



National Engineers Month

NEM Classroom Visit Guide

Volunteers & Teachers

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Volunteers and Teachers – Welcome to National Engineers Month!

What is National Engineers Month

National Engineers Month is an annual event to celebrate the engineering profession and highlight the many opportunities available in STEM-related careers (science, technology, engineering and math). Throughout the month of February, volunteers present in K-12 classrooms, providing career education and engaging students in an activity to demonstrate how math and science are used.

Managed by the Business Education Compact (BEC), NEM is a high-impact program for engaging the business community with schools. Through the interactive visit by volunteers, students are exposed to the value of science, technology, engineering and math in our daily lives and in our world. The goal is to generate student interest in STEM-related careers and encourage them to persist in math and science studies. The BEC provides all resources to facilitate the visitations.

The NEM program is sponsored by many community partners of the BEC. These partners provide volunteers for the classrooms; a generous donation of employee time and resources that enable the school visits. Partners represent a wide variety of industries including electrical, high-tech, manufacturing, medical, natural resources, retail, transportation and utilities. This is a free service for schools.

Who can participate

Eligible volunteers - engineers, technicians, IT professionals and other representatives of STEM-related careers (science, technology, engineering, math). They must work for or be a member of an NEM partner organization of the BEC.

Schools In Oregon – the BEC recruits K-12 public and private schools across Oregon for matching with volunteers in the state. Volunteers can also visit their child’s class.

Schools Outside Oregon - volunteers can go to any K-12 school of their choosing.

General Timeline

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

Benefits of Class Visits

Volunteers

- Share enthusiasm for STEM-related careers with students
- Encourage students to excel in math and science
- Plant the seed of opportunity for future STEM professionals

Teachers

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

Students

- Increase motivation to persist in math and science
- Experience how math and science are used first-hand
- Learn about the many opportunities in STEM-related careers

Volunteer Role and Responsibilities

1. VOLUNTEER REGISTRATION

NEM Volunteers register on the BEC website: www.becpdx.org.

The NEM Volunteer fills out their profile information and then gains access to a host of online resources to support their participation including presentation templates and experiment ideas by grade level.

Participation Options:

Request Match With Oregon Classroom(s)

The BEC recruits teachers across Oregon to request an NEM Guest Volunteer visit.

- Volunteers register online and fill out the Request Classroom Match form
- They identify their classroom preferences on the form
- In January, the BEC matches volunteers with teachers, notifying volunteers of their classroom assignments
- Volunteer contacts the teacher to schedule the visit to occur in February
- Matched activity is included in NEM All Volunteer Results

Self-Arrange A Classroom Visit

Refer to “How To Self-Arrange Visits” available when you register and log in to the NEM Volunteer System.

If volunteers already know the classroom they are going to, i.e. their child’s class, they do not need to request a match.

- In December or January, volunteers contact teachers to schedule the visits to occur in February
- After the visit, volunteers register online and fill out Log Self-Arranged Visit form
- Logged activity is included in NEM All Volunteer Results

2. SCHEDULING THE CLASSROOM VISIT

Refer to “Scheduling the Classroom Visit” worksheet in this guide.

- **Send teacher an email to request visit scheduling.**

Refer to “NEM Visit Request Email” template in this guide.
Keep in mind they are teaching all day and can be difficult to reach.

If after 2 days there is no response, send a second email and also call the teacher. Your email may have ended up in their junk/spam folder.

- **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. Also please 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 what you are planning is appropriate.

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

Volunteer Co-Presenters

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.

4. VOLUNTEER TIME COMMITMENT

- **Volunteer time commitment is between 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 the school (varies)
- **We suggest that volunteers present in minimum of two classrooms.**
This is an effective way to increase the impact of your involvement and time spent to prepare for the visit and go to the school. Generally the visitations can be scheduled back-to-back at the same school.

5. VOLUNTEER TIMELINE AND TRAINING

Volunteer Signup: Matching by BEC

Dec 1 st	Volunteer registration begins for <u>requesting BEC match with Oregon classrooms</u>
Jan 20 th	Deadline to request match by BEC
January	BEC matches volunteers with <u>Oregon classrooms</u> Volunteers receive BEC classroom assignments and contact assigned teacher

Volunteer Signup: Self-Arranged Visits

Dec – Jan	Volunteers that are self-arranging visits contact their teacher of choice <i>[For volunteers visiting their child's class and those <u>outside Oregon</u>]</i>
Jan – Feb	Volunteers that self-arranged visits log their classroom activity online

Volunteer Training

Audio Links	<i>Training, Tools and Tips for NEM Volunteers (links to be provided)</i>
Jan 17 th	<i>NEM 2012 Kick-off Event and Volunteer Training at PSU</i>

Volunteer Presentations

January	Volunteers prepare presentations (resources provided online)
February	Volunteers present in classrooms
March	Volunteer surveys sent; NEM Final Report distribution

Teacher Role and Responsibilities

1. TEACHER COMMUNICATION WITH VOLUNTEER

1a. Be Responsive To NEM Volunteer

- **Respond within 3 days when contacted by volunteer to schedule visit.**
This gives a good impression of you and your school. Be prepared to provide options for visitation dates for flexibility in scheduling.

1b. Support and Guide NEM Volunteer

- **Provide ongoing support to volunteer in preparation for/during visit.**
The classroom environment is foreign to most of them and they rely on your teaching expertise to appropriately guide them.

1c. Give Needed Instructions

- **Tell NEM Volunteer about your classroom and your students.**
It is helpful for them to know what to expect ahead of time. Some volunteers may be able to tailor some aspects of their presentation to your needs, but do not expect them to develop a custom presentation.
- **Provide volunteer with any check-in instructions.**
They need to know in advance if there will be a background check or any other school-related procedure for checking into the school.

1d. Be Sensitive to Volunteer Time

- **Don't expect NEM Volunteers to do more classes than assigned.**
Though you may have signed up for 4 classes, you may be only matched with 1 or 2 depending on the volunteer pool. Don't expect your assigned volunteer to do additional classes unless you have their prior agreement. Be aware they have competing work demands and priorities.

2. TEACHER CLASSROOM MANAGEMENT

2a. Prepare Your Classroom

- **Prior to the visit, prepare your classroom.**
Let the students know there is NEM Guest 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

- **Actively be involved during the presentation.**
It is a strong message of support and encouragement for the NEM Volunteer to see you actively engaged. It also sets a good example for the students.
- **Provide needed coaching to prompt student participation.**
The volunteer may need your assistance to help get the students involved.

2c. No Substitutes

- **Cancel visit immediately if substitute will be there on the day volunteer is coming**
This has been one of the greatest reported problem areas from NEM Volunteers. It will be up to the volunteer whether they are able to reschedule.

3. TEACHER POST VISIT ACTIVITIES

3a. Thank NEM Guest 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.**
They are spending considerable time to prepare for and visit your school.

3b. Provide Feedback

- **Provide brief verbal feedback to volunteer on their presentation.**
Volunteers continuously tell us how much they want and value your feedback.

Scheduling the Classroom Visit

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

The NEM Guest 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: _____
