

Professional Development Situation: Meeting

Skill Focus: Connecting Prior Knowledge and Experiences

Time Required: 25 minutes

MAKING IT RELEVANT

Participants will brainstorm science practices in order to add more opportunities for youth to connect the work of scientists to their everyday activities.

Agenda

What do Scientists Do?—10 minutes

See the Skill in Action—5 minutes

- [Presenting a Challenge](#) video-based learning module

Discussion—10 minutes

Materials

- Computer with internet connection
- Projector and speakers
- [Presenting a Challenge](#) video-based learning module
- Chart paper and markers
- One copy of [Science & Engineering Practices](#) for each participant

Before the Session

- **Read this meeting guide** to become familiar with the content and allow time to personalize the activities to best suit your presentation style. Watch all videos and read informational materials.
 - *Italics indicate text that can be read aloud or emailed to participants.*
- Send a reminder email about the meeting. Determine if any participants require accommodations (sight; hearing; etc.):
 - *The next professional development opportunity to enhance our STEM skills will be on DATE at TIME at LOCATION. Our focus for this session will be “Connecting to Prior Knowledge and Experiences”. Let me know if you require any*

accommodations to participate in the training. I am happy to answer any questions you have and look forward to seeing you at the workshop. I can be reached at CONTACT INFO.

- Gather all materials needed for the session.
- Make copies of the handouts needed for the session.
- Develop a list of all possible questions participants might have during the meeting. Create potential responses to be explored through informal conversation. Review any key terms or ideas that may be unclear.
- On the day of the meeting, test the audio and video equipment.

Session Outline

What do Scientists do? (10 min)

- **Welcome participants** to the meeting. Explain the purpose of the meeting: to help everyone feel more confident in making STEM activities relevant to youth's daily experiences.
- Have participants work with a partner to make a **list** of all the things scientists do on a daily basis. Include the ways that scientists:
 - Work with people
 - Do investigations
 - Communicate their findings
 - Think critically
- Generate a shared list of the things that scientists do every day. Refer to the handout [Science & Engineering Practices](#) for a list of science practices in the [Framework for K-12 Science Education](#).
 - Asking questions (for science) and defining problems (for engineering)
 - Developing and using models
 - Planning and carrying out investigations
 - Analyzing and interpreting data
 - Using mathematics and computational thinking
 - Constructing explanations (for science) and designing solutions (for engineering)
 - Engaging in argument from evidence
 - Obtaining, evaluating, and communicating information
- On their handout, have participants **circle** the practices that they think youth have engaged in in their program in the last week.

See the Skill in Action (5 min)

- Prepare the [Presenting a Challenge](#) video-based learning module.

- Ask participants:
 - *Why is it so important to connect youth's everyday science practices with out-of-school time learning?*
- Watch the video in step 3.
 - *How did the facilitator use youths' background knowledge to prepare them for the activity?*
 - *How did the facilitator get youth excited about this activity?*
 - *What science practices seem to be involved in this activity?*

Discussion (10 min)

- Bring participants together. Discuss as a group,
 - *How many of these practices do youth do regularly in your program?*
- Ask how you might connect students' everyday activities to these practices.
 - *How can we help kids realize that science is a set of practices not just facts?*
 - *How do you help youth know that science is a lived experience?*
- Have each person set one goal for discussing the practices of science and engineering with youth so they know that their investigations are just like the investigations that youth do in your program.
 - For an example engineering-related exploration see this [Roller Coaster Activity](#).
- If time allows, invite participants to share their goal for helping youth understand that they are using the practices of science and engineering.

After the Session

- Email the participants:
 - *Thank you for your participation in the recent Click2Science training on "Connecting to Prior Knowledge and Experiences". I hope you found it useful and applicable to your practice. Consider sharing your thoughts with a co-worker, supervisor, or friend. Please let me know if you have any questions. You can reach me at CONTACT INFO.*

Want to Earn Credit? Click2Science has teamed up with Better Kid Care to provide continuing education units. Check it out at: <http://www.click2sciencepd.org/web-lessons/about>

Science & Engineering Practices

From the Framework for K-12 Science Education

As part of scientific inquiry, youth will regularly engage in:

1. Asking purposeful questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating and communicating information

Note: These practices are not meant to stand alone, but to be used in conjunction with science content and crosscutting concepts. They should also be driven by youth's interests and developing identities. Read more at www.nextgenscience.org

National Research Council. (2012). [A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas](#). Washington, D.C: The National Academies Press.