

National Engineers Week

School Visitation Speaker & Resource Handbook

**NASA Goddard Space Flight Center
Education Program Office**

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National Engineers Week School Visitation Handbook

Telling Your NASA Career Story

Thank you for participating in National Engineers Week by agreeing to share your career story with students and teachers at a registered school from the Maryland and/or metropolitan D.C. area. The purpose of the School Visitation Handbook is to highlight key points that may be helpful in your preparation and delivery of your talk. We hope you find it useful. We are confident that you will find your time with the students and teachers to be meaningful and that they will understand more about NASA and space exploration while learning about who you are and what you do.

Handbook Contents

- General School Visitation Guidelines
- Facts About the School Visit and Student Audience
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General School Visitation Guidelines

Be enthusiastic. Tell them why engineering is exciting to you and why the NASA program is exciting. Tell them about projects you have worked on, especially if you have worked on a project with high public visibility.

Remember, you are there as a NASA engineer, representing NASA and the SPACE PROGRAM. Tell them about your accomplishments, both past, and those projected for the future. Ask the students if any of them would like to do what you do or be a part of the space team some day. Invite their questions. Learning is about asking and seeking answers.

You are not a substitute teacher, nor a teacher's aide, nor a recruiter for a college. You are YOU, an interesting individual who cares enough to make time in your schedule to visit with these young people. That is a powerful message that creates positive, lifelong impressions and inspires students.

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Facts About the School Visit and the Student Audience

Date of the Visit: _____

Name of the School: _____

School's Point-of- Contact: _____

School's Telephone Number: _____

Date of Confirmation call to school: _____

Arrival time: _____

Ages of the *Students*: _____ How many *Groups*: _____

Number of students per Group: _____

Special information about the school and/or the students: _____

Length of sessions: _____

Requested information to include in your talk: _____

Note: You may wish to give an overview of what you plan to do and ask the point-of-contact for comments on how this will make relevant connections with their students.
Comments from the point-of-contact: _____

Check to make certain the school will provide the AV equipment that you will need such as a VCR, overhead projector, or computer cables. _____

Get specific Directions to the school and directions for checking in upon arrival at the school. For example, you may be expected to check in Main Office for a *Visitors Pass* or to meet a student escort.

Plan an additional 15-20 minutes for *travel* in order to get to the school due to traffic.

Should there be inclement *weather*, check the radio for announcements concerning school closings or changes in schedule.

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Give the point-of-contact your phone number in case of emergency changes.

Resources & School Visitation Day Checklist

When preparing your presentation, the following resources are useful.

- Orientation Meeting
 - Meeting will be scheduled
 - Call 301-286-9779
 - Bldg 8; MCC Conference Room on level 3

Note: This meeting will review some helpful hints for preparing your presentation and have Complimentary Educator Packets with available for you to present to the host educator(s) at the school you visit. The packets will have classroom materials for follow-up or extension experiences.

- <http://www.eweek.org>
 - New Faces in Engineering
 - The Creative Engineer
 - Engineers
 - Discover Engineering Online
 - Engineering Students K-12

Note: These pages have many links to other, specific information including suggested hands-on activities, interesting & relevant—kids types of ‘engineering’ facts, and examples of different types of engineering careers and contributions.

- <http://www.nasa.gov/centers/goddard/home/>

Note: This site highlights the unique research and capabilities of NASA Goddard Space Flight Center.

- <http://education.nasa.gov/home/index.html>
 - <http://www.nasa.gov/audience/forstudents/k-4/home/index.html>
 - <http://www.nasa.gov/audience/forstudents/5-8/features/index.html>
 - <http://www.nasa.gov/audience/forstudents/9-12/features/index.html>

Note: These pages feature GSFC-related mission and education activities. Some pages are downloadable, visuals and video clips may be useful.

- <http://science.nasa.gov>

Note: This site brings you stories about current NASA research. Written in a fast-paced, active style, the stories feature interviews with researchers, connections between the research and daily life, crisp visuals, video clips, and direction to supplemental resources.

Before you leave for the school, check to see if you have. . .

- _____ Directions to the school
- _____ Presentation **Notes** and supporting materials
- _____ The complimentary **Educator/Classroom Packet(s)**
- _____ **AV Equipment** – if you are supplying your own
- _____ Review the **Route** to school. *DO NOT BE LATE.*
- _____ If **Weather** is questionable, allow time to check radio/TV for school closing or late schedules. *Two Hours Late*, means the Engineers Program will be cancelled!

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Outline Your Talk

Title/Topic _____

Introduction (5 minutes)

- Be enthusiastic
- Capture their attention within the first 30 seconds and you've got them with you throughout the presentation.
- Techniques: Striking visual, active demonstration, ask questions of the students, involve students in some way, state a unique fact about you or your work that segues into your talk.

Notes: _____

Content (15 - 20 minutes)

- Tell students why being an engineer at NASA is exciting to you.
- Tell how or why you became interested in working for NASA.
- Tell about your accomplishments, what you are most proud of and why.
- Explain how what you do will help us return to and live on the moon or journey on to explore Mars.
- Share with them what you hope to do in the future.
- Tell them something about yourself when you were a student of their age. Relate how you use school subjects in your work today or how school experiences influence(d) your career.
- Name some of your hobbies and what you like about the hobbies.
- Mention your family, especially if you have children or family members close to their ages.
- Techniques: Power point slides, transparencies, video, items or models to show, talk.

Notes: _____

Hands-on; Minds-on Activity (15 minutes)

- Lead a simple hands-on activity that illustrates what you do or engineering in general.
- Techniques: Selected students come to stage and complete activity, you do as a demo and indicate teachers may follow-up in class; all students participate from their place in the room; pairs or in small groups complete the activity

Notes: _____

Questions & Answers (10 - 15 minutes)

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Note: Elementary students eagerly ask lots of questions. Middle school students are a bit more hesitant to ask. High schoolers are the most reluctant...not because they do not have the question in their mind but they are not certain peers will think they are 'cool' if they ask! The thing to remember is that all students have questions they would love to ask whether they readily say them aloud or not. Feel free to 'prime the pump' by creating an easy dialogue by initiating the Q & A.

- Ask the student if any of them would like to become astronauts.
- Ask them why.
- Ask what other types of job or skills they think are necessary to support the work of an astronaut or to explore the moon and Mars.
- Ask how many of them know the difference between the purpose of the Space Shuttle and a satellite. Help them understand the different types of spacecraft and their purposes – all valued in space exploration.
- Ask what school courses they have now that they think would be helpful in preparing them for a career with NASA and why they think so.
- Ask them to name all of the types of engineers that they know about. Help them to understand the types of engineers that are needed for space exploration.

Notes: _____

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Frequently Asked Questions

These questions are often asked of our NASA speakers. Be prepared and think about your answer in advance.

- What or Who *influenced* you to choose this career?
- What was the *best* and *worst* thing that has happened to you on the job?
- Have you ever thought of doing anything else?
- What kind of classes did you take in school?
- What *challenges* have you had to face in your career?
- How important is *math and science* for someone who wants to become
an engineer?
- What *job opportunities* do you see in the future for engineers? Are there
some areas of engineering that will have demand than others?
- What do you do? In other words, describe a *typical day* in your life of an engineer?
- What kinds of things do you do as an engineer?
- Of all the *projects* you have worked on, which one was the most interesting?
- Is working at NASA (a government agency) as an engineer different from working for a private company as an engineer?