

5 STEPS TO SETTING UP A *VIRTUAL VISIT*

It may sound counter-intuitive but a virtual visit from an engineering volunteer can help **combat student screen fatigue** (a concern of teachers and parents) while **building their STEM confidence** (a predictor of whether students go into engineering). Here's how you can set up a successful virtual visit.

STEP 1: ASK YOURSELF THESE QUESTIONS

- What is your availability? One hour, a few hours over several weeks, or maybe weekly check-ins over the course of the semester or year?
- What can you offer? A one-time career conversation, a few virtual visits to introduce and lead engineering activities, or maybe a longer mentorship arrangement with the class or a few students?
- Are there resources you can provide? Like the materials necessary to do the activity, does your company offer financial help to teachers, or can you use your office printer to copy activity packets or other materials teachers need to share with their students?
- Are you comfortable volunteering alone or would you like a partner? To find a partner, is there a colleague who might be interested, or do you know any seasoned volunteers you can team up with?

STEP 2: CONNECTING WITH EDUCATORS

- Do you have children? Their schools or clubs are a natural starting point.
- Try re-connecting with teachers or afterschool groups you've already worked with.
- Does your employer or local engineering society chapter have a relationship with a local school—try asking your Human Resources or Community Relations department, or employee volunteerism council.
- If you'd like to approach a school you haven't worked with before, call and ask for the science or technology teacher or department chair. At an after-school program, ask for the program director or group leader.
- If you call, leave a message. Teachers are hard to reach during the day. Consider including your home phone number (and appropriate calling hours) and your email address.

STEP 3: TALK TO THE EDUCATOR

When you reach out, acknowledge how much teaching has been affected by the pandemic and ask if and how you can help. Share what time availability you have and a few ideas of what you can offer. Be flexible as you chat – they may have limitations or ideas you haven't thought of. Also discuss:

- What rules are in place for volunteers? Will you need a background check? If yes, ask how long

it takes and if there is an online site they recommend. Most background checks can be done for as little as \$20 and are good for three years.

- Are the students in school, meeting only online, or is it a hybrid classroom with some students in class and others online?
- What virtual meeting platform are they using: ZOOM, Google Meet, or Microsoft Teams? Before your visit familiarize yourself with it and investigate if your company computer has any firewall issues with their preferred platform.
- What STEM concepts have the students already studied or what is coming up?
- Are there any children with disabilities that need accommodation, and what is the best way to do this?

STEP 4: PLAN YOUR VIRTUAL VISIT

We believe engineering activities are well-suited for distance learning and virtual outreach visits. Why? Because they are design process challenges that need few materials, lend themselves to student-directed learning, give kids a break from their screens, and require limited inputs from educators or parents.

One way to structure your visit:

Start with a short introductory visit (it can be live or pre-recorded). In just 10 minutes you can introduce yourself, share a little bit about your work, and end by challenging the students to complete an engineering activity.

In a follow-up session a few days later, students can share their solutions and you can lead a discussion on what worked, what issues they ran into, and what design changes they'd like to make. You can then share more about your solution to the challenge, your work, and how the engineering design process steps they followed to do the activity (brainstorming, designing, building, testing, and making changes) is the process you use as an engineer. Be sure to leave time for questions!

Tips for making this work:

- Choose an activity and run it by your teacher. DiscoverE has tons of fun, [low-cost engineering activities](#) to choose from. Advice: Look for activities that have only a few or readily available materials.
- Think about how you'll introduce the challenge to the students. Consider:
 - How you'll help them understand the problem they are trying to solve,
 - What materials will they need, and
 - How to provide the activity instructions in a few different ways (written or verbal)
- Watch how other volunteers and teachers present engineering challenges: [At Home Engineering](#).

- Talk to the teacher about the activity materials. Do the children have them at home? Are there substitute materials? If not, talk about options for distributing items before your visit.

Other Planning Resources:

Looking for more tips, resources and training on how to host a great visit with students? We can help:

- [Talking to Kids about Engineering](#): Research shows what we say about engineering matters. Brush up on effective messages to share.
- [Effectively leading Kids through a Successful Engineering Experience](#): This self-guided tutorial goes a bit more in-depth on how to lead hands-on activities.
- [Discover Engineering Careers Presentation](#): Use this presentation as is or customize for your own job.

STEP 5: AFTER YOUR VISIT

- Share your visit on social media. Tag @DiscoverEorg so we can share your efforts too!
- Evaluate your experience. Write down what worked, what didn't, and why.
- Send an email to the teacher or leader thanking them for the opportunity.

TURN-KEY OPPORTUNITIES

Not ready to set up your own visit? We can help!

You can inspire middle school students to consider engineering as a Future City **virtual mentor or judge**. A program of DiscoverE, Future City introduces middle school students to the wonders of engineering as they create cities of the future. This year, teams will design a futuristic lunar city and provide examples of how the city uses two Moon resources to keep its residents safe and healthy. Volunteer as a:

- Team mentor**: Share your real-world engineering experience and help team members think through their ideas.
- **Competition judges**: Score project deliverables (like an essay or video presentation) right from your computer at virtual regional competitions or the virtual Finals.

Register today at: futurecity.org/register

For questions, email: info@futurecity.org

Visit www.DiscoverE.org for more!