

GRADES 9-12:

Career Field: Standard Engineering and Science Technologies

65.3: Describe postsecondary education and career opportunities in the field of Aerospace Engineering.

PROCEDURE:

In discussion before viewing the *Aerospace Engineering* video, the teacher may consider engaging students in discussion on any of the following topics:

- Aerospace Engineering, when broken down, is a specialized form of mechanical engineering focusing on aircraft and aircraft system design.
- Aerospace Engineers are degreed professionals.
- An Aerospace Engineer can choose to work in the aeronautical or aerospace domain.
- Aerospace engineers rely heavily on skills from the STEM content areas – Science, Technology, Engineering and Math.
- Aerospace engineers rely heavily on creative thinking skills in order to solve problems.

In discussion after viewing *Aerospace Engineering* the teacher may have a follow-up discussion on the same topics discussed before viewing the video.

BEFORE VIEWING:

Distribute the Agree-Disagree chart and the Pre and Post-viewing guide on the following page to provide focused viewing for students while watching the *STEM Career Lab* video, *Aerospace Engineering*.

Have each student complete the “Before Viewing” column on the Agree-Disagree Chart and the “What I Already Know” column of the Guided Viewing Worksheet. Let students know it’s okay if they do not know all the answers.

WHILE VIEWING:

Play the *Aerospace Engineering: Careers* video and instruct students to now fill out the “What I learned” Column. Students will make notes about their impressions of needed skills in science, technology, engineering and math and how they need to prepare to go into a career in Aerospace Engineering.

AFTER VIEWING:

Have students complete the “After Viewing” column on the Agree-Disagree Chart. Discuss the changes in their answers, then use the Guided Viewing worksheet to facilitate a post viewing discussion with students.

DIRECTIONS:

Mark whether you agree or disagree with each statement in the left column before viewing the video. After viewing the video, identify whether you agree or disagree with each statement in the right column. Discuss each statement as a group.

| <i>Before Viewing</i> | <i>Statement</i> | <i>After Viewing</i> |
|-----------------------|--|----------------------|
| Agree Disagree | Aerospace Engineering as a career field is only for students who excel in STEM subjects. | Agree Disagree |
| Agree Disagree | Aerospace engineers apply mechanical engineering principles to design of aircraft and systems. | Agree Disagree |
| Agree Disagree | Aerospace Engineers focus on designing aircraft or spacecraft. | Agree Disagree |

| | <i>What I Already Know</i> | <i>What I Learned</i> |
|--|----------------------------|-----------------------|
| 1. What is Aerospace Engineering? | | |
| 2. Aerospace Engineering is a specialized form of another engineering field. What is it? | | |
| 3. What are some of the projects Aerospace Engineers work on? | | |
| 4. In what two specializations do Aerospace Engineers work? | | |
| 5. What STEM courses should you take in high school to prepare for an Aerospace Engineering educational pathway? | | |
| 6. Do women become Aerospace Engineers? | | |
| 7. What other fields besides the aircraft industry do Aerospace Engineers work in? | | |
| 8. How do you enter the field of Aerospace Engineering? | | |