



National Engineers Month NEM Classroom Visit Guide Volunteers & Teachers

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Contact the BEC for Questions

Business Education Compact

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NEM Program Overview

What is National Engineers Month

National Engineers Month is an annual event to celebrate engineering and generate student excitement for math and science. Throughout the month of February, engineer volunteers present in K-12 classrooms to provide career information about the engineering field and to engage students in a hands-on experiment to show how math and science are used in engineering.

Managed by the Business Education Compact (BEC), the NEM program began in 1995. Through the interactive visit by an engineer, students learn about math and science in a relevant and meaningful way, supporting the mission of the BEC to Make Learning Real. The BEC provides materials and resources to facilitate the visitations. NEM runs concurrently with National Engineers Week, a national initiative to promote engineering across the country that occurs annually during one week in February.

The NEM program is funded through the generous support of partner organizations. They provide engineers for the classrooms, donating significant staffing resources to enable the classroom presentations. These partners represent a wide variety of industries in the engineering field including utilities, electrical, high-tech, forestry, medical, environmental, manufacturing, textile and transportation.

Who can participate

Eligible volunteers include engineers, technicians and other engineering representatives that work for a partner organization and are able to knowledgeably represent the engineering field and give a hands-on classroom demonstration.

Eligible teachers include those teaching in K-12 public and private schools located in serviceable areas by NEM partner organizations. This is a free service for schools. Though the primary target is grades 3-12, many volunteers present in K-2 classrooms.

General Timeline

Nov-Jan	Volunteer Registration
Dec-Jan	Volunteers schedule classroom visits with teachers
January	Volunteers prepare classroom presentations
February	Volunteers present in classrooms

Benefits of Class Visits

Engineer Volunteers

- Share your enthusiasm for engineering with students
- Inspire students to excel in math and science
- Plant the seed of opportunity for future engineers
- Validate the contributions that engineers make in our world

Teachers

- Support state standards for relevancy in teaching and learning
- Provide a classroom enrichment activity for your students
- Validate and support teaching in your content area
- Gain knowledge and expertise from engineering professionals

Students

- Learn about career opportunities in the engineering field
- Get excited about math and science in a new way
- Increase motivation to excel in math and science
- Experience how math and science are used first-hand

Volunteer Responsibilities

1. VOLUNTEER PARTICIPATION

1a. Volunteer Registration

Volunteers register for the program on the [NEM Volunteer System](#).

The volunteer system is available from the BEC Website: www.becpdx.org.

After creating an NEM Volunteer Profile, volunteers are able to log on anytime to access classroom registration and presentation resources on the system.

For new volunteers, we recommend pairing with another volunteer as a volunteer team. This provides support and collaboration in preparing for and presenting to the students. Only one volunteer would register on the NEM Volunteer System; the other volunteer would be added as a co-presenter.

1b. What Volunteers Do

- **Provide an approximate 50-minute presentation in the classroom.** The presentation includes career information about the engineering field and a hands-on experiment to show how math and science are used in engineering. The hands-on activity should be simple and easy to do.

There are three parts to the presentation:

1. 10 minute presentation about careers in the engineering field
 - Presentation slide templates are on Volunteer System
2. 30 minute hands-on experiment
 - Experiment ideas by grade level are on Volunteer System
3. 10 minute questions and wrap-up

1c. Volunteer Time Commitment

- **Volunteer time commitment is approximately 4-8 hours:**
 - 2 to 6 hours for planning and practice
 - 2 hours for presentation time (2 classes, 50 minutes in length)
 - Travel time to and from school (varies)

We recommend that volunteers present in a minimum of two classrooms to increase the impact of their involvement and maximize preparation time. Volunteers should practice prior to giving the presentation in the classroom.

2. VOLUNTEER COMMUNICATION WITH TEACHER

2a. Contact Teacher to Schedule Visitation

[REFER TO "Scheduling the Classroom Visit" on Page 5]

- **Classroom visit should occur sometime in February.** Send an email to the teacher to request scheduling for the visitation. Keep in mind they teach all day long and may be difficult to reach. If after 3 days there is no response, send a second email and also call the teacher as emails may not be getting through.
Clearly communicate what you are planning to do. It is important to create a shared understanding of what you will be doing in the classroom, how much time you will have, and what resources are available in the classroom. Ask the teacher if they have any specific needs or expectations.
- **Ask about classroom level.** Find out what math and science concepts the students are familiar with to ensure the concepts you use are appropriate.

Teacher Responsibilities

1. TEACHER COMMUNICATION WITH VOLUNTEER

1a. Be Responsive To Engineer Volunteer

- **Respond within 3 days when contacted by the engineer to schedule the visit.**

Provide options for visitation dates as the volunteer has competing work demands and will need flexibility to find a mutually acceptable date.

1b. Support The Volunteer

- **Provide ongoing support and guidance to the volunteer in preparation for and during the visit.**

Keep in mind that the classroom environment is foreign to most engineers and they rely on your teaching expertise to appropriately guide them.

1c. Give Needed Instructions

- **Tell the volunteer about your classroom and your students.**
It is helpful for them to know about student and classroom characteristics including the math and science concepts students have been studying.
- **Provide the volunteer with any special check-in instructions.**

1d. Respect Volunteer Time

- **Be sensitive to volunteer time.**
The volunteer is spending considerable time, personal and professional, to prepare the presentation and visit your classroom. Recognize there are limits to the number of classes they are able to present in for your school.

2. TEACHER CLASSROOM MANAGEMENT

2a. Prepare Your Classroom

- **Prior to the visit, prepare your classroom.**
Let the students know there is an engineer volunteer presenter coming and set expectations for their behavior in advance.
- **During the visit, proactively manage your classroom.**
Quickly address any disruptive behavior and encourage active listening and participation. Assist the volunteer in breaking the students up into groups.

2b. Be An Active Participant

- **Be an active participant yourself during the presentation.**
It is a strong message of respect, encouragement and support for the volunteer to see you actively engaged.
- **Provide needed coaching to prompt student participation.**
The volunteer may need your assistance to help get the students involved.

2c. No Teacher Substitutes

- **If there is going to be a substitute the day the engineer is coming, contact the volunteer to cancel the visitation immediately.**
This has been one of the greatest reported problem areas from volunteers. It will be up to the engineer whether they are able to reschedule.

3. TEACHER POST VISIT ACTIVITIES

3a. Thank Engineer Volunteer

- **Thank the volunteer for coming in person before they leave.**
A thank you email sent from you shortly after the visit is also appreciated.
- **If possible have your students write the volunteer a thank you note.**

Scheduling the Classroom Visit

Use this subject line when sending an email to request scheduling:
Email Subject Line: National Engineers Month Class Visit Request

The engineer volunteer contacts the teacher to schedule the visit to occur sometime in February. The interaction between the volunteer and teacher is of paramount importance in creating shared expectations and a successful classroom experience for the students. Both should be flexible to find a mutually agreeable visit day/time.

Below are questions the volunteer should ask the teacher when scheduling the classroom visit. **Be sure to tell the teacher about the hands-on experiment you are planning to do and give them an opportunity for input and feedback.**

Visit Scheduling

- **Agreed Upon Classroom Visit Day/Time:** _____
- Time volunteer should arrive at school: _____
- Total time volunteer will have to present: _____
- Confirm grade level and subject taught: _____
- Confirm # of students in classroom: _____
- Teacher special needs or considerations: _____

Student Characteristics

- What are students in the class like: _____

- What are students learning now: _____

- What math or science concepts are being covered this year: _____

Equipment and Materials

- Ask the teacher what equipment is available in the classroom for your use.
- Tell the teacher what equipment and materials you are bringing for the visit.

School Location and Check-in

- School address and directions: _____

- Check-in instructions: _____
