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| **TEXAS CTE LESSON PLAN**  [www.txcte.org](http://www.txcte.org) | |
| **Lesson Identification and TEKS Addressed** | |
| **Career Cluster** | Agriculture, Food and Natural Resources |
| **Course Name** | Mathematical Applications in Agriculture, Food, and Natural Resources |
| **Lesson/Unit Title** | Mathematical Operations - Metrics |
| **TEKS Student Expectations** | **130.10. (c) Knowledge and Skills**  (1) The student demonstrates mathematics knowledge and skills required to solve problems related to the agriculture, food, and natural resources industries. The student is expected to:  (F) Use mathematic operations and knowledge of relationships to solve problems inherent to systems of agriculture and agribusiness such as the calculation of gallons of water from inches of rain, acres of ground water, liquid and gaseous volumes, and conversion of units; calculation of caloric value, parts per million of restricted ingredients, conversion of measurements, and United States Department of Agriculture (USDA) grades; and estimation of wildlife populations, pulpwood yields, and calculation of mapping data |
| **Basic Direct Teach Lesson**  **With Special Education Modifications/Accommodations and**  **one English Language Proficiency Standards (ELPS) Strategy** | |
| **Instructional Objectives** | **The students will be able to:**   * Perform basic measurements and conversions using the metric system. |
| **Rationale** | This lesson deals with metrics in mathematical operations. It also encourages the students to apply mathematics to problems arising in everyday life, society, and the workplace. |
| **Duration of Lesson** | Teacher’s Discretion |
| **Word Wall/Key Vocabulary**  *(ELPS c1a, c, f; c2b; c3a, b, d; c4c; c5b) PDAS II (5)* | Metric System |
| **Materials/Specialized Equipment Needed** | **Equipment:**   * Computer * Projector   **Materials:**   * Meter stick / metric ruler * How to Use the Metric System (Attachments) * How to Convert Metric Measurements (Attachments) * Computer and projector * Graphing calculators / calculators * Pen or Pencil * Markers * Poster Paper |
| **Anticipatory Set**  (May include pre-assessment for prior knowledge) | How many of you can count to 10? Divide by 10? What is the easiest way to perform these functions? Today we will use the metric system to make some simple measurements. |
| **Direct Instruction \*** | *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*  NONE |
| **Guided Practice \*** | *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*  NONE |
| **Independent Practice/Laboratory Experience/Differentiated Activities \*** | *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*  NONE |
| **Lesson Closure** |  |
| **Summative/End of Lesson Assessment \*** | *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*  NONE |
| **References/Resources/Teacher Preparation** |  |
| **Additional Required Components** | |
| **English Language Proficiency Standards (ELPS) Strategies** |  |
| **College and Career Readiness Connection[[1]](#footnote-1)** | **Mathematics** IB, 4A, 4B |
| **Recommended Strategies** | |
| **Reading Strategies** |  |
| **Quotes** |  |
| **Multimedia/Visual Strategy**  **Presentation Slides + One Additional Technology Connection** |  |
| **Graphic Organizers/Handout** | Handout – Metric System Lab (Attached) |
| **Writing Strategies**  **Journal Entries + 1 Additional Writing Strategy** |  |
| **Communication**  **90 Second Speech Topics** |  |
| **Other Essential Lesson Components** | |
| **Enrichment Activity**  (e.g., homework assignment) |  |
| **Family/Community Connection** |  |
| **CTSO connection(s)** |  |
| **Service Learning Projects** |  |
| **Lesson Notes** |  |

1. Visit the Texas College and Career Readiness Standards at <http://www.thecb.state.tx.us/collegereadiness/CRS.pdf>, Texas Higher Education Coordinating Board (THECB), 2009. [↑](#footnote-ref-1)