Unit 4 - Door Design & Shaping

Content Area: **Arts**
Course(s): **Wood Arts Tec 2**
Time Period: **Semester 2**
Length: **2 Weeks**
Status: **Published**

Standards

1.5.2.Cr1a	Engage in individual and collaborative exploration of materials and ideas through multiple approaches, from imaginative play to brainstorming, to solve art and design problems.
8.2.2.ED.3	Select and use appropriate tools and materials to build a product using the design process.
8.2.2.ETW.2	Identify the natural resources needed to create a product.
CRP.K-12.CRP8.1	Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.
SCI.HS-ETS1-3	Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

Enduring Understandings

1. Students will understand that creating original woodworking designs necessitates precise measurement, detailed planning, and accurate mathematical calculations to meet specific dimensions.

2. Students will understand that career readiness in woodworking involves applying problem-solving skills to real-world constraints, always prioritizing safety, even when multiple design approaches exist.

3. Students will understand that selecting and shaping appropriate hardware is critical for supporting the weight and proper functioning of a design's load-bearing components.

Essential Questions

1. Where do we see hinges in our everyday interactions?

2. What careers can the skills gained in designing and building transfer?

3. What limitations exist in building for your project?

Knowledge & Skills

Door Design & Shaping Students will be able to:

- Design and create a product that moves and applies tooling processes and joinery and requires hardware.
- Calculate the natural resources needed to complete the project within the project constraints.
- Account for blade kerf in planning and selecting materials.
- Identify the safe machines and tools needed to process lumber.
- Shape lumber to fit a specific area with an aesthetic design.
- Shape lumber to hold hardware to function properly.

Resources

Resources:

- Measuring Tapes
- Calculators
- Lumber
- Machines
- Tools
- Fasteners
- Glue
- Hinges

Transfer Goals

1. Students will be able to account for lengths, widths, thicknesses, and blade kerf when planning the natural resources needed to make a product.

2. Students will be able to identify machine and tooling techniques associated with trade work and engineering design.

Modifications

Modifications

Assessments

Assessments