



Title: Careers in the Natural Gas and Oil Industry			
Author: Avil Snow Heber Springs High School Heber Springs			
Course: Science, Language Arts, Career Readiness		Duration: 2 days	
Grades: 9-12			
Objective: The students will gain knowledge of careers in the oil and gas industries. They will also learn where to go to receive training in the career area of choice.			
Summary of Lesson: Students will research websites to investigate jobs of potential employment depending on student interest.			
Arkansas State Standards, Common Career Technical Core—Agriculture, Food, and Natural Resources			
SUBJECT(S):	GRADE LEVEL(S):	CODE:	STANDARD:
Career Readiness	9-12	AG 5.1	Locate and identify career opportunities that appeal to personal career goals. Sample Indicators: · Locate and interpret career information for at least one career cluster. · Identify job requirements for career pathways. · Identify educational and credentialing requirements for career cluster and pathways.
		AG 5.2	Match personal interest and aptitudes to selected careers. Sample Indicators: · Identify personal interests and aptitudes. · Identify job requirements and characteristics of selected careers. · Compare personal interests and aptitudes with job requirements and characteristics of career selected. · Modify career goals based on results of personal interests and aptitudes with career requirements and characteristics.



		AG 5.3	Provide examples and descriptions of various careers in each of the AFNR pathways. Sample Indicators: <ul style="list-style-type: none"> · List examples of careers that require various levels of postsecondary education in each AFNR pathway. · Explain the primary benefit of having a career in each of the AFNR pathways.
Earth Science	9-12	ES2-ETS1-3	Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts
		ES-ESS3-2	Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.
Language Arts	9-12	RI.9-10.1	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as implicitly.
		RI.11-12.1	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
		RI.9-10.2	Examine a grade-appropriate informational text. <ul style="list-style-type: none"> ● Provide an objective summary of the text. ● Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details.
		RI.11-12.2	Examine a grade-appropriate informational text. <ul style="list-style-type: none"> ● Provide an objective summary of the text. ● Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis.
		RI.9-10.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone.
		RI.11-12.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze



			how an author uses and refines the meaning of a key term or terms over the course of a text, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful.
		W.9-10.7 W.11-12.7	Conduct short as well as more sustained research projects to answer a question, including a self-generated question, or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
		W.9-10.8 W.11-12.8	Gather relevant information from multiple credible print and digital sources, using advanced searches effectively. <ul style="list-style-type: none"> ● Assess the usefulness of each source in answering the research question. ● Integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism. ● Follow a standard format for citation.
		W.9-10.9 W.11-12.9	Draw evidence from literary and/or informational texts to support analysis, reflection, research, and synthesis.
		SL.9-10.1 SL.11-12.1	Initiate and participate effectively in a range of collaborative discussions <ul style="list-style-type: none"> ● one-on-one ● in groups ● teacher-led with diverse partners on Grades 9-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively
		SL.9-10.2	Integrate multiple sources of information that is gained by means other than reading (e.g., texts read aloud; oral presentations of charts, graphs, diagrams; speeches), evaluating the credibility and accuracy of each source.
		SL.11-12.2	Integrate multiple sources of information that is gained by means other than reading (e.g., texts read aloud; oral presentations of charts, graphs, diagrams; speeches) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
		SL.9-10.4	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning



			and the organization, development, substance, and style are appropriate to purpose, audience, and task.
		SL.11-12.4	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks
		SL.9-10.5 SL.11-12.5	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
Teacher Excellence and Support System (TESS): Domain 3a: Communicating with students			
Instructional Strategies and Practices: Nonlinguistic representation--career brochure; Brainstorming jobs in oil and natural gas industry; Technology—use computer to research a careers			
Bloom’s Level: Highest Level Only Analysis (Students will select a job title and design information in the form of a brochure.)			
Materials and Resources: <ul style="list-style-type: none"> ● Student Handout: Career Report ● Computers for career research ● A variety of art supplies to create a career brochure. <p>(These websites may change over time. If a website is no longer available, search “oil and natural gas careers” or careers in the petroleum industry.)</p> <ul style="list-style-type: none"> ● http://www.careersinoilandgas.com/working-in-the-industry ● http://energy4me.org (Careers) ● http://www.api.org/about/industry-careers 			
Formative Assessment Students will check the format used to see if they understand the information assembled. Students will ask a peer to make a critical assessment of their work.			



Notes to Teacher:

Previous knowledge built upon technology connections used in Computer Business Application
Chrome books used to research information from websites.

Student Activity

1. During class discussion, have students brainstorm jobs they think are available in the oil and natural gas industry.
2. Ask students where they think workers receive skills for these jobs.
3. Ask students to estimate the salaries for these jobs.
4. Ask students if they have family or friends that work in the industry
5. Distribute **Student Handout: Career Report** and discuss the importance of each question.
6. Provide computers with internet access and have students do a search using the key terms: careers in oil and gas or careers in the petroleum industry. Several good websites where students can research their chosen career can be found in the Materials and Resources section above.
7. Students compile information on their chosen career and prepare a visual, such as a brochure, to advertise their job.
8. Teacher uses a rubric to grade the brochure and career report.
9. Students present job skills to fellow students to promote their career.

Student Handout and PDFs: A printable copy of the handout and a link to the pdf are available at <https://arkansasenergyrocks.com/educators/lesson-plans-9-12/>

Student Handout Careers in Natural Gas and Oil Industry Report

Name _____ Date _____ Period _____

1. Career you have chosen: _____
2. What does this person do? Explain or describe this person’s job. _____

3. What kind of working conditions does this job have? Does the person have to work outdoors, indoors? Is there a lot of paper worker a lot of hands-on things to do: For example, writing reports or working with tools?



4. What kind of skills does this person need to have? What kind of training does he/she need to have?

5. Where can this person get the kind of training needed for this job? Does this person need to go to college?

6. Where can this person apply for this type of job?

7. How much does this job pay? _____

8. What are the future job market demands? Will there be a lot of these types of jobs in the near future? _____

9. After your research do you still feel you would be interested in this type of job? Explain why or why not. _____

10. What is the most important thing you have learned from this report? _____
