

Career Awareness

Preparation

Grade Level: 8–12	Group Size: 20–30
Time: 30–50 Minutes	Presenters: 1 per group

Objectives

This lesson will enable students to:

- Discuss the job, career, and education background of the presenter.
- List related career paths available.
- Provide information on technical job opportunities.
- Discuss workplace requirements.

Standards

This lesson aligns with the following National Science Content Standards:



- Science and technology in society, 5–8
- Science as a human endeavor, K–12

Materials

(Select those that are appropriate to the audience and presentation emphasis.)

- Fabrication process samples
- Sample devices
- Cleanroom suits
- “Career Awareness” PowerPoint – <http://www.micron.com/k12/resources.aspx>
- “Careers in a High Tech World” handout – <http://www.micron.com/k12/resources.aspx>
- “Get a Job” brochure – <http://www.micron.com/k12/resources.aspx>
- “Top 10 Reasons to Pursue a Technical Career” handout – <http://www.micron.com/k12/resources.aspx>
- Devices using memory or image sensors
- “Find Your Future” pencil
- “Find Your Future” online resource – <http://www.micron.com/students>
- DRAM Simulator
- “Engineering – Is It You?” brochure – <http://www.micron.com/k12/resources.aspx>
- “Careers in Engineering” video – available from Micron’s K–12 Program

Preparation

The focus of the presentation should be determined in cooperation with the teacher. Determine the target audience, alignment with the curriculum, and learning objectives before the presentation.

Arrange for a computer with Internet access and a projection system. If a PC and viewer are not available, overhead slides may be used.

Set up a television/VCR for the engineering presentation. Cue the video to the beginning of the tape and adjust the volume before the beginning of the class.

Careers in High Tech World – General Presentation

Introduction

Begin by assessing what the students know about Micron Technology, Inc.

Q: How many of you have at least one of the devices displayed here? *Display the “Micron is Everywhere” slide.*

Q: What does Micron manufacture? *Display the “DRAM, Flash Memory, and Image Sensor Markets” slides.*

A: Micron currently manufactures and markets DRAM, Flash memory devices, and image sensors.

Q: What are some products that use Micron’s memory and image sensors?

A: *Computers, cell phones, handheld devices, servers, DVD players, MP3 players, automobiles, medical devices, computer gaming consoles, etc. Pass around samples of devices that use memory.*

Distribute memory devices.

The memory device passed out is a 512 Meg device and will hold the same amount of information as 40 books, 400 pages per book, with 500 words per page. That’s approximately equivalent to 40 Harry Potter books!

Encourage questions throughout the presentation. Use product samples to describe how memory and image sensors are manufactured. The explanation should be tailored to meet the age level of the students that you are addressing.

Careers in High Tech

Distribute “Careers in a High Tech World” handout (www.micron.com/k12/resources).

It takes a lot of people to run and support manufacturing plants the size of Micron and that translates into a wide variety of jobs. About two-thirds of our employees are directly involved in the manufacturing process, so the largest numbers of Micron jobs are technical. *Using the “Careers in a High Tech World” handout share, with the students the types of positions available involving science, math, and technology.*



You may want to go to college and earn a two- or four-year degree before you go into the workforce. Others of you will choose to go to work immediately after high school. Regardless of your choice, employees in technical fields continue learning on the job. Many employers will pay tuition if you pursue college course work that relates to your job.



The back of the flyer lists general skills, traits, and behaviors employers seek when interviewing and hiring at any level. *Highlight some examples of desired skills.* Hiring managers want employees who will be dependable and committed to their company. You should be aware that most employers require transcripts to review for grades achieved, courses taken, and attendance records. Your high school record is an indicator of work performance and is important to employers!

Employers also pay close attention to performance in past jobs. Finally, hiring managers look for applicants who can get along well with others. Your current performance impacts your future employability.

If Internet access is available you may wish to share the "Micron for Students" web site (www.micron.com/students). "Job Talk" is one way to share specific career opportunities available.

Distribute pencils with the URL to the students.

Presenter's Career

The following information is provided as a guideline. It is more effective if you tell your own story, using personal experiences relating to education and careers. Addressing the audience using open-ended questions will encourage participation rather than using a lecture format.

As you describe your career, you may instruct students on how to dress in cleanroom suits or pass around examples of your work or use other related props.

*The topics listed below provide a guideline for preparing a career awareness presentation. You may choose to address one or all of the questions in the presentation. **Hands-on and visual examples of your work will engage the students' interest and add to their understanding.***

Note the importance of good math, reading, and writing skills so that students understand the connection between their coursework and a career in the future.

- Explain what your career involves.
- Describe a typical day on your job.
- Describe the environment you work in. *If you work in the clean room you might demonstrate getting dressed in the clean room suits or have a student dress in one.*
- Discuss how teamwork relates to your job.
- Share advice you would give to students interested in your career field.
- Discuss the required education for your position.
- List courses in high school and college which were especially helpful in preparing for your career.
- List any courses that you wish you had taken.
- Describe how you chose your career.
- Describe your career pathway. Did you think you would be doing this kind of job when you were in high school? College?
- Discuss the satisfaction or rewards gained from your position.
- Describe some of the challenges of your position.
- Describe related fields.
- Discuss the future of your position. What do you see yourself doing in 10 years?
- Share any advice you have for students that might be preparing for future occupations in general.
- If you could do it over, would you choose to do the same thing?



Top Ten Activity

Q: What do you want from a career?

A: *Answers will vary, however money is generally the first and most common response. List the student responses on the board.*

Many people say money is one of the most important items when considering a career. If you were making tons of money and doing the same task all day, everyday, would that be enough for you?

Q: What other characteristics are important when considering a career?

A: *Answers will vary.*

Give a personal example to help their brainstorming. Example, I like to be involved with other people. If my work was something that I did totally alone, without interaction with others, I'd be frustrated. I work best in a team environment, where I share ideas with others.

Give students a minute to think and write down one core issue for themselves. Ask students to share them orally looking for as many different things as possible. Continue to list the responses on the board for all to see.

Q: How many of the items on this list are the same as the “Top Ten Reasons to Pursue a Technical Career?”

A: *Answers will vary – compare the two lists and identify similarities.*

Turn to the back of the handout and review the recommended courses.

Conclusion

Field any final questions.

Wish the students success in their career pursuits!

Pass out the “Get a Job” brochure, if appropriate. Explain that it provides information about applying and interviewing for jobs and careers.

Careers in Engineering Presentation

When you arrive ask the teacher to open www.micron.com/students/puzzles and have it ready for you.

Introduction

Q: Who has been to Micron for a site visit?

A: *Answers will vary based on the class.*

Today we are going to focus on engineering and innovation. If you have been to Micron we hope to share with you a few new and innovative things.

Introduce yourself and what you do at Micron Technology, Inc. Share with the students information about your background and your current position.

Q: Raise your hand and keep them up.

- If you like science
 - If you like math
 - If you enjoy technology
 - If you like to be challenged
 - If you like puzzles
- The future is yours!**

Q: Who are engineers?

A: *Answers will vary.* Engineers can be anyone.

Q: What do they do? *Pass out the "Engineering - Is it You?" brochure.*

A: Engineers have varied careers. Some of their main functions include:

- Problem solving
- Inventing – Micron ranked sixth in the nation 2005 for US patents with 1,561 patents
- Designing – Refer to the brochure for a list of things engineers have done or created

Briefly explain what we do at Micron. Refer back to the Introduction of this lesson for details.

Distribute memory and/or imaging devices.



The memory device which was passed out is a 512 Meg device that will hold the same amount of information as 40 books, 400 pages per book, with 500 words per page. That's equivalent to 40 Harry Potter books!

Encourage questions throughout the presentation. Use product and process samples to describe how memory and image sensors are manufactured.

Demonstrate use of binary code on board. At Micron we are building transistors and capacitors on a very small scale.

Q: What is a transistor?

A: A small electronic device containing a semiconductor and having at least three electrical contacts. A transistor is used in a circuit as an amplifier, a detector, or a switch.

Q: What is a capacitor?

A: A capacitor is an electronic storage device. It stores charges or electrons to generate the binary code.

Use the DRAM Simulator to illustrate how DRAM works. Ask for 4–6 volunteers to operator the simulator.

We also make Flash memory parts and image sensors using many of the same manufacturing processes.

Use the Micron Site Visit PowerPoint to show the Emerging Technology slides and videos. Pass around the sample parts and applications. Explain how our parts are used in the different applications.

Describe your engineering discipline including your education/career path.

Explain how you contribute to the process.

Describe other disciplines with which you interface.

Q: What have heard so far that interests you?

A: *Answers will vary.*

There are a number of opportunities in the geographic area for you to explore engineering before graduating from high school. One way to start is to take all of the math, science, and technology classes available. This will help you keep your options open for a wide variety of careers. *Share with the students pre-engineering opportunities that are available in their school, district, or area.*

Share the "Careers in a High Tech World" handout with the students. Emphasize all employers are seeking employees with the personal traits and attitudes listed on the handout.

Are you ready for a challenge? Open the website: www.micron.com/students and choose a couple of the puzzles for the class to solve. Have them work independently, and then share their answers in small groups. *Hard copies of the puzzle are available, if Internet access is a problem.*

Pass out the pencils with the student web site URL on it.

Ask if there are any questions.

If time allows show the "Careers in Engineering" video.