STEM Volunteer Management Toolkit

Summer 2021
# CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>2</td>
</tr>
<tr>
<td>WHY STEM MENTORS MATTER</td>
<td>4</td>
</tr>
<tr>
<td>RECRUITMENT AND SCREENING</td>
<td>5</td>
</tr>
<tr>
<td>Recruitment Sources</td>
<td>6</td>
</tr>
<tr>
<td>Sample Position Description</td>
<td>7</td>
</tr>
<tr>
<td>Screening Process</td>
<td>10</td>
</tr>
<tr>
<td>Volunteer Application</td>
<td>12</td>
</tr>
<tr>
<td>Interview</td>
<td>15</td>
</tr>
<tr>
<td>References</td>
<td>18</td>
</tr>
<tr>
<td>Background Checks</td>
<td>20</td>
</tr>
<tr>
<td>ORIENTATION AND POLICIES</td>
<td>26</td>
</tr>
<tr>
<td>Orientation Checklist</td>
<td>27</td>
</tr>
<tr>
<td>Commitment Statement</td>
<td>29</td>
</tr>
<tr>
<td>Appropriate Conduct with Youth</td>
<td>31</td>
</tr>
<tr>
<td>Social Media and Photography</td>
<td>35</td>
</tr>
<tr>
<td>TRAINING</td>
<td>38</td>
</tr>
<tr>
<td>Youth-Friendly Communication</td>
<td>39</td>
</tr>
<tr>
<td>Leading an Activity</td>
<td>41</td>
</tr>
<tr>
<td>Supporting Youth Learning</td>
<td>44</td>
</tr>
<tr>
<td>Stages of Youth Development</td>
<td>48</td>
</tr>
<tr>
<td>Behavior Management Strategies</td>
<td>54</td>
</tr>
<tr>
<td>RETENTION</td>
<td>56</td>
</tr>
</tbody>
</table>
INTRODUCTION

When STEM professionals volunteer as mentors in youth programs, they add major value to the programs. STEM professionals serve as role models that youth can aspire to emulate, and they are uniquely positioned to teach youth about possible STEM career paths. STEM professionals can also support inquiry-based learning and promote other STEM-based skills. These STEM professionals benefit, too, through the rewarding experience of giving back to the community and by serving as ambassadors for their employers.

This guide is aimed at program providers who want to incorporate STEM professionals as volunteer mentors in their programs. This toolkit begins with an overview of Why STEM Mentors Matter, then it walks program coordinators through each step of the volunteer management process. The steps covered here include:

- **Recruitment and Screening:** These resources help program coordinators identify potential STEM mentors, screen them, and verify that they are safe to work with youth.
- **Orientation and Policies:** This section begins with a checklist for content to cover in a volunteer orientation, has a sample volunteer commitment statement, then provides examples of policies on volunteer conduct.
- **Training:** Program coordinators can use these tools to equip STEM mentors with skills to effectively work with youth.
- **Retention:** Through the CARE method, program coordinators create a volunteer experience that promotes volunteer retention.

This toolkit was developed for OregonASK to support their work to strengthen afterschool and summer programs, especially in STEM. OregonASK is a collaboration of public and private organizations and community members that seek to support, expand, and educate on quality expanded learning opportunities for children, youth, and families throughout Oregon. The STEM Volunteer Management Toolkit builds on previous work by OregonASK and includes research and material from the Institute for Youth Success and other sources. Program providers can and should adapt the
tools provided in this guide and use them in their programs. However, this guide should not be construed to constitute legal advice.

An additional guide, the STEM Volunteer Toolkit, is available to support STEM professionals as they become volunteer mentors in your program.
WHY STEM MENTORS MATTER

STEM industries need bigger and more diverse workforces.

By 2020, the US will have

1 million
more computing jobs
than graduates to fill them

In 2016, women earned just 20.9% of engineering bachelor’s degrees
And underrepresented minorities earned just 21.6% of science and engineering bachelor’s degrees

When STEM professionals mentor youth, they help them...

knowledge
...of STEM careers
...of lesser-known STEM fields

Develop a positive STEM identity
Youth are more likely to pursue a STEM career.
Representation of women and people of color in STEM improves.


OregonASK STEM Volunteer Toolkit 4
RECRUITMENT AND SCREENING

The first step to introduce STEM professionals as volunteer mentors in your program is to identify and vet potential volunteers. This section walks you through how to recruit and screen volunteers and contains the following resources:

- **Recruitment Sources**: This document identifies multiple sources where program coordinators can seek volunteers.
- **Sample Position Description**: A volunteer position description is a critical first step to setting expectations for your STEM mentors. An effective position description allows potential mentors to assess whether they are a good fit for the role and whether they can fulfill the time commitments.
- **Screening Process**: This chart identifies the recommended elements of a volunteer screening process that focuses on ensuring mentors can safely and effectively work with youth.
- **Volunteer Application**: This sample volunteer application can be adapted for your program.
- **Interview**: The interview process allows you to vet whether a potential volunteer would be a good match for your program and to determine placement. These interview questions can be customized for your program.
- **References**: Reference checks help identify potential red flags and verify whether a STEM professional is suited for mentoring. Use this form to complete reference checks on potential volunteers.
- **Background Checks**: A criminal history check is essential to verifying that a volunteer can safely work with youth. This guide describes how to complete a background check on your volunteers.
Recruitment Sources

Recruiting STEM professionals as mentors is often easier than expected. Computer scientists, nurses, and electrical engineers are present in most communities, whether rural, suburban, or urban. Role models may be neighbors and friends or people who work in local businesses, universities, and museums. Don’t be shy about asking them to volunteer their time; many people just need an invitation.

RECRUITMENT SOURCES

• **Personal and professional contacts**: Start with people you know. Let colleagues, friends, and family know that you are looking for STEM volunteers.
• **STEM hubs**: Connect with your local [STEM hub](http://www.stemoregon.org/regional-stem-hubs/) to find out what resources they have.
• **Colleges and universities**: University faculty and students can be inspiring role models and offer a unique perspective. Look for outreach departments or staff, as well as STEM-themed student clubs.
• **Science museums**: Staff at science museums, like OMSI, not only make interesting role models but may also offer behind-the-scenes experiences at their sites and insights into emerging fields in science and technology.
• **Businesses and industry**: Local businesses and corporations know that their long-term success lies with the next generation. Start with the community relations or human resources department to help recruit STEM volunteers.
• **STEM professional groups**: Look online for professional groups that have a mission to do outreach. Reach out to groups like the National Society of Black Engineers and the Society of Hispanic Professional Engineers for role models from diverse backgrounds.
• **Oregon Connections**: STEM Oregon hosts [this online space](http://www.stemoregon.org/connections/) that connects educators with STEM professionals who want to volunteer with youth.

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OregonASK STEM Volunteer Toolkit
Sample Position Description

PROGRAM DESCRIPTION
The Wizards program at Roger City Afterschool Program empowers 7th and 8th grade students to thrive in STEM. The program uses STEM professionals as volunteer mentors who commit to supporting small teams of 4 students over the course of 10 weeks. Together, participants explore the scientific inquiry process while building a science fair project. By participating in weekly afterschool STEM activities, working together in small teams, and learning from mentors with experience in STEM, students develop interest and a sense of belonging in STEM.
A volunteer in this program must be able to fulfill the volunteer position description and meet the eligibility requirements listed below.

MENTOR ROLE
- Support a team of young people through ongoing group relationship building
- Serve as a positive role model and share from your professional STEM experience
- Build relationships with and among youth by planning, participating in, and supporting group activities
- Build self-efficacy, motivation, and sense of belonging, and strive for mutual respect
- Help set goals and work toward accomplishing them

TIME COMMITMENT
- Make a 12-week commitment from the time of training through the program’s end
- Meet twice weekly with a group of youth for 10 weeks
- Spend a minimum of 3 hours per week with groups of youth
- Communicate weekly with the program coordinator
- Document hours, activities, and projects to share with your coordinator biweekly
• Attend an initial three-hour training session and additional two-hour training sessions once during each year of participation in the program
• Attend the program’s culminating event, the annual science fair
• Attend optional group events and mentor support groups

PARTICIPATION REQUIREMENTS
• Be at least 21 years old
• Reside in program area
• Adhere to all school/program policies and procedures
• Complete the application and screening process, including a successful background check
• Be dependable and consistent in meeting the time commitments
• Commit to meeting with youth twice per week, 90 minutes each session, for 10 weeks
• Attend mentor training session as prescribed
• Be willing to communicate regularly with program staff, submit activity information, and take constructive feedback regarding mentoring activities
• No use of illicit drugs
• No use of alcohol or controlled substances in an inappropriate manner
• Not currently in treatment for substance abuse and have a non-addictive period of at least five years
• Not currently in treatment for a severe mental disorder or hospitalized for such in the past three years
• Willing listener who is encouraging, supportive, patient, and flexible
• Tolerant and respectful of individual differences

DESIRABLE QUALITIES
• Experience working with young people, especially youth underrepresented in STEM (girls and students of color)
• Some form of higher education beyond high school or GED
BENEFITS

- Personal fulfillment through contribution to the community and individuals
- Satisfaction in helping a team of youth mature, progress, and achieve goals
- Professional development through training sessions and group activities
- Participation in a mentor support group
- Mileage and expenses are tax-deductible
- Personal ongoing support and supervision to help you succeed
- Group activities, complimentary tickets to events, participant recognition events

APPLICATION AND SCREENING PROCESS

- Written application
- In-person interview
- Submission of three references who you have known for at least two years
- Criminal history check: federal fingerprint-based background check to include scan of child abuse and neglect registry and sexual offender registry
- Attend orientation and a 3-hour mentor training
- For more information, contact [fill in the name, phone number, and email of the appropriate program contact]. Minorities and women are strongly encouraged to apply.³

³ Adapted from a sample position description by the Institute for Youth Success
Screening Process

Screening potential volunteers continues to be one of the most overlooked yet crucial steps for any program that places children and youth with adult volunteers. Individuals that may pose a threat to children seek legitimized access to vulnerable youth. In the field of mentoring, it is best practice to conduct thorough screening procedures that include at minimum a volunteer application, face-to-face interview, reference checks, and a fingerprint-based criminal background check. Programs that need more support in screening volunteers can complete the Screening Applicants for Effectiveness (SAFE) training through Education Northwest.

The following guidelines can help you plan your volunteer screening process:

<table>
<thead>
<tr>
<th>MENTOR SCREENING PROCESS</th>
<th>Community-based</th>
<th>Site-based</th>
<th>Site-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written application</td>
<td>Required</td>
<td>Required</td>
<td>Required</td>
</tr>
<tr>
<td>Reference check: personal, professional, and relative</td>
<td>Four Required</td>
<td>Three Required</td>
<td>Two Required</td>
</tr>
<tr>
<td>FBI criminal history check (fingerprint check)</td>
<td>Required</td>
<td>Required</td>
<td>Required</td>
</tr>
<tr>
<td>Driving record review</td>
<td>Required</td>
<td>Recommended</td>
<td>Recommended</td>
</tr>
<tr>
<td>In-person interview</td>
<td>Required</td>
<td>Required</td>
<td>Required</td>
</tr>
</tbody>
</table>

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4 https://educationnorthwest.org/services/safe-training-screening-youth-program-volunteers

5 Adapted from The Connecticut Mentoring Partnership, Business Guide to Youth Mentoring, and Big Brothers Big Sisters of America, Standards of Practice for One-To-One Service.
<table>
<thead>
<tr>
<th>Previous volunteer experience</th>
<th>Required</th>
<th>Required</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written eligibility criteria</td>
<td>Required</td>
<td>Required</td>
<td>Required</td>
</tr>
<tr>
<td>Pre-placement Training</td>
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<td>Required</td>
<td>Required</td>
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</table>

Note: **Site-based programs** include school-based, workplace and other facility-based programs. In **supervised activities**, the program coordinator is present to observe youth and adult interactions. In **unsupervised, site-based programs**, a program coordinator is usually in the building but not always in the same room where the mentoring is taking place.
Volunteer Application

Sample Volunteer Application

Thank you for your interest in volunteering with [organization name]! Please fill out this form so that the volunteer coordinator can contact you and discuss options for getting involved.

<table>
<thead>
<tr>
<th>First Name: __________________</th>
<th>Middle Name: __________</th>
<th>Last Name: ______________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous names by which you have been known:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address: _________________________________________________________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City _______________ State ____ Zip Code __________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Phone: ( ____ ) ______________ Alternate Phone: ( ____ ) ______________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email (Please Print): ____________________________________________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I prefer to be contacted via □ Phone □ Email □ Other: ___________________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are you at least 21 years old? □ Yes □ No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This section is optional:
Age: □ 16-18 □ 19-35 □ 36-55 □ 55+ Gender: ______ Race/Ethnicity: ____________

How did you hear about volunteer opportunities at [organization name]?

______________________________________________________________

Would you like to receive the [organization name] email newsletter? □ Yes □ No

Have you volunteered with [organization name] before? If yes, please describe:

______________________________________________________________

Current occupation: __________________

Current employer/school: ____________________

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When are you available to volunteer (days of the week, time of the day, frequency)?

Can you commit to volunteering for at least three months? ☐ Yes ☐ No

As a volunteer, what special skills and life experiences will you bring to our organization?

What personal or professional experience do you have with youth? (Please specify ages.)

What kind of professional or personal experience do you hope to gain as a volunteer?

[Organization name] operates several sites within [geographic region]. Are you interested in volunteering at a specific site, city, or county?

Please mark the type of volunteer opportunities you are interested in:
☐ Multi-week STEM mentor
☐ One-time STEM guest speaker
☐ Other: ___________________________________________

REFERENCES

Please provide three professional or personal references.

Reference 1
Name: ___________________________________________ Years Known: ______________
Relationship to Applicant: ___________________________ Title: ______________________
Organization: _____________________________________ Phone Number: ______________ Email Address: ________________________________
Reference 2
Name: ____________________________
Relationship to Applicant: ____________________________ Years Known: ____________
Title: ____________________________ Organization: ________________________________
Phone Number: ____________________ Email Address: _____________________________

Reference 3
Name: ____________________________
Relationship to Applicant: ____________________________ Years Known: ____________
Title: ____________________________ Organization: ________________________________
Phone Number: ____________________ Email Address: _____________________________

Have you ever pled guilty to or been convicted of any criminal offense? If so, please explain.

*A conviction may not necessarily bar you from volunteering.*

How long have you been residing in Oregon? ________________________________

I hereby authorize [organization name] to perform a background check and investigate any public records relating to my criminal history or lack thereof. [Program name] will use this record only in making the initial volunteer engagement decision and will not further disseminate the record. By my signature below, I verify that the information in this application is complete and accurate.

_________________________________________    ____________
Signature                                        Date

Scan or photocopy your Oregon State Driver’s License and include it with your application so we can verify your identity, or bring your driver’s license to your interview.

Please send completed form to [email address], via fax to [fax number], or by mail to [mailing address].
Sample Volunteer Mentor Interview

Applicant Name: __________________________ Interview Date: __________________

Referral Source: __________________________ Interviewed By: __________________

I. INTRODUCTORY COMMENTS

Explain the purpose of the interview: 1) to determine if the candidate is a good fit for the program, 2) to identify the best placement of the volunteer within the program, and 3) to answer any questions the candidate may have.

II. QUESTIONS

1. Why are you interested in being a STEM mentor? Why are you interested in working with youth?

2. Tell me about your current and previous experience volunteering. What did you like/dislike about these experiences?

3. Have you had experience working with children (personally or professionally)? What ages? What did you do? How would you describe your experiences?

4. What are you hoping to get out of this experience? What do you hope the youth you work with get out of this experience?

5. Tell me about your current job and the previous work experience you have in STEM field

6. What are your relationships like with your supervisor and coworkers?

7. What experience do you have with people from other cultures and backgrounds? Do you speak any other languages?

______________


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8. How would you approach being placed with one or more youth whose life experience is very different from your own (e.g., knows/interacts only with own culture, divorced parents, grandparents as guardians, general dysfunction)?
9. Give me an example of a time you dealt with a stressful situation or a crisis.
10. Do you have any legal history such as accusations, arrests, investigations, charges, police involvement, infractions, altercations, etc.? Do you have any child abuse legal history?
11. *Review minimum time requirements for being a STEM mentor.* Are you comfortable with the program’s time commitment? Are you able to commit to these hours for ____ weeks?
12. Do you have any scheduling conflicts that would interfere with your ability to volunteer during your assigned hours?
13. Is there anything else that you would like to share?
14. Do you have any questions?

**INTERVIEWER COMMENTS:**

**III. REVIEW APPLICATION PROCESS**

- Written application
- Interview
- References (included in written application)
- Background check with fingerprints (submitted and cleared)
- Orientation and training

Remind applicant that acceptance is based on the Selection Committee’s review of the entire application packet and that all reasons for decisions are confidential. Applicants may be rejected at any time in the application process.

**Office use:**

**IV. INTERVIEW COMMENTS**

Name(s) of Person/People Conducting Interview: ____________________________

Recommended Action: (Select one)
Hire/Place
Second Interview
Refer to another program
Not suitable for this organization at this time
Note: If “refer” or “not suitable”, please provide explanation of red-flag or informed intuition and forward to your program manager.
Comments:
Personal Reference Check Questionnaire

I. INTRODUCTORY COMMENTS
Briefly cover the following in requesting that the reference consent to participate:

- Your name, position, and contact information
- Your program and organization
- Applicant requested that we call you to verify some information about a possible volunteer position
- Applicant has given permission for you to provide full and honest information
- Conversation will take about 10 minutes and can be conducted at your convenience
- Information given will be kept confidential

II. QUESTIONS
1. How long and in what capacity have you known the applicant?
2. How does the applicant relate to people in general?
3. How would you describe the applicant?
4. Do you feel that the applicant would be a good mentor and role model to a child?
5. Do you think that the applicant relates well to children and young people?
6. Does the applicant usually keep his/her commitments?
7. Is he/she on time for appointments and events?
8. To your knowledge, has the applicant ever been convicted of a crime?
9. Do you know of any issues that would affect the applicant’s ability to work with a child?
10. Would you feel comfortable allowing the applicant to spend time alone with your child?
11. Do you have any additional comments about the applicant?
INTERVIEWER COMMENTS:

Office use:

III. REFERENCE CHECK COMMENTS

Name of Person Conducting Reference Check: 

Recommended Action: (Select one)

Hire/Place
Second Interview
Refer to another program
Not suitable for this organization at this time

Note: If “refer” or “not suitable”, please provide explanation of red-flag or informed intuition and forward to your program manager.

Comments:
Background Checks

OREGON / FBI SCREENING SERVICE AND FEE WAIVER

Legislation in Oregon provides that approved programs can run a fingerprint-based criminal background check on volunteers through the AFIS screening system at the Oregon State Police and the FBI. There is a charge for this service (about $67.25 per volunteer and $71.25 per employee). However, some mentoring and tutoring programs can also apply for a fee waiver to screen volunteers at no cost. Programs are only eligible to receive the fee waiver if they are a 501(c) agency and if:

- Volunteers work with youth (or elderly)
- Volunteers work one-on-one with the youth (not in a group setting)
- Volunteers have a long-term commitment, preferably nine months or longer

To be approved for this system and the fee waiver, youth development programs must fill out the application on the Oregon State Police’s website. While filling out the application with the State Police, programs can choose which offenses they wish to screen volunteers against. Some youth development programs stipulate that volunteers must have totally clean records, and other programs allow volunteers that have had minor, non-violent offenses or misdemeanors. The Department of Education uses a comprehensive list of disqualifying convictions to screen employees and volunteers, and this is a good place to start when determining which crimes to screen your volunteers against.

After your program has been approved by the Oregon State Police, you will need to begin fingerprinting volunteers. Under Oregon HB 3330, State Police no longer accept paper fingerprint cards and will only accept “electronic fingerprint capture technology” (the Livescan system). There will be exemptions only in rare cases (those exemptions are not yet written).

Electronic fingerprint scanning is provided by some police departments and by some private companies. The charge for this service is usually $12-20 per card,
though some youth development non-profits have been successful getting this service donated in-kind.

Fieldprint provides electronic Livescan fingerprint options in 26 locations across Oregon including but not limited to those locations listed below. To find active Oregon Livescan locations, visit [http://www.fieldprintoregon.com/](http://www.fieldprintoregon.com/). Fieldprint charges $14.65 per applicant for Livescan fingerprint processing, and appointments must be made online at [http://www.fieldprintoregon.com/](http://www.fieldprintoregon.com/). If you are approved for the OSP fee-waiver, your volunteers will need the OCA code assigned to your organization by Oregon State Police Clearinghouse Unit when booking an appointment with Fieldprint.

After fingerprints have been taken and associated with the OCA fee waiver code for your organization, they should be sent directly to the state police clearinghouse, which will check the prints through the Automated Fingerprint Identification System (AFIS), which searches Oregon, Idaho, Washington, Montana, Wyoming, Utah, Alaska, and Nevada, as well as the Immigration and Naturalization Service. Prints are then sent to the FBI and compared to the most complete criminal database in the United States. The FBI then destroys the scanned prints. The state police will contact you directly in approximately 5 days with the results. You will learn whether the volunteer passed, but you will not learn what is in your volunteer’s record. Remember that the volunteer is checked against the crimes outlined in your OSP fee-waiver application. With volunteers who do not pass, programs can choose how to handle the situation (i.e., immediately reject the volunteer or collect more information on the offenses using a different system such as a name-based background check through a private vendor like Intellicorp).

<table>
<thead>
<tr>
<th>City</th>
<th>Zip Code</th>
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<tbody>
<tr>
<td>Coos Bay</td>
<td>97420</td>
</tr>
<tr>
<td>Enterprise</td>
<td>97828</td>
</tr>
<tr>
<td>Eugene</td>
<td>97403</td>
</tr>
<tr>
<td>Hermiston</td>
<td>97838</td>
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<tr>
<td>Hillsboro</td>
<td>97123</td>
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<tr>
<td>John Day</td>
<td>97845</td>
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<tr>
<td>Klamath Falls</td>
<td>97601</td>
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<td>McMinnville</td>
<td>97128</td>
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<tr>
<td>Newport</td>
<td>97365</td>
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<tr>
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<tr>
<td>The Dalles</td>
<td>97058</td>
</tr>
<tr>
<td>Tillamook</td>
<td>97141</td>
</tr>
</tbody>
</table>
OPTION 2: USE A PRIVATE VENDOR FOR A MULTI-STATE, NAME-BASED CHECK

If your organization cannot qualify for the free service, there are other options to run criminal checks on your mentors with name-based (not fingerprint-based) checks. Many nonprofits use businesses such as Intellicorp⁸ and Sterling Volunteers.⁹ Before choosing to use a Private Vendor, please read this excerpt from MENTOR’s How to Build a Successful Mentoring Program:

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⁸ https://www.intellicorp.net/
⁹ https://www.sterlingvolunteers.com/

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CRIMINAL BACKGROUND CHECK

The criminal background check system in the United States is complicated. Each state is the gatekeeper for background checks; that is, the state decides who can access background checks and for what purpose. There is no consistency from state to state on eligibility, process, cost and turnaround time. In many states, the most thorough types of background checks may not be available to mentoring organizations. Check with your state to find out what options are available.

It can be very confusing for a mentoring program staff person to sort through the types of background checks that are available and decide what is the best. Below you will find information on factors to consider in selecting the background check your organization will use. There is no single criminal database in this country that includes every criminal record, so there is no “perfect” background check. Many organizations use a combination of two or three types of checks to get the most complete information.

- **Fingerprint-based vs. name-based.** A name-based check uses a person’s name and Social Security number to match any possible criminal records. There are several weaknesses with a name-based check:

  1. The volunteer could provide you with a false name and Social Security number. In fact, more than 1 percent of the 45 million individuals in the FBI criminal database have used more than 100 aliases and false Social Security numbers.

  2. Female volunteers may have two or more different last names if they have been married one or more times. If you check only the current name, you can miss criminal records.

  3. Criminal databases can have mistakes in the spelling of an individual’s name and other relevant information. A name-based check might miss a criminal record if the record itself contains mistakes.
4. Because many names are similar, you can get a “false positive”--your potential volunteer seems to have a criminal record, but the record actually belongs to another person with the same name.

A fingerprint-based check is the only way to verify a person’s identity and ensure that the criminal records found are for the right person.

- **Private vendor checks.** Dozens of private vendors advertise their ability to conduct criminal background checks. The costs, response times, and quality of these checks vary widely from company to company. Private background checks are generally name-based and usually find only convictions, not arrests. Private vendors use two basic methods to conduct background checks. Some search county record repositories for the volunteer’s county of residence for the past three to five years, which has the same drawbacks as a county search. Other vendors maintain databases of criminal records, often searchable online. Some of these vendors advertise their background checks as national in scope, but they are actually only multi-state. These vendors buy criminal data from individual states; but many states have strong privacy laws and do not sell any criminal data. Other states sell only a portion of their data (e.g., parole records but not full conviction or arrest files). This means that when you run a search through a private vendor, you are accessing complete records from a few states, partial records from many states and no records from many states. If you are using a private vendor check, find out as much as you can about what method the vendor uses to conduct the background check and what data is accessed.

- **FBI checks.** The FBI maintains the most complete criminal database in the United States. It contains more than 200 million arrest and conviction records of more than 45 million individuals. All records are fingerprint-based. Five to seven thousand new individuals are added to the FBI database every day when persons are arrested for the first time. The database is made up of all federal crimes plus approximately 70 to 90 percent of each state’s criminal databases. Low-level misdemeanors and citations are generally not present in the FBI
database, so programs that use an FBI check may wish to supplement it with a
driver’s license check or a state background check to access these records. To
obtain an FBI check, you must go through your state background check agency.
ORIENTATION AND POLICIES

A quality orientation is critical to a successful experience with your volunteer mentor. The orientation process helps the volunteer feel integrated into and valued by the organization. It also allows the program to set clear expectations from the start, which is critical to avoiding problems later. The orientation can be delivered to an individual volunteer or to a group of volunteers.

This section includes the following resources:

- **Orientation Checklist**: This document walks a program coordinator through the content to cover in a volunteer orientation.
- **Commitment Statement**: This sample Commitment Statement and Code of Conduct can be adapted and used in your program as a tool to clarify expectations and get commitment from volunteers to follow them.
- **Appropriate Conduct with Youth**: These policies address appropriate adult behavior with program youth and represent best practices for protecting youth and minimizing program liability. They cover communication with youth, safe touch, transporting youth, self-disclosure, dangerous substances/objects (alcohol, drugs, and weapons), and unacceptable behavior.
- **Social Media and Photography**: These guidelines define appropriate and permitted behavior relating to social media and photography. STEM professionals who have limited professional experience with youth may not realize the safeguards necessary to protect youth and to professionally represent the program.

Finally, a *volunteer handbook* can serve as a permanent resource for mentors to help them understand program expectations and best practices. This *sample handbook*¹⁰ from the Institute for Youth Success provides a model that can be customized to fit your program.

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OregonASK STEM Volunteer Toolkit 26
Orientation Checklist

Volunteer Orientation Checklist

☐ **Organization/program background**
What is the history of the organization and program?
What is/are your mission, vision, values, and goals?

☐ **Facility/program space tour**
Show the volunteer around your facility, especially the spaces used by your program.
Introduce the volunteer to staff, including custodians, teachers, and program staff.
How does the volunteer access the building and sign in?
Where should the volunteer store personal belongings, such as a coat or purse?

☐ **Schedule**
What is your program schedule? What will the volunteer do during each block?
What time should the volunteer arrive and leave?

☐ **Staff and volunteer roles**
What is the role of volunteers in the program versus the role of staff?
What are their respective roles during lessons/projects? In behavior management?
What rules must youth follow? What is the volunteer responsible for enforcing?

☐ **Appropriate conduct**
What rules of professionalism (dress code, phone use, etc.) should be followed?
What are the expectations relative to volunteer absences and timeliness?
What is the social media policy*? Can the volunteer take photos?
What are the policies on safe practices* with youth (communication, safe touch, etc.)?

- **Miscellaneous**
  What are the safety rules in the space?
  What is the procedure if the volunteer has a grievance? Suspects child abuse?
  What name should the volunteer go by with youth? (ex: Mr. Bill)
  Have volunteer sign a media release and share company social media accounts to tag.

- **Formalizing role and next steps**
  Have volunteer sign the commitment statement and code of conduct*.
  Provide volunteer handbook.
  Share all necessary contact information for program staff and others.
  Schedule mandatory volunteer training.

* Examples of these documents are available in this toolkit.
Commitment Statement

Sample Volunteer Mentor
Commitment Statement & Code of Conduct

The following outlines expectations of all volunteer mentors with [program, school, or organization]. Please read and sign below. If you have any questions, contact your program coordinator.

PROGRAM EXPECTATIONS

MENTOR ROLE

• Support a team of young people through ongoing group relationship building
• Serve as a positive role model and friend
• Build relationships with and among youth by planning and supporting weekly meetings
• Strive for mutual respect
• Build self-efficacy, motivation, and sense of belonging
• Help set goals and work toward accomplishing them

TIME COMMITMENT

• Make a 12-week commitment from the time of training through the program’s end
• Meet twice weekly with a group of youth for 10 weeks
• Spend a minimum of 3 hours per week with groups of youth
• Communicate weekly with the program coordinator
• Document hours, activities, and project progress to share with your coordinator biweekly
• Attend an initial three-hour training session and additional two-hour training sessions once during each year of participation in the program
• Attend the program’s culminating event, the annual science fair
• Attend optional group events and mentor support groups

OregonASK STEM Volunteer Toolkit 29
CODE OF CONDUCT

1. If you are running late, call your program coordinator to indicate what time you will arrive.
2. Never use alcohol or drugs when volunteering. Never offer youth alcohol or drugs.
3. Never ask youth participants to keep a secret.
4. If you suspect abuse or neglect of a youth, discuss this with your coordinator immediately.
5. Corporal punishment and physical discipline of youth are not permitted. Discuss appropriate means of setting goals and limits with your coordinator.
6. Respect the privacy and personal boundaries of youth. Inappropriate behavior, such as sexual relationships, abuse, or molestation, is not permitted.
7. [Organization name] does not allow off-site or overnight visits.
8. During programming, youth participants are never to be left in the care of someone who is not a staff person or volunteer with [organization name].

I can meet the above outlined expectations, and I agree to abide by [organization name]’s Code of Conduct.
Mentor:
Printed name  Signature  Date

Coordinator: __________________________________________________________
Printed name  Signature  Date
Appropriate Conduct with Youth

Sample Conduct Guidelines

CONTACT WITH YOUTH

Youth and mentors will not interact outside of the school, summer program, or after-school setting. The only exception to this is events and field trips organized by the program where volunteers are acting in their official capacity. Youth and mentors are never permitted to spend time together at a private residence. Youth and mentors are never permitted stay overnight together. Mentors should not be asked to mentor other siblings or bring other youth to group mentoring meetings. Do not exchange personal information, including your phone number, with any students. Do not communicate with any student through social media. All communication with students must be conducted through [program name] events or activities. Please notify your program coordinator if a student initiates contact with you outside of the program.

SAFE TOUCH

Safe touch is a [program name] policy that is designed to protect the physical and emotional boundaries of both youth and adult participants. It is important to remember that as mentoring relationships occur between youth and adults, certain physical interactions are inappropriate. When reviewing safe touch with participants, consider family and cultural expectations around touch, and remember that you are acting in a professional – not personal – capacity.

**Safe/appropriate touch** is appropriate physical contact initiated by youth with adults or other youth such as:

- A side hug
- A high five or fancy handshake

**Unsafe/inappropriate touch** is:

- Physical contact initiated by the mentor beyond a handshake or high-five
- Full-frontal hugs or other types of touch not listed under “appropriate touch”
• Any form of touch that violates laws against sexual contact between adults and children

TRANSPORTATION
Volunteer mentors are not permitted to provide transportation to youth participants. There are no exceptions to this policy. While participating in this program, volunteers and youth should never spend time together in a personal vehicle. Transportation for youth to/from programming or special events will be provided by the program.

SELF-DISCLOSURE
Due to the nature of mentoring, it is expected that some personal information will be shared between youth and adults. The program expects that more personal information be shared from youth to the mentor and that less personal information will be shared from the mentor to youth. While there are no specific topics that are prohibited from being discussed, the following guidelines will help to limit any detrimental over-sharing from the mentor to youth:

• Only share personal information that is relevant to the team experience and that you are comfortable sharing.

• Only share personal information when it serves as a benefit to youth and hold back from sharing any personal information that is being shared for the benefit of the individual sharing.

• Limit the amount of information shared regarding sensitive topics such as personal relationships, drugs, alcohol, sex, money, and a history of trauma or abuse. It is acceptable to say to youth that certain topics are too personal to discuss.

If ever in doubt on whether you should share personal information, it is best to hold back. It can always be shared later if it would be more appropriate at a different time. Conversely, once the information is shared, you cannot take it back. Please consult the program coordinator with any questions on self-disclosure.
USE OF ALCOHOL, DRUGS, AND WEAPONS

It is the policy of [program name] to prohibit the use or possession of drugs, alcohol, and weapons during the program or any program-sponsored activities (including all mentoring activities). Any suspected violations should be reported to the program coordinator.

**Alcoholic beverages, marijuana, and tobacco:** No participant, staff person, or volunteer in [program name], regardless of age, will possess or consume any alcoholic beverages or marijuana while actively engaged or prior to actively engaging in mentoring activities, nor shall any participant, staff person, or volunteer endorse the use of alcohol or marijuana. Tobacco will not be used or endorsed in the presence of youth.

**Drugs:** No participant, staff person, or volunteer in [program name] will manufacture, possess, distribute, or use any illegal substance while engaged in mentoring or otherwise.

**Weapons, firearms, and other dangerous materials:** The possession or use of firearms, firecrackers, explosives, toxic or dangerous chemicals, knives, or other lethal weapons, equipment, or material while participating in mentoring activities is strictly prohibited.

Any violation of this policy will result in the immediate suspension and/or termination of involvement in this program. In addition, violations of this policy may result in notification being given to legal authorities that may result in arrest or legal action and may be punishable by fine and/or imprisonment.

UNACCEPTABLE BEHAVIOR

It is the policy of [program name] that unacceptable behaviors will not be tolerated on the part of mentors or youth while participating in the program. A number of behaviors are regarded as incompatible with [program name] goals, values, and program standards and therefore are considered unacceptable and prohibited while participants are engaged in mentoring activities. These behaviors include:

- Unwelcome physical contact, such as inappropriate touching, patting, pinching, punching, and physical assault
• Unwelcome physical, verbal, visual, or behavioral mannerisms or conduct that
denigrates or shows hostility toward any individual
• Demeaning or exploitive behavior of either a sexual or nonsexual nature,
  including threats of such behavior
• Display of demeaning, suggestive, or pornographic material
• Known sexual abuse or neglect of a child
• Denigration, public or private, of any youth’s parent/guardian or family
  member
• Intentional violation of any local, state, or federal law
• Driving under the influence of alcohol or any other mind-altering substance
• Possession of illegal substances

Any unacceptable behavior, as specified but not limited to the above, will result in a
warning and/or disciplinary action including suspension or termination from
participation in the mentoring program. Other behaviors, while not illegal, serve to
disrupt and limit the success of the mentoring relationship. Therefore, the following
guidelines must be adhered to during all mentoring activities:
Use appropriate, respectful language while talking to youth, co-mentors, or any
person you speak with during a mentoring activity. Wear appropriate clothing; this
includes keeping undergarments cover and not wearing anything revealing. Respect
guidelines and boundaries that youth request from the other members of the
mentoring team.\textsuperscript{11}

\begin{center}
\textsuperscript{11} Adapted from STEM Mentoring Program Volunteer Handbook. \textit{Institute for Youth Success.}
\end{center}
Sample Social Media Policy

This sample policy was adapted from one compiled by staff at the Institute for Youth Success using knowledge and examples from the field. Please refer to your governing board and/or legal counsel for support interpreting your organization’s social media policy. This sample document can be modified to fit the context of your specific youth program. This policy has been adapted from Friends for Youth Mentoring Institute.

SOCIAL MEDIA POLICY

[Program name] recognizes many benefits of online communication platforms such as Facebook, Twitter, and Instagram. We believe that these information-sharing tools can help us raise awareness about our organization and the importance of quality youth and adult partnerships. For these reasons, [program name] utilizes platforms including social networking sites (Facebook, Twitter, etc.), news-sharing sites (program and community blogs), photo- and video-sharing sites (Flickr, YouTube, Instagram, etc.), and other online communication platforms (webinars, podcasts, etc.) to communicate with our program participants, board members, community partners, and others.

While we recognize the inherent benefits of online communication platforms, we also understand that online communication can have negative, damaging or unintended effects when boundaries of public and private information sharing are blurred. For these reasons, we have developed a social media policy to protect program participants and organizational integrity.

Our program will rely on social media tools for marketing, outreach, event planning and networking; however, to protect the healthy boundaries of youth and adult

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OregonASK STEM Volunteer Toolkit
mentoring relationships, **youth and adult volunteers are not permitted to engage in social media platforms with one another while participating in this program.**

If a program board member, employee, volunteer, youth participants or affiliate elects to participate in social media platforms on their personal time, we hold that this is the choice and sole responsibility of the individual. As program representatives, we request that participants, affiliates, and employees understand and adhere to the following Social Media CARE guidelines when interacting with the program through online communication platforms.

**Community – Appropriate – Responsibility – Exercise Common Sense (CARE)**

**Community – Honor It!**

Online communication platforms are an incredible resource for connecting and building community. Honoring community connection means using these mediums as ways to build support, positive interaction, and shared understanding. Because people bring unique experiences, attitudes, and beliefs to the realm of online interaction just as they do in person, some online dialogue may illustrate differences of opinion. When this happens, remember to articulate yourself clearly and responsibly by presenting information logically, not overreacting, and objectively clarifying misunderstandings or errors as necessary.

**Appropriate – Be It!**

If you choose to dialogue via an online communication platform on a personal level while “linked” or connected to this program, be considerate, fair, and appropriate with your posts. This means considering if the information you are sharing is something that you feel comfortable with this program and other individuals viewing before you post. Remember, all information shared through online communication platforms becomes public domain the instant it is posted. When sharing in your personal networks, remain professional at all times when discussing the program.

**Responsibility – Use It!**

You are responsible for the information you share through online communication platforms. Exercise responsibility for your communication by demonstrating accuracy, honesty, and integrity. When you make a mistake, acknowledge and correct it immediately. Think twice before posting. Always consider if you are
comfortable with the information being connected back to you by anyone. Honor confidentiality and do not disclose an individual’s personal information. If you are expressing your personal opinion while referencing this program, be sure to indicate that you are expressing a personal belief, opinion, or attitude and not the expressed opinion of the organization with which you are affiliated.

Exercise Common Sense and Good Judgment – Show It!
If you are unsure if you should post information using online communication platforms, err on the side of caution and use discretion. Understand that if you choose to connect with your program via online communication platforms, you are expected to share this information with the program. Recognize that [program name] will monitor social networking sites to protect program participants and organizational integrity. Failure to follow the program’s Social Media CARE guidelines may be cause for dismissal from the program.

If a program participant, employee or affiliate is concerned about their ability to follow this social media policy and these CARE guidelines, this program requires that they do not communicate electronically in a way that connects them to this program. This policy is established to protect participants and the integrity of this organization and to support healthy youth and adult relationships. [Program name] will select a staff member to manage and represent all program information via online communication platforms. This individual is responsible for managing all log-in information, marketing, and adherence to above guidelines.

PHOTOGRAPHY

**Do not take or share photos or videos of program youth without explicit permission from the program coordinator.** Some parents/guardians have elected not to sign media releases due to safety, religious, or personal preference reasons. Additionally, some parents/guardians may be uncomfortable with photos or videos of their child being shared outside of official program channels. Furthermore, before taking or sharing photos or videos of any adult in the program, ask for permission from that adult.
STEM professionals bring STEM expertise to their mentor roles but may not have much experience working with youth. This section consists of guides to teach your STEM mentor strategies for effectively promoting STEM learning:

- **Youth-Friendly Communication:** Many STEM professionals are not used to discussing their work with youth. This resource helps STEM mentors speak in a way that resonates with youth.

- **Leading an Activity:** Your STEM mentors you may or may not be asked to lead an activity. If they are, this guide walks them through important considerations, especially how to keep youth engaged.

- **Supporting Youth Learning:** When working with youth, many of our natural instincts can be counterproductive. A better understanding of growth mindset and inquiry-based learning will help your STEM mentors support the learning of the youth in your program.

- **Stages of Youth Development:** These charts highlight the physical, social, emotional, and intellectual development stages that youth pass through as they age.

- **Behavior Management Strategies:** These techniques will help your STEM mentors retain control in the classroom, whether or not program staff are present.

In addition to these tools, the [Techbridge Role Models Matter Toolkit](https://www.techbridgegirls.org/rolemodelsmatter/toolkit/) has a wealth of resources to support STEM professionals as they volunteer in youth programs.

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13 [https://www.techbridgegirls.org/rolemodelsmatter/toolkit/](https://www.techbridgegirls.org/rolemodelsmatter/toolkit/)
Youth-Friendly Communication

Often, STEM professionals are so accustomed to talking about their work with colleagues and other adults that they do not know how to communicate effectively with youth. The National Academy of Engineering\(^\text{14}\) makes these recommendations for sharing STEM work with youth:

- **Don’t** imply that STEM is only for people who “love” math and science.
- **Don’t** focus on “in-the-weeds” details of day-to-day work.
- **Don’t** use overly technical language that is not audience appropriate.
  - You can use some technical jargon, but make a point to define it in a youth-friendly way, and limit it to 3–5 terms.
- **Do** prioritize these messages that inspire interest:
  - STEM professionals are creative problem-solvers.
  - STEM professionals make a world of difference.
  - STEM is essential to our health, happiness, and safety.
  - STEM helps shape the future.

**ROLE MODEL INTRODUCTIONS**

STEM mentors can practice youth-friendly language by rehearsing introducing themselves to a group of youth. Techbridge\(^\text{15}\) offers the following recommendations:

- Use youth-friendly language as you describe your work
- Share your academic/career path, including strategies to overcome challenges
- Show how your career helps others
- Make it personal, fun, and relatable by mentioning your hobbies and pets

Finally, the program coordinator should make a point to tell the STEM mentor which name they should go by. While your STEM mentor may be accustomed to using their

\(^{14}\) [http://engineeringmessages.org](http://engineeringmessages.org); these messages are adapted here to reflect STEM more broadly.

\(^{15}\) [https://www.techbridgegirls.org/rolemodelsmatter/tool/hosting-your-own-rmm-training/](https://www.techbridgegirls.org/rolemodelsmatter/tool/hosting-your-own-rmm-training/) OregonASK STEM Volunteer Toolkit
first name, program norms may dictate that they go by Mr. Bill or Mr. Smith instead. Make a point to also tell your volunteers how they should address other volunteers and program staff in front of the youth.
Leading an Activity

Depending on how your program uses STEM mentors, their mentoring role may involve leading an activity or a lesson. A few key strategies can make all the difference in whether the experience is fun and productive or chaotic and unsuccessful. They largely revolve around the issue of engagement, an essential element to a successful lesson. In planning an activity, STEM mentors should remember this formula:

Disengagement → Boredom → Misbehavior

This concept should inform their decision-making as they plan their activity. Here are some tips for each part of the lesson:

**INTRODUCTION AND INSTRUCTIONS**

- **Limit the length of the introduction and instructions:** Youth have short attention spans, especially during whole-group instruction. Research shows\(^\text{16}\) that off-task behavior increases among youth after ten minutes of instruction time. A common mistake among first-time teachers is to allow too much time for introductions, teaching, and directions; as time wears on, misbehavior can crescendo to the point of chaos by the time your STEM mentor is ready to explain the instructions for the hands-on activity. They should limit the length of this initial “talk” portion and be ready to advance more quickly if they sense they are losing youth’s attention.

- **Add interaction to the introduction and instructions:** Youth disengage when they are not actively involved. Be wary of get-to-know-you activities in which

<table>
<thead>
<tr>
<th>Sample Lesson Structure</th>
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<tbody>
<tr>
<td>Introduction and instructions</td>
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<tr>
<td>Hands-on activity</td>
</tr>
<tr>
<td>Clean-up</td>
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<tr>
<td>Reflection</td>
</tr>
</tbody>
</table>

\(^\text{16}\) [https://hechingerreport.org/teachers-often-ask-youngsters-learn-ways-exceed-even-adult-sized-attention-spans/](https://hechingerreport.org/teachers-often-ask-youngsters-learn-ways-exceed-even-adult-sized-attention-spans/)
youth merely listen to their peers for extended periods of time. As your STEM mentor introduces themself and delivers any instructional content, they should make it as interactive as possible; for instance, rather than simply lecture, they should ask youth questions or poll them periodically by having them raise their hands.

- **Be enthusiastic:** An engaging presenter staves off disengagement. Your STEM mentor should show energy and passion for their topic.

- **Finish the instructions before passing out materials:** Having something in their hands can be distracting for youth. Once the STEM mentor starts passing out materials, youth often stop listening. Similarly, even having the materials set out in the middle of the table can be distracting. The STEM mentor should give clear instructions about the project youth will be working on, then pass out materials (or have an ordered system for youth to get what they need).

**HANDS-ON ACTIVITY**

- **Plan an activity with the right level of challenge:** When an activity is too easy, youth become bored. When it is too hard, they get frustrated and disengaged – and then bored. Boredom often leads to being off-task and misbehaving. Your STEM mentor should take care to pick an activity with the right level of challenge. Experienced program staff can help them evaluate their activity, and the internet has a wealth of resources with age-appropriate activities.

- **Pick the right group size for the project:** The right group size is key to maintaining engagement. When there are too many youth in a group, not everyone can be active at once, and some youth disengage and get bored. In deciding group size, your STEM mentor also must evaluate how many groups they can support, both in their teaching capacity and in terms of the amount of equipment and supplies available.

- **Test the activity in advance:** Potential pitfalls in an activity can only be discovered by trying it out. For instance, a project may require poking a hole in the bottom of a plastic cup, but this cracks it instead, ruining the project. A poorly conceived project can lead to frustration and boredom.
• **Minimize inactive time:** Youth get bored when they are not actively engaged. This can occur when a group finishes early, when they are waiting for a supply or assistance, or when they cannot work because something has gone wrong (for instance, they are doing internet-based work and the Wi-Fi goes down). Advanced planning for such scenarios allows your STEM mentor to minimize inactive time in the first place and prepares them to redirect youth when the unexpected happens.

**CLEAN-UP AND REFLECTION**

• **Save time for clean-up and reflection:** A common mistake for new instructors is running out of time for clean-up and reflection. STEM mentors should keep their eye on the clock during the hands-on activity and make sure to stop early enough to have time for these two important tasks.
Supporting Youth Learning

GROWTH MINDSET
STEM mentors can play an important role in helping youth develop the growth mindset that is necessary for future success. According to researcher Dr. Carol Dweck, a growth mindset is the internal belief that you can expand your skills and knowledge through effort, perseverance, and the right strategies. People with fixed mindsets, on the other hand, believe abilities are innate and predetermined. Youth with fixed mindsets limit their own learning because they avoid challenges, give up easily, see effort as pointless, and ignore constructive criticism.

Your STEM mentors can help youth develop a growth mindset through the following strategies:

- **Use encouragement rather than praise:** In her research, Dr. Dweck found that children who were encouraged after a success were more likely to attempt harder challenges than children who were praised. Encouragement recognizes effort and focuses on the process that led to the outcome. Praise focuses on the outcome and applauds the person. Praise drives youth to seek external validation and to avoid failure. Encouragement helps them develop internal motivation and focuses on the strategies that made them successful.

- Here are some examples of encouraging phrases that can be used in lieu of praise:

<table>
<thead>
<tr>
<th>Encouragement</th>
<th>Praise</th>
</tr>
</thead>
<tbody>
<tr>
<td>You worked really hard at that.</td>
<td>I like how you did that.</td>
</tr>
<tr>
<td>It seems like you take pride in doing well.</td>
<td>I’m proud of you for getting that “A.”</td>
</tr>
</tbody>
</table>

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18 https://www.youtube.com/watch?v=TTxV0_3UjY
19 These examples were assembled as part of the Youth Engagement, Motivation, and Development series under Oregon Mentors.

OregonASK STEM Volunteer Toolkit
In the face of failure, focus on strategies: Sometimes, failure results from poor strategies, not lack of effort. As Dr. Dweck said, “Students need to know that if they’re stuck; they don’t just need effort. You don’t want them redoubling their efforts with the same ineffective strategies. You want them to know when to ask for help and when to use resources that are available.”

Avoid and challenge “I’m not a math person”: Fixed mindsets are particularly prevalent around math abilities. Youth may say, “I’m not a math person” about themselves or may have heard a parent or other person say it, and this often makes them internalize a fixed mindset around math. STEM mentors should challenge this idea when it is articulated and focus instead on how youth can grow their math abilities. Furthermore, they should avoid making such blanket statements themselves, be it about math or another subject.

When youth question their own ability, add “yet”: When a youth says that they are not good at something or cannot do it, add “yet.” “I’m not good with computers... yet.” “I can’t figure this out... yet.” “I’m not a math person... yet.” This reminds them that they can improve their abilities by adopting a growth mindset.

INQUIRY-BASED LEARNING

Inquiry-based learning is a teaching method that “empowers students to ask questions and find the answers for themselves.” Rather than passively receive information, they create and discover information for themselves. In these learning

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21 This recommendation was shared as part of the Youth Engagement, Motivation, and Development series under Oregon Mentors.

environments, adult facilitators serve as “a guide on the side” rather than “a sage on the stage”; that is, these are learner-centered rather than teacher-centered environments.

Pedaste et al. identified five phases of inquiry:

1. **Orientation**: This can be interactive and usually occurs during the introduction to a project.
2. **Conceptualization**: In this phase, youth generate questions, and possibly a hypothesis, to explore during the next phase.
3. **Investigation**: Youth explore their questions or test their hypotheses by exploring, experimenting, and interpreting data.
4. **Conclusion**: This is the product of the youth’s inquiry process.
5. **Discussion**: Youth reflect on and share what they learned.

During the investigation stage, the natural instinct of many STEM mentors is to act as a “sage on the stage” and direct youth to particular conclusions rather than allow them to discover conclusions themselves. These three tips can help STEM mentors assist youth more effectively:

**Ask purposeful questions**: Purposeful questions complement inquiry-based learning by using open-ended questions to help youth probe their own understanding and collaborate with their peers. If youth are testing water filter designs, a STEM mentor could ask, “What was it that trapped the most debris?” or “Why do you think the red food coloring was left behind in the dirty water?” The STEM mentor can then ask

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OregonASK STEM Volunteer Toolkit
youth to expand their thinking with questions like “What is your evidence?” or “Why do you think that?”

**Resist telling youth how to solve the problem:** When youth are stuck, the natural instinct of many STEM mentors is to tell youth how they would solve the problem. This takes the learning opportunity and autonomy away from youth (plus, sometimes the adult’s idea is not as effective as the one the youth would have come up with on their own). Instead of sharing their own solutions, the STEM mentor should ask purposeful questions to help the youth solve it themselves: “Why do you think it is that the gravel is getting through your filter?” “How can you fix [the problem the youth identified]?”

**Follow the “hands off” rule:** STEM mentors should keep their hands off youth’s projects as they are building them. When STEM mentors touch youth’s projects, it is generally because the mentor is trying to have youth test the mentor’s solutions rather than asking the youth purposeful questions to generate ideas for themselves. Furthermore, as Megan Davis of Techbridge explains, youth usually react to adults touching their projects in one of two ways: “Great, you do it and fix it for me” or “Hey! She just messed up my project! I wasn’t even doing that!”

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# Stages of Youth Development

## 6-8 Year Olds

<table>
<thead>
<tr>
<th>Physical Development</th>
<th>Considerations for Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>They are mastering physical skills</td>
<td>Their craft projects could end up messy</td>
</tr>
<tr>
<td>They have better control of large muscles than small muscles</td>
<td>Their activities need to be active</td>
</tr>
<tr>
<td></td>
<td>Plan activities that practice both small muscles and large ones</td>
</tr>
<tr>
<td></td>
<td>Work on skills that can be completed successfully by beginners</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Development</th>
<th>Considerations for Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>They are learning how to be friends and may have several best friends at one time</td>
<td>Small group activities are best</td>
</tr>
<tr>
<td>They are becoming more aware of peers and their opinions</td>
<td>Break them into groups to encourage them to interact with different children</td>
</tr>
<tr>
<td>They are family-oriented</td>
<td>They need a lot of praise as they are seeking adult approval</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emotional Development</th>
<th>Considerations for Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>They see fairness as being nice to others so others will be nice to them</td>
<td>Focus on cooperative games in which every child wins</td>
</tr>
</tbody>
</table>

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26 Adapted from https://www.canr.msu.edu/news/6_to_8_year_olds_ages_and_stages_of_youth_development

OregonASK STEM Volunteer Toolkit
- They seek parental/adult approval
- They tend to behave in ways to avoid punishment
- Find ways to have more successes than failures
- Be available to discuss fears and other issues important to them, no matter how small

<table>
<thead>
<tr>
<th>Intellectual Development</th>
<th>Considerations for Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>- They base their thinking in reality and accuracy</td>
<td></td>
</tr>
<tr>
<td>- They are learning to sort things into categories</td>
<td></td>
</tr>
<tr>
<td>- They are beginning to develop a sense of cause and effect</td>
<td></td>
</tr>
<tr>
<td>- Reading to a child in this age group is effective and enjoyed</td>
<td></td>
</tr>
<tr>
<td>- Help them predict answers to their questions</td>
<td></td>
</tr>
<tr>
<td>- Be flexible – provide a variety of activities</td>
<td></td>
</tr>
<tr>
<td>- Role playing and skits are a popular way to learn and interact</td>
<td></td>
</tr>
</tbody>
</table>

9–11 Year Olds\(^2\)

<table>
<thead>
<tr>
<th>Physical Development</th>
<th>Considerations for Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Their large muscle development, strength, balance, and coordination increase steadily</td>
<td></td>
</tr>
<tr>
<td>- They are very active with lots of energy</td>
<td></td>
</tr>
<tr>
<td>- Girls tend to mature faster than boys</td>
<td></td>
</tr>
<tr>
<td>- Plan activities that allow them to move about</td>
<td></td>
</tr>
<tr>
<td>- Vary activities</td>
<td></td>
</tr>
<tr>
<td>- Avoid competitions between genders</td>
<td></td>
</tr>
</tbody>
</table>

\(^2\) Adapted from https://www.canr.msu.edu/news/9_to_11_year_olds_ages_and_stages_of_youth_development

OregonASK STEM Volunteer Toolkit 49
• Small muscle coordination increases

<table>
<thead>
<tr>
<th>Social Development</th>
<th>Considerations for Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>They generally see adults as authority</td>
<td>Clarify and enforce reasonable limits</td>
</tr>
<tr>
<td>They follow rules out of respect for authority</td>
<td>Plan plenty of time to be with individuals from their same gender</td>
</tr>
<tr>
<td>They are loyal to groups, clubs, etc.</td>
<td>Group activities are important</td>
</tr>
<tr>
<td>They enjoy code languages and passwords</td>
<td></td>
</tr>
<tr>
<td>They identify with individuals of the same gender</td>
<td></td>
</tr>
<tr>
<td>They approach solving problems by negotiating, compromising with peers</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emotional Development</th>
<th>Considerations for Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>They admire and imitate older youth</td>
<td>Provide correction quietly one-on-one</td>
</tr>
<tr>
<td>They are developing decision-making skills</td>
<td>Give positive feedback and look for successes</td>
</tr>
<tr>
<td>They are beginning to question authority</td>
<td>Avoid generalized praise</td>
</tr>
<tr>
<td>They need involvement with caring adults</td>
<td>Be present at group activities – visible but in the background</td>
</tr>
<tr>
<td>They find comparisons with others difficult to process</td>
<td>Provide the safety net of an adult that will maintain boundaries</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intellectual Development</th>
<th>Considerations for Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>They accept parent/family beliefs</td>
<td>They still very much enjoy “hands-on” activities</td>
</tr>
<tr>
<td>They admire and imitate older youth</td>
<td></td>
</tr>
</tbody>
</table>

OregonASK STEM Volunteer Toolkit
- They are beginning to question authority
- They need involvement with caring adults
- They find comparisons with others difficult to process
- Help youth form groups with common interests or hobbies
- Vary activities offered to engage rapidly changing interests

12-14 Year Olds

<table>
<thead>
<tr>
<th>Physical Development</th>
<th>Considerations for Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>They experience rapid changes in physical appearance</td>
<td>Plan activities that are not weighted toward physical powers</td>
</tr>
<tr>
<td>Changes in their appearance can occur at different rates, causing great concern</td>
<td>Be patient with grooming behaviors that may seem excessive</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Development</th>
<th>Considerations for Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>They are interested in activities involving individuals of the opposite sex</td>
<td>Provide activities to be with the opposite sex in healthy ways</td>
</tr>
<tr>
<td>They look more to peers than parents</td>
<td>Encourage involvement in teen councils and planning boards</td>
</tr>
<tr>
<td>They seek acceptance and trust</td>
<td>Find time to talk with them individually to help them work through problems or discuss issues</td>
</tr>
<tr>
<td>They tend to reject solutions from adults in favor of their own</td>
<td></td>
</tr>
<tr>
<td>They question authority and family values</td>
<td></td>
</tr>
</tbody>
</table>

28 Adapted from https://www.canr.msu.edu/news/12_to_14_year_olds_ages_and_stages_of_youth_development

OregonASK STEM Volunteer Toolkit
<table>
<thead>
<tr>
<th>Emotional Development</th>
<th>Considerations for Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>• They compare themselves to others</td>
<td>• Plan activities that do not compare one youth with another</td>
</tr>
<tr>
<td>• They see themselves as always center stage</td>
<td>• Avoid singling them out in front of others</td>
</tr>
<tr>
<td>• They are concerned about social graces, friends, being liked, etc.</td>
<td>• Provide opportunities to learn skills</td>
</tr>
<tr>
<td>• They strive for independence, yet want and need adult approval</td>
<td></td>
</tr>
<tr>
<td>• They seek privacy</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intellectual Development</th>
<th>Considerations for Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>• They find justice and equality to be important issues</td>
<td>• Provide opportunities to ask and question ways of doing things</td>
</tr>
<tr>
<td>• They are developing skills in logic</td>
<td>• Plan activities that require some length of time to complete</td>
</tr>
<tr>
<td>• They can solve problems that have more than one variable</td>
<td>• Ask questions to encourage predicting and problem solving</td>
</tr>
<tr>
<td>• They are ready for in-depth, long-term experiences</td>
<td>• Let them serve as assistants</td>
</tr>
<tr>
<td>• They want to explore the world beyond their own community</td>
<td>• Offer more complex games</td>
</tr>
</tbody>
</table>

15-17 Year Olds

<table>
<thead>
<tr>
<th>Physical Development</th>
<th>Considerations for Mentors</th>
</tr>
</thead>
<tbody>
<tr>
<td>• They are concerned about body image</td>
<td>• Provide experiences around body image, etiquette, grooming, etc.</td>
</tr>
</tbody>
</table>

29 Adapted from https://www.canr.msu.edu/news/15_to_17_year-olds_ages_and_stages_of_youth_development
OregonASK STEM Volunteer Toolkit
• They tend to have a realistic view of limits to which their body can be tested

Social Development

• They tend to romanticize
• They make commitments
• They desire respect
• They want adult leadership roles
• They can commit to follow-through

Considerations for Mentors

• Avoid comments that criticize or compare stature, size, or shape

• Provide activities to explore job market, careers, etc.
• Provide opportunities for them to plan their own program
• Provide opportunities to talk about their own beliefs
• Involve them as spokespersons for issues, programs, etc.

Emotional Development

• They are beginning to accept and enjoy their own uniqueness but still seek approval from peer groups
• They look for confidence of others in their decisions
• They can see self from the viewpoint of others
• They take fewer risks
• They can initiate and carry out their own tasks without the supervision of others
• They search for career possibilities

Considerations for Mentors

• Plan activities that allow teens to try different roles
• Be willing to be wrong; they will not put you on a pedestal

Intellectual Development

• They are mastering abstract thinking
• They enjoy demonstrating acquired knowledge

Considerations for Mentors

• Involve them in carrying out plans
• Involve them in advisory groups, decision-making groups
- They can consider many perspectives of a given issue
- They will lose patience with meaningless activity
- Offer vocational/career exploration activities

Behavior Management Strategies

**Be consistent:** Enforce rules and follow routines, such as transitions, consistently. Be true to your word; if you threaten a consequence, follow through with it, and if you give a time warning (e.g., “three minutes left”), stick to that time limit. Consistency creates a sense of safety for youth. Furthermore, if you are not consistent, youth try to see what they can “get away with.”

**Follow program rules and behavior strategies:** Support consistency across the program by using program rules and behavior strategies with youth. In particular, programs often have a preferred way of silently signaling for quiet, such as holding two fingers up in the air.

**Stand next to misbehaving youth:** Standing next to a misbehaving youth naturally tends to diminish misbehavior because you make them aware of your presence without interrupting the activity or causing a scene. The effect can be amplified by putting your hand on their desk or table. Since misbehavior can be driven by the desire for attention, this strategy is effective because it addresses the behavior without drawing more attention to the misbehaving youth. If the behavior continues, quietly address it with the youth in a way that does not draw further attention from the rest of the group.

**Prioritize engagement:** Youth misbehave when they are bored. If you are leading the group, be intentional about keeping youth actively engaged. Strategies for doing so are provided in the Leading an Activity section.

**Narrate the positive:** Describe the behavior you are looking for (“We need everyone in their seats with their mouths closed and eyes up here so we can get started”), then narrate the good behavior out loud as you see it (“I see Jamal has his eyes up here. ... Thank you, Jessica, for sitting quietly.”) This ensures youth understand the behavior.
you are looking for, and the positive comment motivates other youth to demonstrate good behavior.\textsuperscript{30}

**Build relationships:** Youth are more likely to take direction from you when they trust and respect you. Be intentional about building relationships with them and showing you care.

**Support the lead instructor:** STEM mentors may just assist with a group of youth while a staff person leads it. Even in this auxiliary role, they can still help with behavior management. If a youth tries to converse with them when the youth should be focused on the instructor, the STEM mentor can use silent signals to redirect the youth’s attention. If a STEM mentor sees a youth misbehaving across the room, they can move next to the youth to use proximity to calm their behavior.

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RETENTION

Volunteer retention is an important component of effective volunteer practice. When a volunteer makes a sustained commitment to a program, youth benefit from the consistent presence of a supportive mentor. Good volunteer retention also reduces the time the program coordinator spends recruiting and training new volunteers.

To retain STEM volunteers and mentors, use the CARE model:\(^3\):

COMMUNICATION

Mentors should receive appropriate information from the provider organization regarding program goals, expectations, and needs of youth. Mentors should be encouraged to communicate any challenges they are experiencing so that the organization and volunteers can work together to solve them. Try to make it as simple as possible for yourself, your program, and your STEM volunteers. Be very clear about expectations and develop a system for how time with your STEM Volunteer will be spent. Make sure there is a clear method for giving feedback.

APPRECIATION

Mentors should be thanked often and effusively by both youth and your organization. Appreciation for your STEM mentors and volunteers means they will know that they have made a difference in your program, and it encourages them to come back. Remind students to be courteous as well and to thank the STEM volunteer for their time!

RESPECT

Mentors should be greeted warmly and with respect each time they come to volunteer. Make sure you are aware of when to expect your STEM volunteers and mentors and that you have prepared for them. Be sure to inform your students about

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\(^3\) Adapted from the Texas Governor's Mentoring Initiative

OregonASK STEM Volunteer Toolkit 56
them in advance, and prepare them by giving them some background information. Ask students to have extra patience with the STEM mentor because the STEM mentor has a lot to share but may not be an expert at working with youth.

**ENJOYMENT**

Mentors should have a good time mentoring and should look forward to being with youth!