Lesson #1 - *Careers That Work: Soil Scientist*

Subject: Career Awareness & Preparation; Career Acquisition

Grade Levels: 4th Grade – 12th Grade

Standards
13.1.5.A - Describe the impact of individual interests and abilities on career choices.
13.1.5.B - Describe the impact of personal interest and abilities on career choices.
13.1.5.C - Relate the impact of change to both traditional and nontraditional careers.
13.1.5.D - Describe the range of career training programs in the community such as, but not limited to:

- Two-and four-year colleges
- Career and technical education programs at centers (formerly AVTS) and high schools
- CareerLinks
- Community/recreation centers
- Faith-based organizations
- Local industry training centers
- Military
- Registered apprenticeship
- Vocational rehabilitation centers
- Web-based training

13.1.5.F - Investigate people's rationale for making career choices.
13.1.5.H - Connect personal interests and abilities and academic strengths to personal career options.
13.1.8.A - Relate careers to individual interests, abilities, and aptitudes.
13.1.8.B - Relate careers to personal interests, abilities and aptitudes.
13.1.8.D - Explain the relationship of career training programs to employment opportunities.
13.1.11.A - Relate careers to individual interests, abilities, and aptitudes.
13.1.11.B - Analyze career options based on personal interests, abilities, aptitudes, achievements, and goals.
13.1.11.C - Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
13.1.11.E - Justify the selection of a career.
13.2.8.E - Explain, in the career acquisition process, the importance of the essential workplace skills/knowledge, such as, but not limited to:

- Commitment
- Communication
- Dependability
- Health/safety
- Laws and regulations (that is Americans With Disabilities Act, child labor laws, Fair Labor Standards Act, OSHA, Material Safety Data Sheets)
- Personal initiative
- Self-advocacy
- Scheduling/time management
- Team building
- Technical literacy
- Technology

Rationale

Provide the students with an opportunity to learn about and understand the intricacies of being a soil scientist and why it is such an important career in business, for the environment, and in our daily lives.

Vocabulary

- Soil - the upper layer of earth in which plants grow, a black or dark brown material typically consisting of a mixture of organic remains, clay, and rock particles
- Bedrock - solid rock underlying loose deposits such as soil
- Topsoil - the top layer of soil
- Scientist - a person who is studying or has expert knowledge of one or more of the natural or physical sciences
- Forestry - the science or practice of planting, managing, and caring for forests
- Excavate - to make a hole by digging; extract material from the ground by digging
- Environment - the surroundings or conditions in which a person, animal, or plant lives or operates
- Wetlands - land consisting of marshes or swamps; saturated land
- Water Table - the level below which the ground is saturated with water
- Conservation - preservation, protection, or restoration of the natural environment and of wildlife

Objectives

- Be able to explain what the soil scientist career involves.
- Be able to identify essential skills required of a soil scientist.
- Be able to present on the importance of the soil scientist career and its impact on all individuals, environment, and businesses.

Lesson Essential Question(s)

- What is a soil scientist?
- What are the essential duties that are required of a soil scientist?
- How does being a soil scientist impact the lives of individuals and the environment?

Duration

1 class period, 40 minutes

Materials

Handouts:

- Career Information: Soil Scientist (all grades)
- Soil Scientist Word Search (grades 4-8) + Teacher's Copy
- Soil Scientist Career Presentation (grades 9-12)

Suggested Instructional Strategies

Project Based Learning

Activities

- Students will view *Careers that Work: Soil Scientist.*
- When the video is finished, place students in small groups or pairs to complete tasks.
    - Task #1:
        - Give a short description of the soil scientist career including a definition of the job and a general list of skills required of a soil scientist. Have students take notes using Handout #1: General Information: Soil Scientist.
    - Task #2:
        - Focusing on specific vocabulary and requirements of the soil scientist career, have students complete Handout #2.
            1. Grades 4-8, Handout #2: Soil Scientist Word Search - Considering the *Careers That Work: Soil Scientist* video content and supplied vocabulary words, have students complete the word search. When finished with the word search, students will then create sentences that relate the vocabulary words to the soil scientist career. Share as a class.
            2. Grades 9-12, Handout #2: Soil Scientist Career Presentation - In small groups or pairs, students will research and present on the soil scientist career. Be informative, creative, and persuasive, while also being mindful of important public speaking skills. This project will be graded using the *Career Presentation Rubric* (included on the handout provided). At least 5 minutes should be spent presenting on this topic using at least 1 visual aid.

Related Materials & Resources

Careers That Work: Soil Scientist
Handout #1: Career Information – Soil Scientist
Handout #2:

- Grades 4-8: Soil Scientist Word Search
- Grades 4-8: Soil Scientist Word Search, Teacher's Copy
- Grades 9-12: Soil Scientist Career Presentation

Resource Links:

- WVIA's Careers That Work: www.wvia.org/careersthatwork
- Path to Careers: www.pathtocareers.org
- Pennsylvania Careerlink: www.pacareerlink.pa.gov/jponline/
- Soil Science Society of America: www.soils.org