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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, and Mathematics  |
| **Course Name** | AC/DC Electronics |
| **Lesson/Unit Title** | Researching Careers in Electronics |
| **TEKS Student Expectations** | **130.405. (c) Knowledge and Skills**(2) The student demonstrates the skills necessary for success in a technical career. The student is expected to:(A) identify training, education, employment, and career opportunities, including differences between an electronic technician, electronic technologist, and electrical engineer;(B) investigate and work toward industry certifications;(C) discuss ethical issues related to electronics. |
| **Basic Direct Teach Lesson**(Includes Special Education Modifications/Accommodations and one English Language Proficiency Standards (ELPS) Strategy) |
| **Instructional Objectives** | * Locate current job postings within the electronics field
* Identify job requirements listed in posting
* Compare and contrast job requirements from research with job requirements from posting
* Compile information into a report
* Discuss and peer evaluate reports
* Name places of employment opportunities for electronics technicians
* Arrange the steps involved in electronics repair in order
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| **Rationale** | Using the supplied format, the student will be able to compile a report on employment requirements, opportunities, and trend projections in the electronics field matching the criteria in the *Writing About Research Rubric* to the satisfaction of the teacher. |
| **Duration of Lesson** | 2, 45-minute Lessons |
| **Word Wall/Key Vocabulary***(ELPS c1a,c,f; c2b; c3a,b,d; c4c; c5b) PDAS II(5)* |  |
| **Materials/Specialized Equipment Needed** | * Report template for each student
* *Writing About Research Rubric* for each student
* Job postings
* Overhead projector and screen or whiteboard
* Computer with Internet access
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| **Anticipatory Set**(May include pre-assessment for prior knowledge) | Review the key points of the lesson. Focus on the research conduct as well as the ethics component. Highlight the ethical requirement of citing sources in writing.**Say**One of the reasons for completing that lesson was to find out what individuals in that field are required to know and do. Another reason for completing that lesson was to find out what specific knowledge, skills, and abilities we need to have in order to get and keep jobs in the electronics field.**Ask**What are the steps involved in electronics repair? Please try to list them in the correct order.**Say**Today we are going to analyze that information and compare it to information provided in actual job postings. We want to see how well the research lines up with the needs of local employers. This information will help us improve our marketability by outlining what potential employers are looking for in job applicants. |
| **Direct Instruction \*** | The teacher should locate several job postings in the electronics field, at least one in each of the following four job categories: Electronics Engineering Technicians, Broadcast Technicians, and Electrical and Electronics Repairers. Postings may be found on the Internet and newspapers and magazines. Remind students they will need their completed *Employment Requirements Chart* handout from the *Researching Careers in Electronics* lesson in order to compare and contrast job requirements from job postings.Review the key points of the lesson. Focus on the research conduct as well as the ethics component. Highlight the ethical requirement of citing sources in writing.Show sample job postings and sources. O-NET is a good place to start looking for occupations and job requirements.Locate current job postings within the electronics fieldNewspapers and trade magazinesInternet* <http://online.onetcenter.org/>

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| - | <http://www.occupationalinfo.org/> |  |
| - | <http://www.aeanet.org/> |  |  |
| - | <http://www.ce.org/> |  |
|  |  |  |  |  |
| - | <http://www.eia.org/> |  |  |
| - | Various search engines |  |

Distribute the Research Report template handout and the Writing About Research Rubric. Ask students to identify as many of the job requirements as possible and record on the Research Report handout.Identify job requirements listed in O-NET occupation: Electronics Engineering Technicians 17-3023.01KnowledgeSkillsAbilitiesWork ActivitiesNotes: Students will need their completed Employment Requirements Chart handout from the Researching Careers in Electronics lesson. Compare and contrast job requirements from posting with job requirements from the Employment Requirements Chart activity in Researching Careers in Electronics lessonClassify the posting according to the job category that the posting most closely correlates toIdentify similarities and differences between the posting and research findingsStudents will follow the criteria in the Writing About Research Rubric and use the information they documented in the Research Report template handout to write a report. The report will be graded by the rubric.Compiling information into a reportFormat for papersRubric for grading*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 \*** | * The teacher should locate several job postings in the electronics field and find at least one in each of the following four job categories: Electronics Engineering Technicians, Broadcast Technicians, and Electrical and Electronics Repairers.
* Share these job postings with students (use overhead transparency, projector, handouts, etc. depending on the available resources).
* Guide students in identifying key words within each job posting that helps them identify the job category that the posting most closely correlates to.
* Guide students in identifying key words within each job posting that indicate the knowledge, skills, abilities, and work activities required of the applicant.
* As a whole class, compare and contrast the similarities between the job postings and the research findings (job categories).

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| **Independent Practice/Laboratory Experience/Differentiated Activities \*** | **Day one- Homework**Students will locate several job postings (three) from more than one source (two or more) to bring to class, analyze, and report on.**Day two**After students complete the *Guided Practice* activity and homework, they will independently analyze the job postings they located for homework and select one to use as the basis for compiling the report. |
| **Lesson Closure** | After the guided practice activity ask the following questions to check for understanding* What are some sources for job postings?
* What is your homework assignment?
* How many job postings are you required to locate?
* Should you get all of your postings from the same source?
* How many sources should you use to find your job postings?
* What is the deadline for locating these job postings?

At the end of the lesson, ask the following questions to reinforce learning* What was the purpose of this assignment?
* What does it mean to compare and contrast two things? (to look for the similarities and differences)
* Why do you think it is important to compare and contrast job postings with official reports on job requirements?
	+ (Answers may vary, but answers may include: to make sure that the report is accurate, to make sure that what we are learning will help us get a job in the future, etc.)
* How can you use this information to help you get a job or further your education?

*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 \***  | **Informal Assessment**During the *Guided Practice* activity, the teacher should ask students group and individual questions to check for understanding before moving on to the *Independent Practice* activity.Following the homework, the teacher should check to make sure students located job postings in the required areas and from a variety of sources before allowing students to complete the *Independent Practice*. The teacher should have a variety of job postings available to provide forstudents who did not complete the homework assignment, so that they can participate in the *Independent Practice* activity and *Formal Assessment*.**Formal Assessment** Students will work in class to compile a report on one job posting. Use the *Writing About* *Research Rubric* to evaluate the reports.*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** | * <http://online.onetcenter.org/>
* <http://www.occupationalinfo.org/>
* <http://www.aeanet.org/>
* <http://www.ce.org/>
* <http://www.eia.org/>

**Instructional Aids – Attachments*** *Research Report* template
* *Writing About Research Rubric*
* *Researching Careers in Electronics Exam and Key*
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| **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) | **Extension/Enrichment (LSI Quadrant IV)**Divide students evenly into groups (three or four students per group). Give the students three to five minutes each to report their findings using their reports as a guide. After all of the students in the group have reported on their findings, ask the students to switch groups (making sure they do not have any people in the second group who were in their first groups). Give the students three to five minutes each to report their findings using their reports as a guide.**Note**With a class size of 20 students, this activity will take approximately 45-50 minutes.Repeat the group discussions for as many cycles as you wish or until students have heard reports from most of their classmates. Each cycle will take approximately 20 minutes.After you have completed the small group discussions, bring the class back together for a large group discussion.The following questions will help you initiate the discussion:* What is one piece of information relative to jobs that you learned as a result of this activity?
* Were the postings your classmates found similar to the postings you found? Why or why not?
* Did you agree with the findings and reports of your peers? Why or why not?
* How can you use this information in the future?
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| **Family/Community Connection** |  |
| **CTSO connection(s)** | SkillsUSA, TSA |
| **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)