Unit 3: Measurement in 1/16th of an Inch and Measuring Tools

Content Area: **Industrial Technology**
Course(s): **Construction Technology I**
Time Period: **1 week**
Length: **Weeks**
Status: **Published**

Unit Overview

In this unit students will be able to measure in feet and inches down to 1/16 of an Inch. They will also learn how to measure with a Steel Bench Ruler, Measuring Tape noting how the tape is also laid out in 16" increments and the correct handling of the tape to prevent damage. They will also recognize the importance of measurements when constructing a project or construction of a house or building.

Transfer

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

-Be able to construct projects when they are a homeowner or if they go into the construction or building trades.

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

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

Meaning

These are life long skills that they use to do repairs or if they decide to choose any Construction Field as a Career Path.

Understandings

Students will understand that...

-It is very critical to measure correctly when building any project or purchasing items that have to be a certain size.?

-What inferences should they make/grasp/realize?

-Accuracy is critical to the quality of the finished project. Mistakes cost money to the student or their employer.

Essential Questions

Students will keep considering...

Why it is important to be able to measure precisely when constructing any project or building?

Why is it important to handle measuring tools with care to not damage them?

Why is it important to have good Craftsmanship when making any type of project?

Application of Knowledge and Skill

Students will be applying their measuring skills to an assigned project and individual projects.

Students will be applying their measuring skills to lay out and construction of walls and roofing members.

Students will know...

Students will know...

Be able to measure down to the nearest 1/16th of an inch when following project plans.

Be able to transfer the dimensions from plans on to wood, lumber or construction materials.

Be able to correctly work with measuring tools without damaging them.

Students will be skilled at...

Students will be skilled at...

Transferring measurements from plans onto wood or lumber measuring down to 1/16th of an inch.

Taking care of measurement tools to not damage or change their measurements.

Be able to read or draw plans in later lessons knowing the correct measurements.

Academic Vocabulary

Yard, Foot, Inch, Increments, 16 on Centers.

Learning Goal 1

Understand the importance of accurate measurement down to 1/16th of an inch increments.

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.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.7	Describe career opportunities and means to achieve those opportunities in each of the Architecture & Construction Career Pathways.
9.3.12.AC-CST	Construction
9.3.12.AC-CST.2	Describe the approval procedures required for successful completion of a construction project.
9.3.12.AC-CST.3	Implement testing and inspection procedures to ensure successful completion of a construction project.
9.3.12.AC-CST.9	Safely use and maintain appropriate tools, machinery, equipment and resources to accomplish construction project goals.
9.3.12.AC-DES.6	Apply the techniques and skills of modern drafting, design, engineering and construction to projects.

Target 1

Students will be able to measure from 1 yard down to 1/16th of an inch.

Target 2

Students will be able to correctly work with various measuring tools in the Constuction Technology Labratory.

Learning Goal 2

Demonstrate transfering measurements to wood or lumber precisely from a project print.

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.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
9.3.12.AC-DES.2	Use effective communication skills and strategies (listening, speaking, reading, writing and graphic communications) to work with clients and colleagues.
9.3.12.AC-DES.6	Apply the techniques and skills of modern drafting, design, engineering and construction to projects.
9.3.12.AC-MO.3	Apply construction skills when repairing, restoring or renovating existing buildings.

Target 1

SWBAT precisely transfer dimensions to wood.

Target 2

SWBAT read basic print drawings.

Formative Assessment and Performance Opportunities

Based on first assigned project grading quality and accuracy of Nesting Tray project with Industrial Technology Project Grading Rubric.

Summative Assessment

Based on written test on how to measure in 1/16th of an inch.

21st Century Life and Careers

CAEP.9.2.12.C	Career Preparation
CAEP.9.2.12.C.3	Identify transferable career skills and design alternate career plans.
CAEP.9.2.12.C.4	Analyze how economic conditions and societal changes influence employment trends and future education.
CAEP.9.2.12.C.7	Examine the professional, legal, and ethical responsibilities for both employers and employees in the global workplace.

Accommodations/Modifications

Students with Accommodations/Modifications may retest if they fail or select to take the test with Special Needs Teacher.

Unit Resources

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

You Tube videos on Measurement in Construction.

Interdisciplinary Connections

Math and Science. STEM