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| **TEXAS CTE LESSON PLAN**  [www.txcte.org](http://www.txcte.org) | | |
| **Lesson Identification and TEKS Addressed** | | |
| **Career Cluster** | Science, Technology, Engineering, & Mathematics | |
| **Course Name** | Robotics I | |
| **Lesson/Unit Title** | Robotics I - Competition Presentation Preparation | |
| **TEKS Student Expectations** | **130.408. (c) Knowledge and skills**  (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:  (C) present written and oral communication in a clear, concise, and effective manner, including explaining and justifying actions; | |
| **Basic Direct Teach Lesson**  (Includes Special Education Modifications/Accommodations and  one English Language Proficiency Standards (ELPS) Strategy) | | |
| **Instructional Objectives** | The student will be able to:   * Demonstrate effective oral and written communication skills using a variety of software applications and media | |
| **Rationale** | After completing this lesson, Robotics Presentation Team members will demonstrate how to use various software applications and media technologies available for robotics presentations. | |
| **Duration of Lesson** | Teacher’s Discretion | |
| **Word Wall/Key Vocabulary**  *(ELPS c1a,c,f; c2b; c3a,b,d; c4c; c5b) PDAS II(5)* | * **Software Applications**- The Merriam Webster Online Dictionary defines software applications as “the programs and related information used by a computer.” * **Media Technologies**- Is a generic term that refers to various topics: digital media, multimedia, and storage and Web 2.0 technologies * **Oral Communication-** Is “communication by word of mouth.” * **Written Communication**- Is “communication by means of written symbols (either printed or handwritten).” | |
| **Materials/Specialized Equipment Needed** | **Instructional Aids:**   * Internet access * Video screen projector   **Materials Needed:**   * Pen/Pencil * Engineering Notebook * Assignment: Preparing for Robotics Competition Presentations handout   **Equipment Needed:**   * Computers with Microsoft Word and PowerPoint installed * Video screen projector | |
| **Anticipatory Set**  (May include pre-assessment for prior knowledge) | * **SAY:** Today we will learn about the various software applications and media technologiesavailable for robotics presentations, the possible content to include in robotics competition presentations, and allow team members to demonstrate their oral and written communication skills. * **ASK:** What software applications and media do you use for your oral and written communication projects? * **SAY:** Students should check out anOral and Written Presentationbook from the school’slibrary. * **SAY:** Our first objective is to discuss the various software applications and media technologiesavailable for robotics presentations. | |
| **Direct Instruction \*** | Outline | Instructor Notes |
| I. Introduction  II. Technical Communication  a. Technical terms and definitions  III. Section 1: Software Applications and Media  IV. Section 2: Objectives and Technical Communication  a. Technical terms and definitions  V. What is FIRST Robotics?  VI. What is BEST Robotics?  VII. Section 2: Preparing for Robotics Competition  a. Content to include in your robotics presentation  VIII. Steps to an Effective Presentation  a. Step 1 – Know Your Subject Matter  b. Step 2 – Know Your Audience  c. Step 3 – Know Your Team  d. Step 4 – Develop a Theme  e. Step 5 – Prepare Your Script (The Opening, Body, Summary, & Closing)  f. Step 6 – Select the Proper Visual Aids  g. Step 7 – Prepare a Story board  h. Step 8 – Produce the Visuals  i. Step 9 – Rehearse-Rehearse-Rehearse  j. Step 10 – Presentation Day  k. Step 11 – Follow Up  IX. Rubrics for Grading the Preparing for Robotics Competition Presentations  X. Assignment: Preparing for Robotics Competition Presentations  a. Prepare for your Robotics Competition Presentation | * Teacher is recommended to make a PowerPoint presentation in conjunction with the outline. * Teacher will discuss the technical terms and definitions. * Search the internet and Prepare to show the YouTube video “Wichita Homeschool Robotics Promotional” * Teacher will need to have copies of the Assignment: Preparing for Robotics Competition Presentations handout for each student. |
| **Guided Practice \*** | Review the Assignment: Preparing for Robotics Competition Presentations with the students | |
| **Independent Practice/Laboratory Experience/Differentiated Activities \*** | Students will research the Preparing for Robotics Competition Presentations lesson using the Internet and Microsoft Word. | |
| **Lesson Closure** | * **Question**: What software applications are available for oral and written presentations? * **Answer**: The software applications and media technologies are available for oral and written presentations are: Microsoft PowerPoint, Prezi Internet cloud- based presentation software, Adobe Flash, Open Office Impress, Adobe Photoshop, and Clip Art. * **Question**: What content may be included in your robotics competition presentation? * **Answer**: The following content may be included in your robotics competition presentation: 3D model drawing of robot; team logo; introduce team; picture of team; competition details; robot design team activities | |
| **Summative/End of Lesson Assessment \*** | **Informal Assessment:**   * Teacher observes as students complete the preparing for robotics competition presentation research.   **Formal Assessment:**   * Students will complete the Assignment: Preparing for Robotics Competition Presentations with the teacher and answer the reflection question: “O\*NET Online has detailed descriptions of the world of work and education for use by job seekers, workforce development and HR professionals, students, researchers, and more! Visit the O\*NET Online website (<http://www.onetonline.org/>). Do you think that this website may help you locate educational/instructional programs in Robotics? What types of Robotics instructional program opportunities are listed? | |
| **References/Resources/**  **Teacher Preparation** | * Merriam-Webster Online Dictionary - http://www.merriam-webster.com/ * O-NET Online - http://www.onetonline.org * ClipArt – http://www.clipart.com/en/ * FIRST Robotics- http://www.usfirst.org/aboutus/first-history * BEST (Boosting Engineering, Science, and Technology)- http://www.bestinc.org/b\_history.php | |
| **Additional Required Components** | | |
| **English Language Proficiency Standards (ELPS) Strategies** |  | |
| **College and Career Readiness Connection[[1]](#footnote-1)** |  | |
| **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 discuss their Preparing for Robotics Competition Presentations research in class. | |
| **Family/Community Connection** |  | |
| **CTSO connection(s)** | SkillsUSA  Technology Student Association | |
| **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)