California Land Surveyors Association

Student Outreach Program

Choose Your Path
Make Your Mark

Speaker's Kit

INTRODUCTION

Thank you for volunteering as a speaker for CLSA's Student Outreach Program!

This program has been developed to increase awareness of a career in land surveying and ultimately increase the number of people entering the profession.

You hold in your hands a powerful tool to help educate people about a career in land surveying. Provided in this kit are speaking tips and suggested scripts. Please keep in mind, this material can be used in its entirety or, feel free to customize the content to meet your audience's needs.

We hope you will find this speaker's kit helpful in making your presentation. Should you have any questions or suggestions, or need additional material, please feel free to contact the CLSA Central Office at (707) 578-6016 or by email to clsa@californiasurveyors.org

SUGGESTED PRESENTATION FORMAT

Below is a suggested presentation format. This format requires an LCD projector and laptop computer with DVD capability. Should these not be available, a revised presentation format can be provided by the CLSA Central Office.

1. Introduction by teacher/counselor to the group
2. PowerPoint presentation (script provided below)
3. DVD presentation
4. Question/Answer period and distribution of handouts

TIPS FOR A SUCCESSFUL PRESENTATION

Presenting material to a class and coordinating a discussion may seem like a daunting task. However, with a little preparation the presentation can be fun and rewarding. Here are some helpful hints to make your presentation a success.

Keep Your Target Audience in Mind
A presentation given to high schools students will be different from a presentation given to elementary school students. Make sure you gear your presentation to the group you are speaking to. The CLSA Central Office has resources for both a younger and older target audience.

Be Prepared
In advance of your presentation determine what is available to you. Questions to ask include:

- Does the venue provide, or can you bring a DVD player, LCD projector, etc.
- How much time has been allotted for your presentation?
- Approximately how many students will be attending?

Provide a brief statement that the teacher/counselor can use to introduce you to the group.

> ***Sample Introduction***
> Today we have an opportunity to learn more about an exciting career. [INSERT YOUR NAME] works for [INSERT FIRM NAME], a local surveying firm and is here to tell you what it's like to be a surveyor.

Contact CLSA Central Office at least 2 weeks prior to your presentation to request handouts and presentation supplies including DVDs, brochures, posters, etc.

Be Engaging
Involve the students in the presentation. Hands-on demonstrations and use of equipment are a great ways to keep attention focused on your presentation. Think of a few anecdotal stories regarding your experience. Share with the group those aspects of the surveying profession that appeal to you most.

Make a Lasting Impression
Bring enough handouts to provide to each student and be sure to leave the teacher with material they can use throughout the year to promote surveying as a profession. (SurveyPath.org provides educators in-class resources including lesson plans geared toward a career in land surveying.)

SAMPLE SCRIPT

Below is a slide-by-slide script for use with the CLSA Classroom PowerPoint Presentation. Please feel free to customize this script to meet your audience's needs.

SLIDE 1

Suggested Script:
Hello, my name is [INSERT NAME], and today I'm here to talk about careers in land surveying. When you picture a surveyor, what comes to mind? [GET ANSWERS FROM AUDIENCE] What you've mentioned is all true but surveying is much more and I am excited to share with you more information about land surveying and how you can start your career as a land surveyor.

[PROVIDE BRIEF INTRODUCTION OF YOURSELF AND YOUR BACKGROUND]

Slide Objectives:
- Introduction
- Find out how much the audience knows about surveying.

SLIDE 2

What is Land Surveying?

Surveying Combines

- Science
- Math
- History
- Law
- Outdoor **FUN!**

www.SurveyPath.org

Suggested Script:
Land Surveying is an exciting career that combines science, math, history and the law.

Land Surveyors are like detectives. They use mathematical principals such as trigonometry as well as courthouse records, computer applications and high tech equipment on a regular basis.

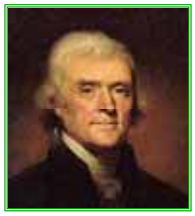
Additionally, Land Surveyors have the opportunity to work outdoors and in exciting locations.

Slide Objectives:

- Introduce land surveying as an exciting career
- Identify the subjects/classes that relate to land surveying

SLIDE 3

Historical Facts



Thomas Jefferson established the procedures and practices that are still used today.

Three of the four faces on Mt. Rushmore were Land Surveyors.

Surveying dates back to over 3,000 years ago in Egypt.

www.SurveyPath.org

Suggested Script:
Land Surveyors have played an important role in shaping our history.

President Thomas Jefferson commissioned Lewis and Clark to explore and survey the territories from Jefferson's great real estate deal, the Louisiana Purchase. Their extensive reports, maps, and collected data provided critical information that encouraged westward settlements.

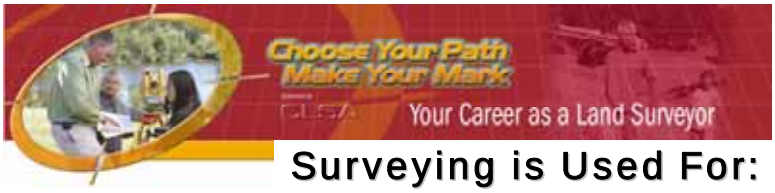
Who can name the four presidents on Mount Rushmore? (George Washington, Thomas Jefferson, Theodore Roosevelt, and Abraham Lincoln) Did you know that three of these Presidents were also Land Surveyors? That's right, before becoming President of the United States, George Washington, Thomas Jefferson, and Abraham Lincoln were all Land Surveyors.

Surveying tools and basic mathematical principles helped ancient Egyptians set the corners of the great pyramids.

As you can see, Land Surveyors have made a huge impact on our past and will continue to shape our future.

Slide Objective:
- Describe the historical impact of land surveying.

SLIDE 4



Surveying is Used For:

- Measuring the Land
- Topographical Mapping
- Construction Staking
- Boundary Location
- Aerial Photogrammetry

...And More!

www.SurveyPath.org

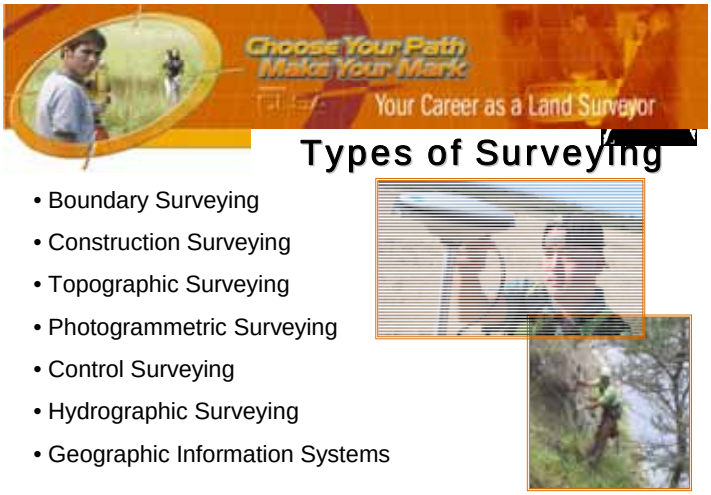
Suggested Script:

Land Surveying is crucial to responsible land development. Land Surveyors produce precise descriptions of surface features on the earth. Land Surveyors map the world's terrain and establish official land, air space, and water boundaries. They write descriptions of land for deeds, leases, and other legal documents. Surveyors also provide data relevant to the shape, contour, location, elevation, or dimension of land or land features.

Slide Objective:

- Briefly describe what land surveying is used for

SLIDE 5



Suggested Script:

An additional benefit to the surveying profession is that you can choose from several disciplines. You can focus on boundary, construction, topographic, photogrammetric, control, hydrographic or GIS surveying. I will briefly describe a few of these different surveying disciplines. Boundary surveyors measure, mark, and map a property's boundary lines and document these lines for public record. Individual property owners may interact directly with this type of surveyor. Construction is an area commonly associated with surveying. Construction surveyors work on large housing developments, business office parks, and shopping centers. Their work also applies to other types of projects, such as highways, bridges, tunnels, and skyscrapers. If you like to fly, photogrammetry might interest you. It's a specialty that allows the surveyor to analyze land without actually coming into contact with it. For example, surveyors take aerial photos and use them to create detailed maps of large areas in a very short time. From the air, photogrammetrists can gather a lot of details about the topography, vegetation, and existing structures. An area often overlooked when thinking about land surveying is hydrographic surveying. The land under bodies of water also must be surveyed. Hydrographic surveying requires training with different types of high-tech equipment and is used to measure erosion, guide dredging projects, explore for oil, or mark underwater hazards. The shipping industry relies heavily on these types of surveys.

Slide Objective:

- Introduce and describe the different disciplines of land surveying

Presenter Note:

Spend some time here talking about the type of work that you do and provide examples of interesting projects you work on.

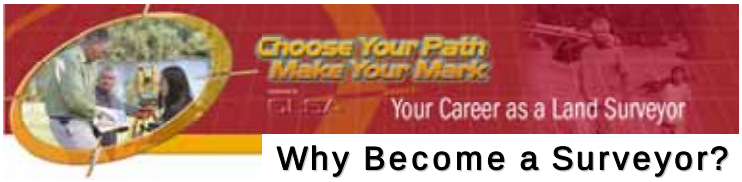
SLIDE 6

Suggested Script:
Property owners use Land Surveyors to determine boundary lines and ensure that a house or new addition is within property lines prior to construction or purchase.

Land Surveyors also work with other professionals. They collect, validate, and process data that other professionals such as engineers, architects, developers and attorneys rely on.

Slide Objective:
- Describe how land surveyors interact with the public and other professionals

SLIDE 7



Why Become a Surveyor?

- On-the-Job Training
- Degree Programs
- Utilize the Latest Technology
- Work Indoors & Outdoors
- Rewarding Career
- Great Pay!

Land surveying is a career field in high demand throughout industry, government and the private sector.

www.SurveyPath.org

Suggested Script:

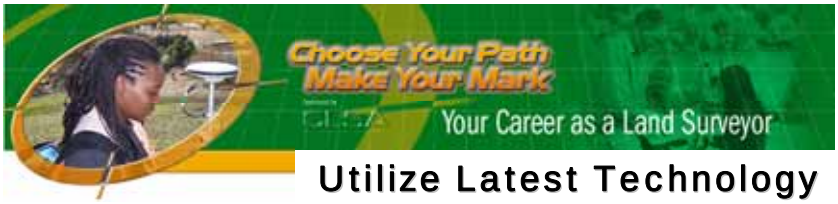
Land surveying is a career in high demand throughout industry, government and the private sector. If you choose a career path as a Land Surveyor you will have available to you, university degree programs as well as on-the-job training.

But what about the all-important question: are salaries good? The answer is yes! Surveyors can earn excellent salaries. The average salary for all experience levels of surveying and mapping scientists is nearly $63,000 a year, according to the U.S. Bureau of Labor Statistics. Surveyor's salaries will vary depending on the level you strive for. You can be the owner of your own company or work as a technician on a crew. It's really up to you on how far you go. As a CEO of your own firm, you can make twice the average salary.

Slide Objective:

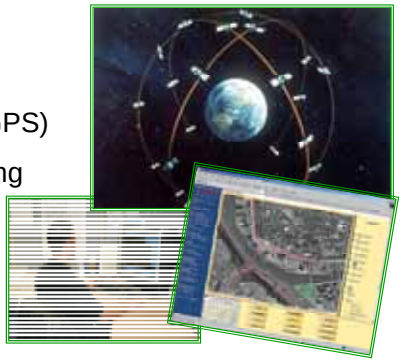
- Promote the positive aspects of choosing a career in land surveying

SLIDE 8



Utilize Latest Technology

- Cellular Communication
- Computer Software
- Global Positioning System (GPS)
- High-Definition Laser Scanning
- Robotic Total Station



www.SurveyPath.org

Suggested Script:
In addition to great pay, Land Surveyors get to utilize the latest technology. Surveyors who specialize in geographic information systems, or GIS, use sophisticated software that maps data relative to a physical location.
.
Who can tell me what GPS is? [TAKE ANSWERS FROM CLASS] GPS stands for Global Positioning System. Land Surveyors use sophisticated, high-precision GPS technology to determine the exact location of points on the earth's surface. GPS is possible because satellites circle the earth. Using a receiver on the ground that connects with these satellites Land Surveyors receive a series of coordinates that can tell the exact position of the GPS equipment.

Technology is rapidly changing the surveying profession. What used to take weeks or months can now be done in a single day with computerized tools. Now surveyors combine time-tested practices and high-tech proficiency.

Slide Objective:
- Describe the high tech aspect of Land Surveying

Presenter Note:
Working with high tech equipment is appealing to your target audience. Be sure to take time here to provide examples.

SLIDE 9

Work Indoors/Outdoors

- Work Indoors
  - Utilize the Latest Technology
  - Make Maps
  - Create Legal Documents
- Work Outdoors
  - Utilize the Latest Technology
  - Travel to New Locations
  - Explore Nature

www.SurveyPath.org

Suggested Script:
Surveyors work outdoors while still challenging themselves intellectually. Years ago, surveyors used chains, compasses, and plumb bobs. Now, field work is often high-tech. It involves digital measuring devices, handheld computers, GPS systems, and more recently, 3D laser scanning. In addition, Land Surveyors get to travel to new locations and explore nature.

Many people think that Land Surveyors only conduct fieldwork. However, if you prefer working indoors you can choose to be an office-based Land Surveyor analyzing data and creating maps.

Slide Objective:
- Promote the opportunities for working indoors and/or outdoors

SLIDE 10

Rewarding Career

Land Surveyors Shape our World

- Residential Neighborhoods
- Shopping Centers
- Sports Complexes
- Dams & Bridges
- Parks & Golf Courses
- Schools & Churches
- Pipelines & Tunnels
- Roads & Freeways

www.SurveyPath.org

Suggested Script:

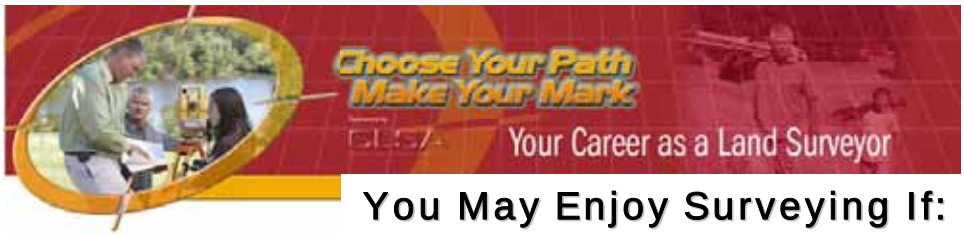
Land Surveying is a rewarding career that is both challenging and well paying. As a Land Surveyor you will get to work with cutting-edge technology, gain status and recognition as a professional and apply your technical skills in an outdoor or indoor environment.

Land Surveyors shape our world. They influence everything around us, from the places we live and work, to the places we travel to and visit.

Slide Objective:

- Describe how land surveyors influence the world.

SLIDE 11



You May Enjoy Surveying If:

- You Like Math
- You Like Solving Problems
- You Like Working Outdoors
- You Like GeoCaching
- You Like Working with Technology

For More Information, Visit us at:

www.SurveyPath.org

Suggested Script:
Land Surveyors use principles of mathematics, science and law. You may enjoy land surveying if you like to work with technology, work outdoors and explore nature or if you like to work indoors with computer systems and high tech software. Surveyors are like detectives. If you like solving problems you would enjoy surveying.

Many of you may be familiar with GeoCaching. GeoCaching is an entertaining adventure game for GPS users. People set up hidden treasures all over the world with latitude and longitude coordinates posted on internet sites like Geocaching.com. GPS users can then use the coordinates to find the caches. If you enjoy geocashing you would enjoy being a Land Surveyor.

Slide Objective:
- Describe how areas of interest relate to a career in land surveying.

SLIDE 12

Land Surveying – An Exciting Career Opportunity

Suggested Script:

Wondering how you can become a Land Surveyor? In general, people who like surveying also like math—primarily geometry and trigonometry. The field attracts people with geology, forestry, history, engineering, computer science, and astronomy backgrounds, too. High school students interested in surveying should take courses in algebra, geometry, trigonometry, drafting, computer-aided drafting (CAD), geography and computer science. Surveyors get started in their career through many paths. It could be through a summer job, through a class about surveying, or from a family member who knows or who is a surveyor. You might consider spending a summer working on a survey crew and asking questions. You don't have to have a degree or experience to help on a crew as a summer job. It can provide a chance to see what surveying is all about.

Thank you for letting me introduce you to a career in Land Surveying. This is an exciting time to become a surveyor. It's a profession that is in demand, pays well, challenges you intellectually, and allows you to work on the cutting edge of technology. You can learn more about pursuing surveying as a career on our website www.SurveyPath.org
Thanks for listening. If any one has any questions I'd be happy to answer them.

Slide Objective:

- A career in land surveying is exciting
- Visit the website www.SurveyPath.org

AVAILABLE RESOURCES

Again, thank you for volunteering as a speaker for CLSA's Student Outreach Program!

Keep in mind that there is support available for volunteers. Below is a list of resources that CLSA Central Office can provide.

Resources:

- High School Mailing List
- Speaker's Kit
- PowerPoint Presentation
- DVDs
- Posters
- Brochures
- Book Covers
- Temporary Tattoos
- Highlighter Pens

Please feel free to contact the CLSA Central Office at (707) 578-6016 or clsa@californiasurveyors.org for more information.