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| --- | --- |
|  | Preparation: *Summary of “to do’s” that the teacher should understand and prepare before bringing this lesson to the classroom.* |
| Teachers will need to ensure that the proper supplies are available for students to build their solutions.  **Materials** * Ruler
* Dial Caliper

 **Tools** * Computer or Chromebook

 **Information** Before starting this exercise, students should have an understanding of: * Presentation: Measurement
* Website: Using a Caliper and Dial Caliper Practice
* Video: Handling and Dial Caliper Use; Dial Caliper Application Building Block

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|  | Safety: *Summary of safety strategies in the lesson.* |
| There are no safety exercises for this exercise.  |
|  | Desired Results:  |
| Established Goals: |  | Transfer: |
| *Problem Solving Techniques and Applications Standards:*  | *Students will be able to independently use their learning to…** Demonstrate the correct use of rulers and calipers;
* Use measurement tools Use measurement tools accurately.
 |
| Meaning: |
| Understandings*Students will understand that...** Different tools are needed to take different types of measurements;
* Imperial and metric measurements are vastly different.
 | Essential Questions*Students will keep considering...** How accurate different types of measurements are;
* If there is a better tool for a certain task.
 |
| Acquisition OF KNOWLEDGE AND SKILL: |
| *Students will know...** Specific uses and operations of various measurement tools;
* How specific measurement tools work.
 | *Students will be skilled at...** Choosing the correct tool for a task;
* Diagraming results of peer data compilation in an experiment.
 |
|  | Evidence:  |
| Evaluative Criteria: |  | Assessment Evidence: |
| * Completed
* Correct test answers
 | *Performance Task(s):* **Ruler Activity** Students will learn and be tested on proper use of rulers.  |
| * Correct answers
* Accurate measurements
 | *Other Evidence:* * Corresponding test questions
* Collected measurement sheets
 |
|  | Learning Plan: *Summary of Key Learning Events and Instruction* |
| 1. **Set Introduction**

This activity will take one class day to complete. 1. **Familiarity**

The instructor should be familiar with and present the materials or PowerPoint associated with measurement in this activity previous to the hands-on activity. 1. **Review**

Have your students review the information under Content Knowledge.  1. **Student Time**

Give each student ample time to complete the activity. Circulate the room to verify each student is on tasks and progressing forward.  1. **Collect**

At the completion of the activity, collect each student’s tools.  1. **Class Review**

If time permits, review the activity as a class and discuss the correct measurements and answers.  1. **Remind Students**

Remind your students to review all of the material from this unit in preparation for the test.  **Progress Monitoring:** * The instructor will need to monitor the classroom, checking student’s work and ensuring students are on task and following directions.
* Ensure students store their projects at the end of class and leave all materials in the room.
* At the end of the activity, post student projects in the room and provide appropriate feedback
 |
|  | Differentiation: *Summary of Key Differentiation Techniques* |
| Please use this space to insert your differentiation techniques. Depending on the needs of students, various techniques might be needed in a classroom, therefore use the information below and experts in the area needed to design your plan for differentiation.The ASCD Study Guide for Integrating Differentiated Instruction and Understating by Design: Connecting Content and Kids. by Carol Ann Tomlinson, Jay McTighe  Integrating Differentiated Instruction and Understating by Design: Connecting Content and Kids. by Carol Ann Tomlinson, Jay McTighe ISBN-13: 978-1416602842    ISBN-10: 1416602844  Differentiating Reading Instruction *by Laura Robb.* ISBN13: 9780545022989  A Teacher's Guide to Differentiating Instruction The Center for Comprehensive School Reform and Improvement  |
|  | career Connections: *Summary of Career Opportunities Associated with this Lesson* |
| **Civil Engineer** Civil engineers rely on accurate measurements to design and construct various structures.  **Architect** Architects use accurate measurements to design various structures.  **Health Science** Many of those in the health science field rely on accurate measurements when working with humans and animals.  |
|  | Keywords: *Please Insert Keywords from this Lesson with their Definitions* |
| ACCURATE - the quality or state of being correct or precise.  MEASUREMENT - the action of measuring something.  INSTRUMENT - a tool or implement, especially one for delicate or scientific work  |