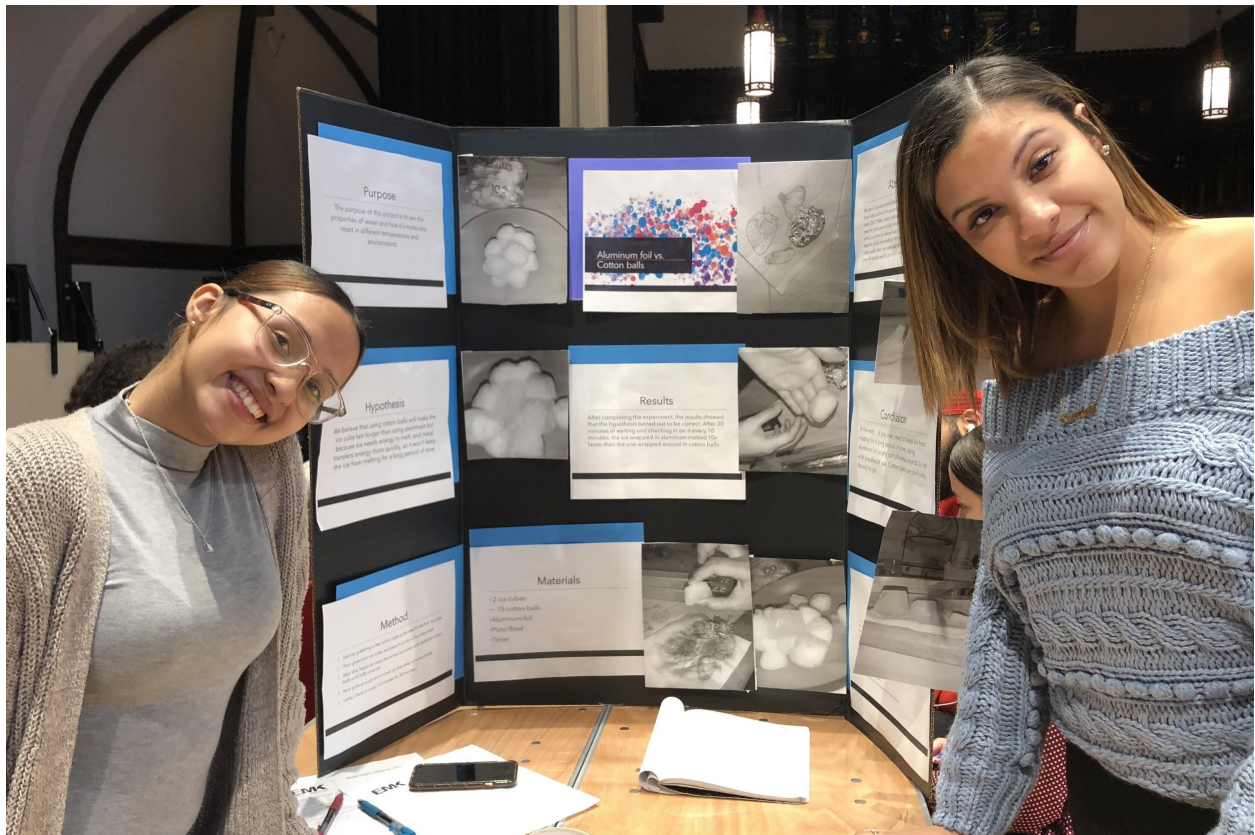# 826 BOSTON

Science Fair Boot Camp
a field guide for STEM Writing Tutors

Dear 826 Boston Volunteer,

Thank you for your commitment to support Science Fair Boot Camp. In this virtual program, you'll be working with students as they polish their projects for the Boston Public Schools Citywide Science Fair. You all bring valuable skills and knowledge. We couldn't do this work without your help!

Thank you,

The 826 Boston Team

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Science Fair Boot Camp Overview

826 Boston's Science Fair Boot Camp is a two-day program designed to help students prepare for the Boston Public Schools Citywide Science Fair. Each of the students attending this Boot Camp are at different stages in their projects. Some students want to polish their presentations, and others are working on the first draft of their research paper.

What will I do in a tutoring session?

As a volunteer tutor, you will work one-on-one with a student in a Zoom Breakout room after the group lesson. You can use our Tutoring Road Map provided in this guide to tailor your tutoring session to each student's unique needs.

An observer from 826 Boston will be intermittently present in your breakout room to provide support. The observer will likely have their camera and microphones turned off but will chime in if you have any questions.

Each volunteer shift will consist of a group mini-lesson followed by individualized tutoring sessions that will both take place virtually over Zoom. Please find an approximate itinerary for the program is below.

- **VOLUNTEER TRAINING** – 30 minutes
- **INTRODUCTIONS** – 5 minutes
- **GROUP MINI-LESSON** – 25 minutes
- **INDIVIDUALIZED TUTORING SESSION** – 45 minutes
- **BREAK** - 5 minutes
- **INDIVIDUALIZED TUTORING SESSION** – 40 minutes

About the Boston Public Schools CityWide Science Fair:

The Boston Public Schools Citywide Science Fair is open to students grades 6–12. For students, the Science Fair is an opportunity to conduct and share independent research. Their projects will cover a vast range of topics across science and engineering disciplines. To learn more about the Science Fair, check out some of the resources here.

Best Practices When Tutoring Writing

1. Spend time checking in.
Sharing any piece of writing with a stranger is a leap of faith. Getting to know the student's interests and background is time well spent. Keep in mind that the Science Fair can be a source of real stress for many students. It's okay to gently ease into the session.

2. Set an achievable goal.
Being explicit about what can be accomplished in your time together is an important part of managing expectations. If a student comes in with no idea what to write about, it is unlikely they will leave with a finished, or even a complete rough draft. However, if your goal is to come away with a detailed outline and solid first paragraph, that is much more achievable.

3. Use the socratic method.
Encourage students to talk through their ideas by asking them open-ended questions to draw out more details. Try to avoid yes or no questions. Be curious and enthusiastic about their ideas and ask follow-up questions.

4. Write down what they're saying.
Take vigorous notes as the student talks through their ideas.. Students are often better able to communicate their work verbally and will say things aloud that you can type up verbatim. Use this opportunity as a strategy to brainstorm content for their papers or presentations.

5. Consider the student's level of content specific knowledge.
As you get to know the student and learn about their project, think about where they are coming from. Remember that 6th grade students will not have taken chemistry, biology or physics classes. That being said, some students may create projects that are on par with undergraduate or graduate level work. Tailor your feedback accordingly. We'll go over some examples during the pre-brief.

6. Always leave them with next steps.
As the final 10 minutes of your tutoring session approaches, be sure to outline next steps in their student guide. This allows them to continue to work towards a final draft independently.

A Tutoring Road Map

A good place to start is to ask the student what they would like to focus on and accomplish during the tutoring session. Below,we provide some examples on how you might approach the tutoring session depending on the student's needs.

"I haven't done my experiment yet…"

It's okay if a student hasn't worked on their experiment yet. There are still plenty of things you can work on together. First, ask the student to talk through their project. Ask them specific,open-ended questions to help them get closer to details.

Even if a student hasn't done any experimentation, they can still work on the introduction and methods section. You can use the Research Paper Worksheet to help the student jot down and frame ideas.

"I haven't started writing yet…"

Like the last example, a good starting point is having the student talk through their project. You can use the Research Paper Worksheet to help guide the conversation.

"I have a draft of my lab report…"

First, ask the student if they would like to read their draft aloud or if they would prefer for you to do so. Hearing the work outloud will help them catch many of their own mistakes.

You can then use the Research Paper Checklist (or the Research Proposal Checklist if the student did a research proposal) to help ensure that key pieces of information are included in the paper.

In regards to edits, start with the general (ideas and organization) before moving towards more specific details (e.g. grammar and sentence fluency). Refer to the Tutoring Trail Guide for additional details.

"I have a presentation…"

Ask the student if they can walk you through their presentation. You can use the Presentation Checklist to help guide your clarifying questions and provide feedback.

Additional Resources

Check out the following documents that may be useful during tutoring:

Worksheets

- [Research Paper Worksheet](#)
- [Presentation Worksheet](#)

Checklists

- [Research Paper Checklist](#)
- [Research Proposal Checklist](#)
- [Presentation Checklist](#)

826 Boston Resources

- [STEM Writing Tip Sheet](#)
- [Tutoring Trail Guide](#)
- [Science Resource Binder](#) (How to write a scientific paper.)
- [Data Visualization](#)

BPS CityWide Science Fair

- [BPS Science Fair: High School Judges form](#)
- [Judging Sheet for Proposal Projects](#)
- [Good Science Fair Judging](#)
- [Student Guide: How to do a Science Fair Project](#)

> THANK YOU for signing up to become an Science Fair Boot Camp tutor. You are a rock star and we cannot wait to work with you!