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*So far over 1000 PLTW student projects have been reviewed by industry professionals in Massachusetts. This is an important opportunity for students to not only be recognized for the real-world work they are doing in your classrooms but also it provides a significant opportunity for students to connect with industry professionals and potential see a real future for themselves that’s connected to the work. We wanted to make this experience both rewarding and fun for you as educators as well!*

*To help launch this opportunity with your students and build excitement & purpose we have drafted a set of mini-lessons designed to help guide your students through the process and reflect on what they learned.*

***Reminder: All Project Lead The Way student work in grades 6-12 is eligible. Submissions are due by April 16, 2021.***

***Submit at*** [***https://mshindustrychallenges.secure-platform.com***](https://mshindustrychallenges.secure-platform.com/)

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| **Lesson** | **Purpose** | **Brief Overview** |
| **Lesson 1: Introducing Industry Connects***(Deliver ASAP)* | Launch opportunity with students | Share a video with advice from other students across the state who have participated in Industry Connects to get them excited and planning for industry to review their work |
| **Lesson 2: How to Submit***(about one week before submission or when you introduce the criteria for project)* | Preview with students how to submit to ensure they have the proper materials ready to go | Quickly review the submission process with students to ensure all teams are prepared. Middle school teachers submit for their students while high school students submit directly themselves. Screencastify overviews of each process available. |
| **Lesson 3: Feedback, Now What***(post April break when feedback is sent)* | Students review the feedback they receive from professionals | Provide space and time for students to review and reflect on the feedback they received. Provide time for students to refine their projects and/or plan for how they will apply that feedback to future work.  |

 *Each lesson is designed to be no more than 10 minutes and can be adapted to your classroom.*

Questions?

 Please don’t hesitate to get in touch with us! Contact Faith at fmcduffie@mass-stemhub.org

**Mini Lesson Plan 1: Launch with Students***What is Student Industry Connects?*

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| **Timing** | Less than 10 minutes (works in person or remotely)Deliver as soon as possible to students are working on their projects with this in mind |
| **Objective** | Students will be introduced to Student Industry Connects and understand how industry feedback can improve their project and will have an opportunity to connect with a STEM professional through a virtual classroom visit.  |
| **Teaching Points** | * As you all know we are working on [insert relevant PLTW] activity or project
* For this project your work will not just be evaluated by myself and peers, but you will have an opportunity to get feedback from industry professionals
	+ This is NO different than what would happen normally but instead of just submitting it for a grade, you will be able to share your work with some experts—how neat!
	+ After we submit, we will have a neat opportunity to have one of the STEM professionals visit our class and have time to ask questions & learn about what they do!
	+ Industry will also recognize outstanding projects and students may even earn cool prizes
* *High School Teachers*, another incentive may be to offer extra credit for submitting!
 |
| **Active Engagement** | **Part 1**: Describe opportunity, referencing talking points above**Part 2**: Share student video provided to build excitement amongst students“Let’s watch a video from some PLTW students just like you in Massachusetts share about their experience submitting their work to industry professionals.”Prompt Students to think about the follow while they watch the video\*:* What was their experience like?
* What do you think YOU will get out of a similar experience?

[*https://youtu.be/gEp7qz9Ukjw*](https://youtu.be/gEp7qz9Ukjw)After the video have students share with a partner and have a quick whole group discussion.\*It may be helpful to play the video twice to give all students time to process*Extra Time?* **Part 3 (optional extension):** Have students “meet” some of the industry partners that have given feedback to PLTW students in the past. Share the industry professionals page with students and give them 5 minutes to explore. Have them read at least 2 bios and think how their previous picture matched or didn’t match the professionals they read about.<https://mass-stemhub.org/student-industry-connects/stem-professionals/>Have students share some things they learned and build excitement about having some of these types of people look at their work. As they continue to work on their projects push them to think—would my judge understand? |
| **Closing** | *Share due date with students (April 16th is the last date to submit).* As we work on [INSERT PROJECT] we will not only have our client or project criteria in mind but also get to share with professionals who might have feedback we didn’t consider! This is not about perfection but rather having an opportunity to see what being a real-life STEM professional would be like as we get feedback from colleagues and peers.  |

**Mini Lesson Plan 2: How to Submit \*\*MIDDLE SCHOOL VERSION\*\***

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| **Timing** | Less than 10 minutes (works in person or remotely)Deliver lesson ~a week before submission date to ensure students have time to prep materials or when previewing the project criteria |
| **Objective** | Students will learn how to prepare their materials for submission |
| **Teaching Points** | * We have worked on the different parts of our project and now it is time to make sure we can submit all of our work
* Review the **template or checklist of deliverables\*** students will need to submit for their project
* Give deadline for materials to be turned in

*\*It is helpful to provide students with a template so that their work can be submitted with ease. Check out* [*https://mass-stemhub.org/student-industry-connects/*](https://mass-stemhub.org/student-industry-connects/) *for sample templates PLTW educators have used in the past. Need help? Reach out to the Mass STEM Hub team and we can help get you started with an easy to submit template!* *(see the submission process here:* [*https://youtu.be/ghmyNlpLdvo*](https://youtu.be/ghmyNlpLdvo)*)* |
| **Active Engagement** | Review the template or criteria for submission that you have with students so they are clear on the deliverables. If students are working in pairs or groups, have them select a group member who will be the point person to ensure that all the deliverables will be ready to go. *Remind students that their industry experts are not alongside them so it will be important that their work is clear and easy to understand.*  |
| **Closing** | We are ready to submit your work soon! You all have done impressive work! Make sure that you have all the parts that you need so you can get some awesome feedback from judges.  |

**Mini Lesson Plan 2: How to Submit \*\*HIGH SCHOOL VERSION\*\***

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| **Timing** | Less than 10 minutes (works in person or remotely) |
| **Objective** | Student will learn how to prepare their materials for submission. |
| **Teaching Points** | * We have worked on the different parts of our project and now it is time to make sure we can submit all of our work
* Other students who have submitted in the past have some quick tips as you prepare to submit
* Review the template or checklist of materials students will need to submit for their project
* Give deadline for materials to be turned in
 |
| **Active Engagement** | Play or assign the how to submit screencastify with your class. Check for understanding and if there are any questions. Share the link for the video so students have it as a resource when they do the submission on their own. Play the how to submit screencastify with your class. Check for understanding and if there are any questions. Share the link for the video so students have it as a resource when they do the submission on their own. [*https://youtu.be/rPzWmmUC1-c*](https://youtu.be/rPzWmmUC1-c)*Extra Time?* *Have students select a group member who is responsible for creating an account through the portal for submission and have them set it up so that it is one less step when it is time to submit. Share the link to set up a profile:* [*https://mshindustrychallenges.secure-platform.com/a*](https://mshindustrychallenges.secure-platform.com/a) |
| **Closing**  | We are ready to submit [INSERT PROJECT] soon! You all have done impressive work! Make sure that you have all the parts that you need so you can get some awesome feedback from judges. Each group will need to submit by XX date. *Teachers, you get a notification when your students submit so you can tell them that that is how you will know and will follow up with groups you don’t get a notification for.*   |

**Mini Lesson Plan 3: Feedback, Now What?**

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| **Timing** | Less than 10 minutes (works in person or remotely)Post April break once feedback has been sent |
| **Objective** | Students will review their feedback and identify key learnings to use in the future. |
| **Teaching Points** | * Students who have submitted in the past have said that they have held on to feedback to help with their future projects. Guiding students through this process will help them be purposeful about their feedback reflections
* You all have received feedback from your industry partners
* Depending on your industry experts’ roles, your feedback may be about different components of your project
* As potential STEM professionals yourselves, feedback from one project can help you improve on future ones even if they are not exactly the same
 |
| **Active Engagement** | Share the feedback from the industry experts with your students! Before doing so feel free to review the class feedback and see if you notice any class wide trends—share them with the class and do a think aloud about how the whole class can use this feedback in their future work. Direct student groups to review their feedback and select one thing they will take with them in the future. Give students a few minutes to review and select with their groups. Then lead a discussion with the class on what pieces of feedback stuck out and what they want to hold on to. *This is a skill student often need to be taught explicitly for it to become a habit and we’ve heard from students who have participated in the past that it is a valuable exercise and part of their work habit now.* *Optional:* Based on their feedback, give students an opportunity to make the adjustments to their work. Have students practice updating their prototype, sketches, or notes based on what they learned from their industry reviewer. You can also have students generate some tips for future students who will submit their work! Share with the Mass STEM Hub team so we can share with the community as well!*Extra Time?* Have student write thank you notes to their industry partner! If their industry partner left contact information you can share directly, if not, share with the Mass STEM Hub team and we can pass on your notes! |
| **Closing** | As we continue with other projects, remember this feedback as a solid foundation for future projects. It is important for us to not just tackle the problem at hand but also reflect on our work from different points of view—clients, a peer expert, or outside observers.   |