

Lab Framework

Text:CORD

Unit number and title: Unit 3

Short Description: Measuring drill bit sizes, fractional and metric and building their own sizing card.

Developed by: Aric Walker

Contact Information: walkera@wvwsd208.org

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Lab Title **Which Bit is Bigger**

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**
 1. Understand the size of drill bits in english and metric units and the order of the sizes.
 2. Create a size chart that can be referenced in shop classes.
- **Statement of pre-requisite skills needed** (i.e., vocabulary, measurement techniques, formulas, etc.)

Basic math facts, ability to use calculator, micrometer use
- **Vocabulary**

Drill bit
Drill sizes- Fractional
Letter
Number

Multiple drill bits
Micrometers
Calculators
Card stock to printout chart on
- **GLEs (State Standards) addressed**

Math:

1.2.3 Apply unit conversions within measurement systems, U.S. or metric, to maintain an appropriate level of precision.

5.3.2 Understand that mathematics is used in many occupations or careers.
- **Leadership Skills**

Partner cooperation, material sharing, information sharing, and cooperative cleanup.
- **SCAN Skills/Workplace Skills**

Use of micrometer, used extensively in the machining and manufacturing industry.
- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations; **-Timeline required**)

2-3 people per group, 2 day lab first day measuring and second producing cards.
- **Teacher Assessment of student learning** (scoring guide, rubric)

Check for proper size organization, score accordingly.
- **Summary of learning** (to be finished after student completes lab)

- discuss real world application of learning from lab
- opportunity for students to share/present learning

- **Career Applications**

Mechanics, Machinist, Engineers

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LAB TITLE: Which Bit is Bigger

STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
Using a micrometer to measure fractional, letter, and numbered drill bits and organizing them in the proper size order.
- **Grouping instructions and roles**
2-3 per group, each member will take turns measuring multiple bits 15-25
- **Procedures** – steps to follow/instructions
Measure bits, organize by measured size, record information to be transferred to computer for printing
- **Assessment instructions** (peer-teacher)
Teacher will provide a complete list for comparison

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