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| **TEXAS CTE LESSON PLAN**  [www.txcte.org](http://www.txcte.org) | |
| **Lesson Identification and TEKS Addressed** | |
| **Career Cluster** | Transportation, Distribution & Logistics |
| **Course Name** | Principles of Transportation, Distribution and Logistics |
| **Lesson/Unit Title** | Types of Warehouses |
| **TEKS Student Expectations** | **130.462. (c) Knowledge and Skills**  (9) The student uses data to optimize distribution and logistics business operations such as storage, distribution routes, equipment, and human resources. The student is expected to:  (J) examine equipment and staffing requirements and develop traffic management plans and work schedules |
| **Basic Direct Teach Lesson**  (Includes Special Education Modifications/Accommodations and  one English Language Proficiency Standards (ELPS) Strategy) | |
| **Instructional Objectives** | **Students will…**   * Explain state-of-the art, fully equipped working warehouses and distribution centers. * Discuss different types of warehouses used locally and throughout the world. |
| **Rationale** | In this lesson, students will research and analyze types of warehouses as well as optimal layouts for various materials handling purposes. |
| **Duration of Lesson** | 3 – 5 45-minute class periods, depending upon size of class |
| **Word Wall/Key Vocabulary**  *(ELPS c1a, c, f; c2b; c3a, b, d; c4c; c5b) PDAS II (5)* | * **BOM** – Bill of Materials * **DOT-** Department of Transportation * **FOB** – Free on Board or Freight on Board; a shipping term that specifies which party (buyer or seller) is responsible for shipment and loading costs * **KDF** – Knocked down Flat; to reduce an article’s normal ‘cubage’ or space footprint * **OSHA**- Occupational Safety & Health Administration * **3PL Providers** – Third Party Logistics Providers of Transportation and Logistics services |
| **Materials/Specialized Equipment Needed** | * Computers with internet access * Projector or SmartBoard * Handout & Presentation * YouTube video for MHIA at <http://www.youtube.com/watch?v=PusvVnC_4Uc> |
| **Anticipatory Set**  (May include pre-assessment for prior knowledge) | Ask students “What is material handling?”  View the MHIA video <http://www.youtube.com/watch?v=PusvVnC_4Uc> and discuss the various types of material handling equipment used for product movement, unloading and reloading, and other duties that material handlers may have at a manufacturing company. |
| **Direct Instruction \*** | Distribute the “Answer This!” activity handout to the students and then have the students navigate to the warehouse science website. Students should select the Warehouse and Distribution Science Textbook link.  Students will read the first chapter (pages 5-10), and formulate 5 questions they would like to ask about the reading and write them on the “Answer This!” activity sheet (left column). When students have finished, have them pair up and exchange their questions.  Present the Types of Warehouses PowerPoint Presentation to the students. Types of Warehouses PowerPoint available at: <http://www.transportationcareers.org/?page_id=462>  Have students answer a question from the Answer This Activity to start the presentation. The last slide of the presentation will explain the student presentation activity, but you will need to hand out the Types of Warehouses Presentation Rubric so students can see the assessment of the presentation. Have them work with the same partner that they completed the worksheet with. You can have multiple teams doing the same warehouse type!  *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 \*** | **Students will…**   * Work with a partner to answer 5 questions. * Work with a partner to complete presentation requirements.   *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 \*** | **Students will…**   * Create and present a mini-presentation over one of the 5 types of warehouses. General requirements include being 2-3 minutes in length, highly visual (with citations), and professional in nature. Questions that this presentation should answer are as follows:   + What is the purpose, visual design, and layout of the warehouse?   + Who are the customers/vendors?   + If I was the manager of … Name local companies that might use this type of warehouse and why (educated guess).   + Existing warehouses around your city/town.   + Types of products and throughput/turns.   + Sell me on using your type of warehouse.   *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** | **Students will…**   * Share their presentations with the class.   *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*  NONE |
| **Summative/End of Lesson Assessment \*** | **Students will…**   * Self-evaluate presentations using the scoring guide.   Please note that the scoring guide can be modified, and can also be used by the instructor as an assessment tool.  *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** | * Warehousing and Distribution Science [www.warehouse-science.com](http://www.warehouse-science.com) * Material Handling Industry of America access at [www.mhia.org](http://www.mhia.org) and their video: <http://www.youtube.com/watch?v=PusvVnC_4Uc> * Complete Lesson Plans and additional resources available at: <http://www.transportationcareers.org/?page_id=462> * How to cite resources: <https://owl.english.purdue.edu/owl/resource/747/08/> |
| **Additional Required Components** | |
| **English Language Proficiency Standards (ELPS) Strategies** |  |
| **College and Career Readiness Connection[[1]](#footnote-1)** | English / Language Arts II B 1  Social Studies III A 3 |
| **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) |  |
| **Family/Community Connection** |  |
| **CTSO connection(s)** | DECA, SkillsUSATexas |
| **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)