Green careers: Do good work. Do good.

Objective: Students will reflect on an example of an environmentally beneficial career, and will examine their own thoughts on careers with a positive social impact.

Grade level: 9–12

Teacher prep time: 5–10 minutes

Class time: 20–30 minutes

Materials

- Start Where You Are magazine (volume 1, 2010), page 9 (included here)
- worksheet (attached)

Format: independent work, followed by sharing in groups

Procedure

1. Have students read the article on page 9 of the Start Where You Are magazine (the piece on electrical workers and solar training). Provide them with time to reflect on the possible motivations of the workers described in the piece (Why might there be such a demand for the solar training?) and the impact of their work.

2. Lead a group discussion, using the following questions as a guide:
   - Describe the benefits of the work done by the people in the article.
   - Who benefits from their efforts?
   - How would you describe their motivations?
   - What do you think are the top two environmental issues facing your generation?
   - What do you think are the top two social issues facing your generation?
   - What is an example of something you've done for others in your community, or for the environment, that served the common good?
   - How will you decide what to do when confronted with environmental and social issues of your time?
   - What principles will guide you in this ongoing challenge?
   - How do your values, family traditions, respected role models, inspirational people, and your own conscience influence your thinking and actions?
   - How might you be able to have a positive effect on the environment or your community in your career?

NCDA guidelines for personal social development

- develop understanding of self to build and maintain a positive self-image
- develop positive interpersonal skills, including respect for diversity
- balance personal, leisure, community, learner, family, and work roles

NCDA guidelines for career management

- use accurate, current, and unbiased career information during career planning and management
- integrate changing employment trends, societal needs, and economic conditions into career plans

Vermont's Framework of Standards vital results

Section 1		Communication Standards
	1.15	Students use verbal and nonverbal skills to express themselves effectively.
Section 2		Reasoning and Problem-Solving Standards
	2.2	Students use reasoning strategies, knowledge, and common sense to solve complex problems related to all fields of knowledge.
Section 3		Personal Development Standards
	3.3	Students demonstrate respect for themselves and others.
	3.7	Students make informed decisions.
	3.15	Students know about various careers.

VTSCA career standards

Academic Development Domain, Standard B: Students will complete school with the academic preparation essential to choose from a wide range of substantial postsecondary options, including college.

A:B1.2	learn and apply critical thinking skills

Career Development Domain, Standard A: Students will acquire the skills to investigate the world of work in relation to knowledge of self and to make informed career decisions.

C:A1.3	develop an awareness of personal abilities, skills, interests, and motivations
C:A2.4	learn about the rights and responsibilities of employers and employees
C:A2.8	understand the importance of responsibility, dependability, punctuality, integrity, and effort in the workplace

Career Development Domain, Standard B: Students will employ strategies to achieve future career goals with success and satisfaction.

C:B1.2	identify personal skills, interests, and abilities and relate them to current career choice

Career Development Domain, Standard C: Students will understand the relationship between personal qualities, education, training, and the world of work.

C:C1.2	explain how work can help to achieve personal success and satisfaction
C:C1.3	identify personal preferences and interests which influence career choice and success
C:C1.6	understand the importance of equity and access in career choice

Personal/Social Domain, Standard A: Students will acquire the knowledge, attitudes, and interpersonal skills to help them understand and respect self and others.

PS:A1.2	identify values, attitudes, and beliefs
PS:A1.5	identify and express feelings
PS:A2.3	recognize, accept, respect, and appreciate individual differences

TRY A TRADE!

equipment manager: You work for a construction company, and one of your responsibilities is to buy new equipment. At the Web sites of manufacturers of big machines — Caterpillar (www.caterpillar.com) and John Deere (www.johndeere.com) — find pricing information for a truck, a bulldozer, and a backhoe. Compare the prices and features of similar machines. Make a chart or poster as way of reporting your findings to your supervisors.

interior designer: A magazine wants you to present a basic design for the ultimate young-adult bedroom. Draw a plan that shows where all the furniture will be placed. Write down specifics about floor coverings, wall colors, window treatments, and lighting. Use pictures from magazines or Web sites, fabric samples, and paint chips from a hardware store to illustrate your ideas.

heating, ventilation, and air conditioning technician: Space that an air conditioner is equipped to cool is measured in British thermal units (BTUs). About 30 BTUs are required to cool one square foot of space. Research four different air conditioners, find their "cool capacity," and determine the square footage of spaces for which they would work. Where might you use each one? What type of air conditioner would be best for cooling your bedroom? Your classroom? The school cafeteria?

landscape architect: The county in which you live has just designated a piece of land on which to build a new park, and you've been hired to design the landscape. To get design ideas, visit local parks in your area or go online to research famous ones like Central Park in New York City and Lincoln Park in Chicago. Take notes on all aspects of the park: walkways, bike paths, shrubbery, flowers, trees, skate ramps, and facilities. Then make a detailed sketch of your park that includes basic components — parking lot, playground, garden, outdoor stage, and any other features you want to include.

plumber: You're applying for a job at a plumbing company. As part of the application process, you must submit a simple diagram of a toilet and explain how it works. (Feel free to do some research at www.howstuffworks.com or in plumbing guides at the library.)

surveyor: You're about to graduate from a surveying program, and your graduation challenge involves choosing a plot of land and surveying it. Pick a defined area such as the school parking lot or athletic field, and record as many details as possible — include slopes, large rock formations, the size of the land, cracks in the surface, tree growth, etc. Visit www.lsrp.com/lot.pdf for an example of a land survey.

flooring mechanic: You've been hired to tile a room that's 10 feet wide and 25 feet long. The tile the customer selected is a 10-inch square. Assuming a half inch between tiles, draw a diagram to show how many tiles will be needed and how they will be laid down.

Source: Career Ideas for Teens in Architecture and Construction *by Diane Lindsey Reeves.*

Students at Stafford Technical Center in Rutland got their green on, working at a Route 7 solar project that will supply power for approximately 50 homes. Students in the electrical plumbing program constructed and installed the solar panels, while students in the architecture, engineering, and design program designed the energy shed where the wiring is housed. After removing trees and redesigning the surrounding area, students in the forestry and natural resources program will construct walkways to enable the public to view the project up close and personal.

VERMONT'S "ENLIGHTENED" ELECTRICAL workers go solar!

In 2009, the South Burlington-based union IBEW Local 300 — the Vermont branch of the International Brotherhood of Electrical Workers — invested more than $100,000 to teach the state's electrical workers everything they need to know about installing, maintaining, and trouble-shooting the latest in PV systems (that's "photovoltaic," or solar energy, systems).

The training — open to everyone from new apprentices to senior electricians — involves a 32-hour, hands-on course that's extremely popular, with demand outstripping classroom capacity. This may be due to the fact that among green energies, solar power is the least controversial in Vermont: Unlike wind energy projects involving turbine "farms," solar arrays can simply be built onto or into existing structures, and they create no noise, visual obstruction, or negative impact on local wildlife.

In October 2009, the Vermont Clean Energy Fund announced $3.1 million in renewable energy grants, including seven projects through Housing Vermont and a grant to build a solar array atop City Market in Burlington. Peck Electric in South Burlington has "enough projects to keep us busy a long time," said Matt Murphy last year in an interview with *Seven Days*. Murphy, who oversees Peck's solar projects, quit his job as a computer programmer to become an electrician, primarily because he was so interested in solar power. "There's a huge demand right now," according to Murphy, and there's more good news as a result of the 2009 stimulus package and Clean Energy Act: Those investments will mean more than 4,000 clean energy jobs for Vermonters.

students from Stafford Technical Center, Rutland