use technology effectively

[Type here]

[Type here]

[Type here]

	2.2.2 Use a variety of hardware to support learning
<b>Health and Fitness</b>	2.4.2 Evaluates emergency situations, ways to prevent injuries, and demonstrates skills to respond appropriately and safely. 3.1.3 Evaluates environmental risks associated with certain occupational, residential, and recreational choices.
<b>Language</b>	L 1.8 Determine the meaning of words and phrases in oral presentations and literary and informational text.
<b>Math</b>	6&7.RP Understand ratio concepts and use ratio reasoning to solve problems 6&7.NS Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. A-CED Create equations that describe numbers or relationships A-REI Understand solving equations as a process of reasoning and explain the reasoning Solve equations and inequalities in one variable 1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. 2. Define appropriate quantities for the purpose of descriptive modeling. 3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
<b>Reading</b>	RST 9-10 -3 Follow precisely a complex multistep procedure when carrying out experiments, or performing technical tasks, attending to special cases or exceptions defined in the text. RST 9-10 -4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 text and topics
<b>Science</b>	9-12 INQC Conclusions must be logical, based on evidence, and consistent with prior established knowledge. 9-12 APPD The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
<b>Social Studies</b>	2.1 Understands that people have to make choices between wants and needs and evaluate the outcomes of those choices.
<b>Speaking and Listening</b>	1.1.1 Applies a variety of listening strategies to accommodate the listening situation. 1.1.2 Applies a variety of listening and observation skills/strategies to recall and interpret information. 2.2.2 Applies skills and strategies to contribute responsibly in a group setting.
<b>Writing</b>	3.1.1 Analyzes ideas, selects a manageable topic, and elaborates using specific, relevant details and/or examples. 3.3.6 Uses complete sentences in writing.

[Type here]

[Type here]

[Type here]