

GRADES 9-12:

Benchmark D:

Career Field Standard Engineering and Science Technologies

65.3: Describe postsecondary education and career opportunities in the field of civil engineering and architecture.

PROCEDURE:

In discussion before viewing *Architecture: Careers*, the teacher may consider engaging students in discussion on any of the following topics:

- Architecture is a field in which architectural works are planned, designed, and constructed.
- Architects are degreed professionals who must meet certain certification requirements.
- The field of architecture relies on support from many different disciplines to bring a project to completion.
- We are all impacted by the built environment and interact with buildings daily, all the products of architects.
- Architects rely heavily on skills from the STEM content areas—Science, Technology, Engineering, and Math.
- Architects rely heavily on creative thinking skills in order to conceptualize designs.

In discussion after viewing *Architecture: Careers*, the teacher may have a follow-up discussion on the same topics discussed before viewing the video.

BEFORE VIEWING:

Have each student complete the “Before Viewing” column on the Agree-Disagree Chart.

WHILE VIEWING:

Students make notes about their impressions of what skills in science, technology, engineering, math and the arts they need to go into a career in architecture.

AFTER VIEWING:

Have students complete the “After Viewing” column on the Agree-Disagree Chart. Discuss the changes in their answers.

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	Architecture as a career field is only for students who excel in STEM subjects.	Agree Disagree
Agree Disagree	Architecture projects require teams of people with many different skills.	Agree Disagree
Agree Disagree	Architects design environments for people.	Agree Disagree

PROCEDURE:

Distribute the pre and post-viewing guide on the following page to provide focused viewing for students while watching the *STEM Career Lab* video, *Architecture: Careers*.

Before viewing the video, instruct students to read and respond to the “What I Already Know” column of the *Architecture: Careers Viewing Guide*. Let students know it’s okay if they do not know all of the answers. Play the *Architecture Careers* video and instruct students to now fill out the “What I Learned” column. After playing the video, use the guide to facilitate a post-viewing discussion with students.

1. Architects design environments for people.
2. Math, specifically trigonometry is a very important tool for architects.
3. It's very important for architects to understand physics as they must always deal with gravity, structural loads, forces and other considerations.
4. Students need to take four units of math and science with at least one unit being an advanced course such as Calculus or Physics.
5. Gravity is a challenge because it must always be taken into consideration when designing a structure.
6. Architects need the support of Building and construction managers, interior designers, and many others to bring a project to completion.
7. L.E.E.D, or Leadership in Energy and Environmental Design is an international green building certification.
8. Sustainability is an important emerging area in architecture.

	<i>What I Already Know</i>	<i>What I Learned</i>
1. What do architects do?		
2. How important is math, specifically trigonometry, to the field of architecture?		
3. How important is it for architects to understand physics?		
4. What course in high school do students need to take in order to get into an architecture program?		
5. Why is gravity a challenge to architects?		
6. What are some of the disciplines and sub-disciplines that support architectural projects?		
7. What is an L.E.E.D certified building?		
8. What are some emerging areas in architecture?		