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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** | Principles of Agriculture, Food, and Natural Resources |
| **Lesson/Unit Title** | Table Lamp Water Pump Project |
| **TEKS Student Expectations** | **130.2 (c) Knowledge and skills**  (14) The student safely performs basic power, structural, and technical system skills in agricultural applications. The student is expected to:  (B) Use safe and appropriate laboratory procedures and policies  (E) Use tools, equipment, and personal protective equipment common to power, structural, and technical systems |
| **Basic Direct Teach Lesson**  **With Special Education Modifications/Accommodations and**  **one English Language Proficiency Standards (ELPS) Strategy** | |
| **Instructional Objectives** | **The student will be able to:**   * Read and utilize blueprints; * Safely use measuring device and common hand tools; * Cut, mark, and measure to scale, and * Build projects according to plans. |
| **Rationale** | Allows students to develop knowledge and skills regarding career opportunities, personal development, globalization, industry standards, details, practices, and expectations. |
| **Duration of Lesson** | Teacher’s Discretion |
| **Word Wall/Key Vocabulary**  *(ELPS c1a, c, f; c2b; c3a, b, d; c4c; c5b) PDAS II (5)* | Saw kerf  Wood chisel  Measuring tape  Try square  Wood rasp  **Safety test:**   * What items of protective equipment (PPE) are used when working with hand tools? - eye protection, chisel tang covers, (handles), and gloves for chisel use) * Explain the importance of accurate marking and measuring? (Accuracy, guideline to finished product) * What is the proper procedure for replacing a broken coping saw blade? * Explain the difference in rip saw versus crosscut saw utilization? (rip saw- cuts with the wood grain, crosscut saw cuts across the wood grain) |
| **Materials/Specialized Equipment Needed** | **Material:**   * Tape Cross cut saw * Rip saws * Coping saw * Wood chisel * Wood glue * Tack hammer * Carpenters brace & bit * Wood auger bits * Try square * Tape measure * Wood rasp * Stain – oak and cherry * Sandpaper – 20 and 30 grits * **Cut list**   + 3” X 3” X 3” pine block   + 6” X 1” X 1/8” planks   + 7” X 1 ¼” pine stem piece   + 4 ½” X ½” by 14” pump handle |
| **Anticipatory Set**  (May include pre-assessment for prior knowledge) | Proper and safe use of common hand tools is a “lost skill” with power tools. It’s difficult to even find such common tools as a carpenter’s bit and brace at the hardware store.  However, many students may not have the inventory necessary for all power applications but can afford common hand tools and this does not diminish the quality /craftsmanship of the finished product.  Students are encouraged to complete the project for their use - Spring Mother’s Day gift, etc. Students will receive a 100 EC test grade if they will document the addition of a pull chain receptacle and a lamp shade to the project with all materials provided to them. |
| **Direct Instruction \*** | * Students will be given pre-cut barrel base, planks, stem, and pump handle. An additional wood surplus is provided for all other pieces to the project. * Students will see actual finished lamps and go over blue prints, compare scale drawings, etc. * Students will utilize tools provided after safety and ID orientation is completed.   *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 \*** | Each project is graded on accuracy, and creativity. A final grade is determined by:  Accuracy - 50 points  Creativity - 30 points  Finish - 20 points  *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 -** X A 1, V A 1  **English –** II A 2, II A 5 |
| **Recommended Strategies** | |
| **Reading Strategies** |  |
| **Quotes** |  |
| **Multimedia/Visual Strategy**  **Presentation Slides + One Additional Technology Connection** |  |
| **Graphic Organizers/Handout** |  |
| **Writing Strategies**  **Journal Entries + 1 Additional Writing Strategy** |  |
| **Communication**  **90 Second Speech Topics** |  |
| **Other Essential Lesson Components** | |
| **Enrichment Activity**  (e.g., homework assignment) | Students will receive all wood components to complete project and given markers and plastic bags to keep up with inventory.  Students are allowed to work on their project at their own pace and use common tools shared from tool room inventory (coping saws, clamps, etc.)  Students are given a set timetable for completion of the lab project before grading |
| **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)