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| **TEXAS CTE LESSON PLAN**[www.txcte.org](http://www.txcte.org) |
| **Lesson Identification and TEKS Addressed** |
| **Career Cluster** | Career Development |
| **Course Name** | Investigating Careers |
| **Lesson/Unit Title** | Career Exploration Module  |
| **TEKS Student Expectations** | **127.2.** **(c) Knowledge and Skills**(1) The student investigates one or more careers within the 16 career clusters. The student is expected to: (A) identify the various career opportunities within one or more career clusters(B) identify the pathways within one or more career clusters(2) The student investigates career pathways in one or more of the 16 career clusters. The student is expected to: (A) research the academic requirements for one or more of the careers in an identified cluster |
| **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: * Discuss the STEM Career Cluster
* Identify and explore career opportunities within the STEM Career Cluster
* Identify and discuss the eight pathways within the STEM Career Cluster
 |
| **Rationale** | This lesson will allow students to explore career opportunities with the STEM Career Cluster |
| **Duration of Lesson** | 45 Minutes |
| **Word Wall/Key Vocabulary***(ELPS c1a, c, f; c2b; c3a, b, d; c4c; c5b) PDAS II (5)* | **Advanced Manufacturing** - A variety of activities that depend on the use and coordination of information, automation, computation, software, sensing, and networking, and/or making use of cutting edge materials and emerging capabilities enabled by the physical and biological sciences; examples would be nanotechnology, chemistry and biology. Advanced Manufacturing involves both new ways to manufacture existing products, and especially the manufacture of new products emerging from new advanced technologies. **Aerospace** - Involves the design and manufacturing of aircraft, rockets, missiles, spacecraft, etc., that are needed to operate in aerospace **Biotechnology** – The utilization of living organisms or other biological systems to manufacture drugs or other products needed for environmental management; an example would be waste recycling where microorganisms are used to degrade a waste or oil spill **Energy** - The many different forms of energy to power other industries, for example light, heat, mechanical, gravitational, electrical, sound, chemical, nuclear, etc.; often these different forms of energy transfer back and forth from each other **Geospatial Technology** – Utilization of a range of modern tools to perform geographic mapping and analysis of the Earth and human societies **Information Technology** - Development, implementation, and maintenance of computer hardware and/or software systems to organize and communicate information electronically **Nanotechnology** – Creation and/or use of technology that is on a scale of less than 100 nanometers with a goal of controlling individual atoms and molecules, especially to create computer chips and other microscopic devices **Robotics** – Robotics careers include anything from a robotics engineer to a behind-the scenes designer, who is responsible for creating robots and robotic systems that are able to perform duties that humans are either unable or prefer not to complete; robots can be created that help make jobs safer, easier, and more efficient, particularly in the manufacturing industry |
| **Materials/Specialized Equipment Needed** | * Career Exploration Module Vocabulary List
* Career Pathway Vocabulary Activity Mat
* Career Pathway Matching Activity
* Careers in STEM Crossword Puzzle
* Lesson handouts for the next lesson if needed
 |
| **Anticipatory Set**(May include pre-assessment for prior knowledge) | Students should already be aware that there are 15 other career clusters.Review the clusters and ask for student participation in naming the clusters. |
| **Direct Instruction \*** | * Initiate a class discussion by asking each student to give one example of a career in the STEM Career Cluster without repeating another student’s response
* Search the Internet to find a video about careers in STEM to show during the introduction of the lesson

*Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:** Accommodations Manual
* Guidelines and Procedures for Adapting Instructional Materials
* Sample Curriculum Customizations for Learning Differences
* Lesson Plan/Curriculum Modification Checklist
* Instructor Format for Curriculum Customization for Learning Differences
 |
| **Guided Practice \*** | Activities: * Lecture: Introduction of Careers in STEM
	+ Introduce and discuss all the current pathways in STEM
	+ Give examples of career opportunities in each area
* Discuss upcoming career module experiences and expectations
* Assignment: STEM Vocabulary Activity Mat
* Assignment: Career Pathway Matching Activity
* Assignment: Career in STEM Crossword Puzzle
* Distribute and review Career Exploration Module Vocabulary List

*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** | * Review the eight pathways of STEM using questioning techniques
* Review and collect Career Pathway Matching Activity sheets
* Distribute handouts for the next lesson if applicable and instruct students to prepare for the following lesson
* Homework: Instruct students to begin searching for vocabulary list definitions

*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 \***  | * Verbal responses to questions
* STEM Vocabulary Activity Mat
* Completion of Career Pathway Matching Activity
* Career in STEM Crossword Puzzle

*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)** |  |
| **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)** | SkillsUSA, TSA |
| **Service Learning Projects** |  |
| **Lesson Notes** |  |

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|  |  |  |  |  |  |  |  |  |  |  | **Careers** |  | **in** |  | **STEM** |  |  |  |  |  | **N** |  |  |  |  |  | **N** |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | **Crossword** |  | **Puzzle** |  | **Key** |  |  |  |  |  |  | **E** |  |  | **F** |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  | **6** |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | **R O** | **B O T I** | **C S** |  |  |  |  |  |  |
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|  |  | **DOWN:** |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | **3** |  |  |  |  |  |
|  | 1. | There | are | many | forms | of | this |  | **Y** |  |  | **M** |  |  | **B** |  |  |  |  |  |
|  | 2. | Software | systems | to | organize | and |  | **4** |  | **5** |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | 3. | communicate | information | electronically |  |  |  | **A** | **A** | **N** | **I** |  |  |  |  |  |  |
|  |  | Products | needed | for | environmental |  |  |  |  |  |  |  |
|  |  | management |  |  |  |  |  | **E** | **T** | **A** | **O** |  |  |  |  |  |  |
|  | 4. | Design | and | manufacturing | of | aircraft, |  |  |  |  |  |  |  |
|  |  | rockets, | missiles, space crafts, etc. |  | **R** | **I** | **N** | **T** |  |  |  |  |  |
|  | 5. | Scale | of l | ess | than | 100 | nanometers |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **O** | **O** | **O** | **E** |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  | **S** |  | **N** |  |  |  |  | **T** |  |  | **C** |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |  | **7** |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  | **G** | **E O S P A T I A L T E C** | **H** | **N** | **O** | **L** | **O** | **G Y** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | **A** |  |  | **E** |  |  |  |  | **C** |  |  |  | **N** |  |  |  |  |  |
|  |  | **ACROSS:** |  |  |  |  |  |  |  |  |  |  |  |
|  | 6. | Helps | make | jobs | safer, | easier, | and | more |  | **C** |  |  | **C** |  | **H** |  |  | **O** |  |  |  |  |  |
|  |  |  | efficient |  | particularly |  | in |  | the |  | manufacturing |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | industry |  | **E** |  |  | **H** |  | **N** |  |  | **L** |  |  |  |  |  |
|  |  | 7. |  | Contributes |  | to | the |  | geographic |  | mapping |  | and |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | analysis of | the | Ear | th | and human | societies |  |  | **N** |  | **O** |  |  | **O** |  |  |  |  |  |
|  |  |  | 8. |  | Involves |  | both |  | new |  | ways |  | to |  | manufacture |  | existing |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | products, |  |  |  | and |  | especially |  | the | manufacture |  | of new |  |  |  |  | **O** |  |  |  |  |  |  |  | **L** |  |  | **G** |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | advanced | technologies |  |  |  |  |  |  |  |  |
|  |  |  |  | **L** | **O** | **Y** |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  | **O** |  |  |  |  | **G** |  |  |  |  |  |  |  |  |
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| **8** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **A D** | **V** | **A** |  | **N** |  | **C** | **E** | **D** | **M** |  | **A** | **N** | **U** | **F** |  | **A** |  | **C** |  | **T** |  | **U R I** | **N G** |  |  |  |  |  |  |  |  |  |  | **Y** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| --- | --- |
| **#** | **Grade** |
| **Missed** |  |
| 0 | 100 |
| 1 | 88 |
| 2 | 76 |
| 3 | 64 |
| 4 | 52 |
| 5 | 40 |
| 6 | 28 |
| 7 | 16 |
| 8 | 4 |

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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)