

Precision Measure

Academic Representative



Technology Education Concepts

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Description

Accurate and precise measurements of parts and products are crucial to the success of many major industries in society today. Design, fabrication, and manufacturing are examples of such industries. The Precision Measure curriculum covers the full spectrum of measurement needs by explaining the functionality and components of different measurement systems and the tools used in each system. Measurement tools include anything from a common steel rule and tape measure to the more complex thumb lock caliper, dial caliper, and micrometer. At the conclusion of this curriculum, students will have a firm understanding of the wide variety of measurement practices, along with an excellent foundation in key mathematical processes, such as determining area and volume of objects, calculating square feet, and reducing fractions to their lowest terms.

Skills

- Calculate measurements within 0.001 in. on machined objects.
- Demonstrate proper use of a micrometer.
- Use and read a variety of industry-standard measuring tools.
- Demonstrate 1, 2, and 3 place decimal measurements.
- Calculate depths of measurements.

Knowledge

- Components of precision measure tools and practices
- Proper use of measuring instruments
- Foundation for linear measurement
- Meaning of tolerance
- Importance of linear measurement

Activities

- Activity 1 - Introduction
- Activity 2 - Decimal Rule
- Activity 3 - Metric Measure
- Activity 4 - Steel Tape
- Activity 5 - Precision Measure
- Activity 6 - Micrometer
- Activity 7 - Thumb Lock Vernier Caliper
- Activity 8 - Dial Indicator Vernier Caliper
- Activity 9 - Micrometer Depth Gauge
- Activity 10 - Post-Test and Wrap-up
- Activity 11 - Bonus Activities
- Activity 12 - Challenge
- Activity 13 - Open-Ended Challenge
- Activity 14 - Careers
- Activity 15 - Internet

Standards

Math/Measure Problem Solving Reading

Module Includes:

Student Workbook, Instructor's Manual, Installation CD, Precision Measure Block #1, Precision Measure Block #2, Precision Measure Block #3, Starrett® 6 in. Vernier Caliper, Starrett® 6 in. Dial Caliper, Starrett® 12 in. Steel Rule, Starrett® 12 ft Tape Measure, Starrett® Depth Micrometer, Starrett® Micrometer, Custom Vacuum Formed Organizer Tray, Headphones (2)

Requirements

No additional requirements.

Curriculum Specifications

Format 2000. The Precision Measure curriculum consists of a well-illustrated student activity guide with 10 daily activities and 5 additional enrichment activities including careers, problem solving, challenge activities, vocabulary reinforcement, and Internet.

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