Engineering Careers: Classroom Lesson Plan

Lesson Topic:

Engineering Careers

Lesson Objective:

Students will be able to describe reasons girls should consider a career in engineering.

Materials:

- Copies of **List of Role Model Engineering Careers**
- Projector or other method to watch the movie

Advanced Preparation:

- Preview the video before sharing it with your students [2:08].
- Make copies of **List of Role Model Engineering Careers**.

Warm-up Activity:

1. Provide each student with a copy of the **List of Role Model Engineering Careers** represented in the video.
2. Have students circle the engineering careers they are familiar with and research the rest. Have students note any new information they learned about any of the careers listed.
3. After completing their research, have students work together and/or with you to write what each engineer does when on the job in their own words on the **List of Role Model Engineering Careers**.

4. Use this opportunity to clarify or clear up any misconceptions regarding the career labels.

View the Video: "Engineering Careers"

1. Tell students they will be watching the video, "Engineering Careers".
2. Explain that the video presents role models talking about why engineering is a career choice that girls should consider.
3. Tell students that as they view the video, they should listen for reasons that engineers believe girls should consider engineering as a career.
4. View the video together.
5. View the video again; this time, invite students to formulate questions or comments about the ideas discussed in the video and to be prepared to discuss these after viewing the video.

Video Follow-up:

1. Ask students to offer their questions, comments, reactions and responses to the video.
2. Invite students to note specific things they learned about the different engineering careers featured in the video and to reflect upon their observations (e.g., "I liked when the Executive Engineer from General Motors said that the crash dummy test site let her know that engineers do important work keeping people safe.").
3. Ask students to go back to their List of Role Model Engineering Careers and add information next to each career about why that role model thinks her type of engineering career is a good one for girls to consider pursuing. Replay the video one more time as needed.
4. Have students tell about the types of engineering careers they think they might enjoy learning more about and why.

Extension Activities:

Use the "Related Questions to Explore" as discussion springboards or writing prompts to help students further explore engineering careers.

Related Questions to Explore:

- Why might some people think that engineering is a boring or isolating career not suitable for women? According to the information presented in the video, are those things true?
- What are "crash dummies?" How do engineers use crash dummies to help families stay safe?
- Why is math often an important part of a career in engineering? Are their careers in engineering that don't depend on strong math skills?
- Is it possible for a career in engineering to include interests in other areas, such as computers or psychology? How do you know?
- What are some ways the role models in the video may have prepared for their careers in engineering? How do you know?
- Besides exploring the Career Girls website, what are some other ways you can learn about career possibilities as an engineer?

List of Role Model Engineering Careers Featured in the Video:

Engineering Director

Mechanical Engineer

Executive Engineer

Software Engineer

Mars Rover Systems Engineer

Cognitive Engineer

Environmental Engineer

Ideas for Future Lessons/Activities Related to Engineering:

1. What Do Engineers Do? Exploring Career Paths in the Field of Engineering

2. Practice Being an Engineer: Solving Engineering Math and Science Problems

3. Engineering in the News: What Have Engineers Created This Year?

4. Engineering Over Time: From the Pulley All the Way to Modern Day Inventions

5. The Products of Engineering Are all Around Us: Listing Items We Use Daily That Were Created by Engineers

6. Literature-Based Learning: Exploring Biographies and Memoirs of Famous Engineers

7. Technology in Engineering: How Has Technology Revolutionized the Field of Engineering?