

Power Up Your Career: Is a Career in Energy for You?

Overview: Research on-line websites. Identify the skills necessary for a career in energy. Describe different career options. Then, consider if you might be interested in one of these career fields.

Objective: Given information on different energy careers, you will:

- explore the need to use technology in a career that involves energy.
- explore the economics behind different energy careers.
- explore the social systems within a career choice.

Time: Two 45 minute class periods

Grouping: Individual/Large Group

Suggested Grade Level: 11-12

Vocabulary: Alternative energy, hydropower, geothermal energy, solar energy, wind power, nuclear, conservation environment, energy efficiency, green jobs

Materials:

- One computer for each student with an internet connection
- Worksheet, "Will You Power Up Your Career?"
- Pen or pencil
- Newsprint paper
- Chalkboard or whiteboard

Background: Some juniors and seniors are preparing to enter the workplace after high school. Some are preparing to enter 2 and 4 year colleges. Many are looking to become involved with careers. Though choosing a career can be challenging, the alternative energy industry is one area where all graduates can find a position and a career, if they want to pursue a "green job".

This activity can be done prior to the study of alternative energy. The goal would be to have students find an entry job in different fields of energy. Share their research finding and job selection with the class.

This activity can be done as a closure activity after studying different alternative energy sources.

Procedure:

1. Read the worksheet entitled, "Will You Power Up Your Career? Be sure to visit each websites to see that it has not changed, moved, or been deleted.
2. Run one worksheet for each student.
3. Pass out the worksheets, and have students follow the directions.
4. When each student has completed their worksheet, have them share the information in a class discussion.
5. **Section I:** Have each student list their entry level job and/or pathway to a career, education, and salary (or salary range) in a table on the board or on a piece of newsprint paper.

Entry Level Job Title	Type of Energy	Education Required	Salary /Range

6. **Section II:** Have students group themselves by type of alternative energy (i.e. wind power, solar power, etc.) Have them discuss the job found, location, and salary. Each group with report out on the most interesting job found. This may be based on salary, location, or other reasons.
7. **Section III:** Each student will work individually. From the 5 jobs found, and the other jobs heard about, select the one of most interest.

Each student will write two paragraphs. The first paragraph will be about why he chose his career. "Why do you think you'd be happy in the field and job that you have chosen? (Be sure to tell students that salary has been shown to be the least important factor for job satisfaction).

In the second paragraph each student will correlate the job requirements and his/her background. Each student should describe the skills of the entry level job. Next, she/he will correlate his/her high school courses, extra credit activities, current job skills, and other relevant data to the job requirements. Use compare and contrast statements to complete the paragraph. Be sure students include a closing sentence.

For Discussion:

Section I:

1. Use a class chart to record the job each student thought they might pursue in section
2. For your state, what type of energy offered the most career opportunities?

Section II:

Ask, "is there a good fit between your current skills and the job requirements?" "Would you have a chance of being hired on the spot?" "If not, what are you missing." "To grow in your career, would you need more education?" "If so, what type of education." "Would you consider working during the day and taking night classes?"

Extension:

Help students prepare an actual resume. Focus on the general skills that they have. Be sure they include specific courses of study such as Environmental Science, Ecology, Economics, Physics. If students are pursuing additional school be sure to include this in the resume, too.

Assessment:

See attached Power Up Rubric

“Will You Power Up Your Career? Worksheet”

Your task is to consider 5 future job opportunities. Four of the positions will involve energy since there will be many job opportunities in this field when you graduate for high school or college. Think: Would this be something that would be satisfying to do from 8 – 5 everyday for the rest of my life?

Section 1: Different jobs in energy require different skills and expertise. What is required? (20 min)

Directions: “Have you ever considered a career in the energy industry? There are great reasons why you should. With the right education and training, you can make great money and do something that benefits millions of people every day.” Go to: <http://www.getintoenergy.com/skills.asp>

Work	Education Needed	Description of Work	Work With	Salary Range
Maintenance & Repair				
Engineering				
Pipefitters & Pipelayers				
Powerplant Operations				
Nuclear Operations				
Line Install & Maintenance				

List one job you found that you might pursue. Provide two reasons to pursue the work. List two reasons why you might not pursue the work.

Job #1	Pros	Cons
_____	1. 2.	1. 2.

Section II. Time to Dream. Alternative energy is in your future. Even if you do not have work in this field you will use alternative energy. Use the following link.

<http://www.alternativeenergy.com/jobs> Search for a job. Record 3 possible jobs and information about the job in the chart below. (10 min)

Type of Alternative Energy	Job Title	Two Requirements (Education/Skill)	Location

Did you find a possible career? Broaden your search. Go to:

http://energizetn.com/interest_profiler.php (15min)

Take the interest survey. When complete, select the job zone according to your projected level of education or simply start with Job Zone 1 and proceed until you find a level you feel comfortable with. When you reach a level with job opportunities and your projected education level, select three possible careers. Record the information in the table on the next page.

Work	Education Needed	Description of Work	Work With	Salary Range

List one job you found that you might pursue. Provide two reasons to pursue the work. List two reasons why you might not pursue the work.

#1 Job	Pros	Cons
_____	1. 2.	1. 2.

Section III. Conclusion

Write coherent (well thought out) paragraphs about your job research. Possible topics to consider are listed below.

First paragraph:

You explored possible job opportunities and careers for the time after you graduate. As you looked at possible ways to make a living, what were you thinking? Why do you think that the job you selected would satisfy you? What would be a possible **career path** to the top of the salary scale for you? How long do you think it will take you to get to the top?

Second paragraph:

Compare your skills to the requirements of the job you selected. What classes in high school helped to qualify you for this job? (Environmental Science? Chemistry? English? CAD/Cam? ROTC? Algebra? Did you receive honors in any of these classes? As or Bs?) Is there a good fit between your current skills and the job requirements? What leadership have you shown in high school (club president, shift leader at Taco Bell's, Honor Society)? Would you have a chance of being hired on the spot? If not, what are you missing? To grow in your career, would you need more education? If so, what type of education (in what field)? Would you consider working during the day and taking night classes? What will build your resume for your future job?

Power Up Your Career Scoring Rubric

Criteria	Thorough and Complete Research of Assignment (Above Standard)	Mostly Complete and Thorough Research (Standard)	Research Is Less Detailed (Minimum Standard)	Work on Assignment Needs Improvement
Initiative	Completes required work on all 3 sections, generates and pursues opportunities to expand information about skills, salaries, and career path.	Completes required work on at least 2 sections, includes information about skills, salaries, and career path.	Completes required work on at least 2 sections, most information about skills, salaries, and career path are included on worksheet.	Completes some work. Additional work is required to meet a minimum standard.
Curiosity	Explores job opportunities & career in depth, yielding a rich awareness of information indicating intense interest in the subject.	Explores job opportunities & career path in depth, yielding adequate information to complete the worksheets and draw conclusions. Interest in the subject is evident.	Explores job opportunities & career path with some evidence of depth, may provide a clear career path or insight about the skills required for work. Interest in the subject is somewhat evident.	Explores a topic at a surface level , providing little insight and/or information beyond the very basic facts indicating low interest in the subject.
Research Skills Lead to Conclusions	Student is able to select a job opportunity. Paragraphs are logical and reflect the student thought and an informed evaluation of the research conducted.	Student is able to select a job opportunity. Paragraphs are clear and show that research has been applied to the student's selection.	Student is able to select a job opportunity. Paragraphs may need clarification , however, research has been applied to their selection.	Student may or may not be able to select a job opportunity. Paragraphs are weak or have little substance. Little research is applied to a job related decision.