

GRADES 9-12:

Career Field: Standard Engineering and Science Technologies

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

PROCEDURE:

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

- Biomedical Engineers are degreed professional.
- Biomedical Engineers apply knowledge of engineering, biology, and biomechanical principles to the development and evaluation of health systems and products such as artificial organs, prostheses, instrumentation, medical information systems, and more.
- According to the Bureau of Labor Statistics, Biomedical Engineering is the fastest growing engineering discipline with 62% growth projected from 2010-2020.
- Biomedical Engineers rely heavily on skills from STEM content areas – Science, Technology, Engineering and Math.
- Biomedical engineers rely heavily on creative thinking skills in order to solve problems.

In discussion after viewing *Biomedical 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, *Biomedical 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 *Biomedical Engineering* 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 Biomedical 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	Biomedical Engineering as a career field is only for students who excel in STEM subjects.	Agree Disagree
Agree Disagree	Biomedical Engineering is a rapidly expanding career field.	Agree Disagree
Agree Disagree	Biomedical engineers create innovate medical devices to help people with disabilities.	Agree Disagree

	<i>What I Already Know</i>	<i>What I Learned</i>
1. What is Biomedical Engineering?		
2. What are some of the other engineering disciplines that apply to Biomedical Engineering?		
3. What areas do Biomedical Engineers work in?		
4. Why has Biomedical engineering evolved into its own discipline?		
5. Where is Biomedical engineering used?		
6. What are some examples of Biomedical engineering applications?		
7. What are some of the STEM subjects used heavily in Biomedical Engineering?		
8. Who is a good fit for this career field?		