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| **TEXAS CTE LESSON PLAN**  [www.txcte.org](http://www.txcte.org) | | |
| **Lesson Identification and TEKS Addressed** | | |
| **Career Cluster** | Information Technology | |
| **Course Name** | Principles of Information Technology | |
| **Lesson/Unit Title** | Cutting Edge Technology | |
| **TEKS Student Expectations** | **130.302. (c) Knowledge and Skills**  (3) The student uses evolving and emerging technologies to exchange information.  (A) The student is expected to identify and describe functions of various evolving and emerging technologies  (B) The student is expected to send and receive text information and file attachments using electronic methods such as email, electronic bulletin boards, and instant message services  (C) The student is expected to demonstrate effective Internet  search strategies, including keywords and Boolean logic, using various available search engines  (D) The student is expected to identify the various components of a Uniform Resource Locator | |
| **Basic Direct Teach Lesson**  (Includes Special Education Modifications/Accommodations and  one English Language Proficiency Standards (ELPS) Strategy) | | |
| **Instructional Objectives** | **Performance Objective:**  Upon completion of this assignment, the student will be able to exchange information using several types of technology and to identify new and emerging technologies.  **Specific Objectives:**   * Learn Internet search strategies * Identify components of a URL * Identify function of email, message boards, and online chat * Use the Internet to research a given topic * Identify and describe cutting edge technology * Setup an email account * Send, reply, and forward an email message * Post comments to a message board | |
| **Rationale** | Through this lesson, students will practice exchanging information using various types of technology. They will also have opportunities to identify new and emerging technologies through a project presentation. | |
| **Duration of Lesson** | 7 hours | |
| **Word Wall/Key Vocabulary**  *(ELPS c1a, c, f; c2b; c3a, b, d; c4c; c5b) PDAS II (5)* |  | |
| **Materials/Specialized Equipment Needed** | **Materials Needed:**   * Copies of Notes Organizer, Instruction Sheets, and Test   **Equipment Needed:**   * Computer and projector * Computers for individual student use with Internet access and presentation player software   **Instructional Aids:**   * Cutting Edge Technology Notes Organizer * Cutting Edge Technology Notes Organizer KEY * Activity #1- #3 Instruction Sheet * Cutting Edge Technology Test * Cutting Edge Technology Test Answer Key | |
| **Anticipatory Set**  (May include pre-assessment for prior knowledge) | Have students think about what life was like 10 years ago. What was their day like? What activities were they involved in?  *Note:* the objective of this exercise is for the students to begin to consider what technologicalchanges they have experienced in the last decade.  As a group activity, have students share with the class some of the activities they were involved in 10 years ago. On the board, write down any of the significant items that will help demonstrate the changes in technology.  **SAY, “**Technology is all around us. Even in areas that we don’t necessarily notice.  What is a current technology that you use every day that you didn’t have 10 years ago?” *Examples: Smart Phones; Interactive Tablets, QCR Readers; 3D Printers,* *Wearable Computer Glasses.*  **ASK,** “What would your life be like right now without this technology?”  **ASK,** “How has the Internet changed over the past 10 years?”  **SAY,** “List some reasons why you use the Internet.” | |
| **Direct Instruction \*** | Outline | Instructor Notes |
| 1. Students learn Internet search strategies 2. Identify components of a URL 3. Identify function of social media, email, and message boards 4. Students will use the Internet to research a given topic -- possible topics:    1. transparent batteries    2. 3-D models made from 3-D printers    3. Wearable computer glasses    4. Imaginary phone    5. Man-made DNA    6. DNA tattoos 5. Students will identify and describe new and emerging technologies   Activity #1: Also listed in guided practice below.  Students will research a cutting-edge technology topic and create their own presentation (citing sources); then present the slideshow to the class.   1. Students set up a free online email account 2. Students send, reply, and forward an email message   Activity #2: Activity in which students set up an email account, send an email, reply to an email and forward an email.   1. Students post comments to a social media site - possible topics:    1. debt ceiling    2. education budget cuts    3. stock market plunge    4. Presidential candidates   Activity #3: Also listed in independent practice below.  Activity in which students use the Internet to research current events and post comments to a social media site.  Students will complete the review activity listed below in the Summary section.  Students will complete the test activity listed below in the Evaluation section. | Instructor is encouraged to make a PowerPoint presentation in conjunction with the outline, if necessary.  Hand out the Cutting Edge  Technology Notes Organizer,  1 per student.  NOTE: Before introducing  this activity to the students,  The instructor should compile  a list of Cutting Edge  Technology to assign to the students.  Hand out the Activity #1  Instruction & Rubric sheet,  1 per student.  Review the instructions and rubrics for Activity #1.  Explain to students what you expect to see on the slideshow and in their oral presentation.  As each student presents, have the viewing students take notes on the information.  The instructor should demonstrate how to send, reply, and forward an email message.  Hand out the Activity #2 - #3 Instruction & Rubric sheet, 1 per student. Review the instructions and grading rubric with the students.  Prior to beginning this activity, the instructor should compile a list of current events and make main topic postings on the message board or social media site.  Instructor should demonstrate how to make a reply to a message board or social media posting.  Have students refer to Activity #3 on the Activity #2- #3 instruction sheet. Review the instructions and grading rubric with the students.  Place the students in pairs or groups of three for this activity.  Students will do this individually.  Answer key provided in lesson documents. |
| **Guided Practice \*** | **Activity #1:**  Students will research a cutting-edge technology topic and create a presentation slideshow (citing sources); they will present the slideshow to the class.  **Activity #2:**  Activity in which students set up an email account, send an email, reply to an email, and forward an email. | |
| **Independent Practice/Laboratory Experience/Differentiated Activities \*** | **Activity #3:**  Students will use the Internet to research information on current events and post the information on an electronic message board or social media site, citing the source of the research. | |
| **Lesson Closure** | In pairs, have students ask questions of each other from the lesson note organizers they filled out at the beginning of the lesson. | |
| **Summative/End of Lesson Assessment \*** | Informal Assessment   * Discussion comments during introduction activity * Observation of note-taking during lesson * Guided practice activities   Formal Assessment   * **Activity #3:** Students post research information to an electronic message board * **EXAM:** Questions over Internet search strategies, Sending electronic information, and cutting-edge technology | |
| **References/Resources/**  **Teacher Preparation** |  | |
| **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) | **Enrichment #1:** Have the students dream up a technology they wish existed. Have them create a word document describing the technology and how it would affect society or life as we know it.  **Enrichment #2:** Have the students write a paragraph of what everyday life would be like without the past 5 years of technology. | |
| **Family/Community Connection** |  | |
| **CTSO connection(s)** | SkillsUSA, TSI | |
| **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)