Earth & Space Project-Based Professional Learning Community

Collaborating with STEM Experts

Recorded in February 2022 as part of the Earth & Space Project-Based Professional Learning Community
Collaborating with STEM Experts
Working with STEM Experts:
A Guide for Educators in Museums and Other Informal Learning Settings

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https://www.nisenet.org/working-with-experts
Working with STEM Experts Guide

- Why Bring STEM Experts and the Public Together
- Ways to Work with STEM Experts
- How to Prepare Experts to Engage Public Audiences
- Strategies for Finding STEM Experts
- Finding STEM Experts by Subject Area

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Why Bring STEM Experts and the Public Together?

Many reasons for having STEM experts directly engage the public.

- **Content knowledge** about a specific topic
- **Experts can offer much more** beyond facts and information
Why Bring STEM Experts and the Public Together?

10 Potential Impacts of Experts Engaging the Public

1. Sharing a Passion for Science
2. Providing for Mutual Learning
3. Understanding that Science is a Human Endeavor
4. Increasing the STEM Workforce and Creating Career Pathways
5. Greater Representation of Women and Minorities in STEM Careers
6. Changing the Face of STEM – Picture a Scientist, Who Do You See?
7. STEM Identity and Providing Role Models and Mentors
8. STEM Literacy and Creating Lifelong Learners
9. More Trust in Science
10. Creating Opportunities for Participatory Democracy
Ways to Work with STEM Experts

● **Formats for Public Engagement**
  Hands-on Activities, Events, Guest Lectures, Forums, Science Cafés, Mentoring, Festivals . . .

● **Joint Collaborative Projects**

● **Professional Development**
  for Staff and Volunteers

● **Liaison Roles**

● **Ongoing Advisory Roles**
Ways to Work with STEM Experts

Including Experts in the Development Process

● Brainstorming
● Helping to create content
● Participating in iterative prototyping
● Technical content review
How to Prepare Experts to Engage Public Audiences

● **Strategies**
  ○ Start with existing hands-on activities and training materials

● **Tips Sheets**
  ○ Planning Guest Presentations
  ○ Guest Speakers
  ○ Leading Hands-On Activities

● **Annotated List of Resources**

https://www.nisenet.org/catalog/tips-sheets-engaging-public-audiences
Strategies for Finding STEM Experts

- STEM Professional Societies
- Diversity-Serving Professional Societies
- Colleges and Universities
- Student Groups
- Local, State, and Federal Agencies
- Local Industry Professionals
- Affinity Groups
- Indigenous Ways of Knowing
Finding STEM Experts by Subject Area

- Chemistry and Physics
- Space and Earth Science
- Environmental Sciences
- Agriculture
- Biology and Biomedical Sciences
- Neuroscience
- Engineering, Technology
- Computer Science, Math, Statistics
- Incorporating STEM into Arts and Cultural Celebrations
- Indigenous Ways of Knowing

Incorporating STEM into Arts and Cultural Celebrations

- Space and Earth Science
- Environmental Sciences
- Agriculture
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- Neuroscience
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Thank You